Appendices to the Economic Analysis for the Final Stage 2 Disinfectants and Disinfection Byproducts Rule
Volume III (I-N)

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Appendix I
Unit Costs for Technologies Considered in the Stage 2 DBPR

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Exhibits 7.8a and 7.8b in Chapter 7 list the treatment technologies (along with their constraints and design criteria) considered for surface and ground water plants to meet the Stage 2 Disinfectants and Disinfection Byproducts Rule (DBPR). This Appendix builds on information presented in Chapter 7 by presenting the following.

- Capital unit cost estimates for a wide range of design flows (in tabular and graphical form)
- Operations and Maintenance (O&M) unit cost estimates for a wide range of average daily flows (in tabular and graphical form)

The range of design and average flows is intended to cover all possible system flows. When flows fall between the design or average daily flows used to estimate unit costs, straight line interpolation can be used to estimate the capital or O&M cost. Design costs were calculated for points ranging between 0.007 million gallons per day (MGD) and 520 MGD. For plants with flows less than 0.007 MGD, the value for 0.007 MGD was used. For plants with flows greater than 520 MGD, the costs are calculated by extrapolating a straight line between the last two calculated cost points. Points are included in the graphs at 0.0001 MGD and 1500 MGD to show these assumptions. Likewise for average daily flows, points were calculated between 0.0015 MGD and 350 MGD. Points outside this range show the assumptions used to extrapolate costs.

The majority of unit costs are derived from the *Technologies and Costs Document for Control of Microbial Contaminants and Disinfection By-Products* (T&C Document)[1] (USEPA 2003o). These unit costs have been revised to incorporate recommendations from the National Drinking Water Advisory Council (NDWAC) Arsenic Cost Working Group (NDWAC 2001).

The only costs not in the T&C Document are the ultraviolet (UV) costs for groundwater systems. The cost contained in that document for groundwater UV systems is for a single reactor providing a 200 mJ/cm^2 dose. The *UV Disinfection Guidance Manual* (USEPA 2003k), however, does not contain a validation procedure capable of validating a reactor for 4-log virus inactivation. The 200 millijoules per centimeter square (mJ/cm^2) dose is only sufficient to provide 2-log virus inactivation. Because many groundwater systems will be required to achieve 4-log virus inactivation either because of the Ground Water Rule or state requirements, 2-200 mJ/cm^2 reactors were assumed to be used in series for this EA.

To obtain the costs for 2-200 mJ/cm^2 reactors in series, many of the line item costs for a 200 mJ/cm^2 reactor, as presented in the T&C Document (Exhibit 4.16), were doubled. However, there are a number of exceptions. Housing and pumping are multiplied by factors of 1.5 because the reactors can be mounted in such a way that they do not require twice the additional room, and head loss will not be twice as large due to the second reactor. Instrumentation and control was multiplied by a factor of 1.8 to account for some instrumentation, which can be shared by the two reactors. Labor was also multiplied by

[1] EPA is aware that DOE has updated its 2003 "average national cost of electricity per kilowatt hour per year" from $.076 to $.074. However, EPA continues to use this value to maintain consistency with the Technologies and Cost Document.

a factor of 1.5, as the prep time for performing maintenance activities will be the same regardless of the number of reactors serviced. Training and testing items were not multiplied by two because only a single reactor needs to be tested.

The Matrix of Appendix I Contents describes the exhibits in this appendix. Each exhibit lists the constraints and design criteria for the treatment technology, presents a table showing the unit cost estimates for each design or average flow point, and graphically displays each point to illustrate the way in which the costs increase with flow. All graphs are in Log-Log scale. Summaries of capital, O&M, and household costs for mean flow values for each of the Environmental Protection Agency's (EPA's) standard nine system size categories are presented in Chapter 7.

Matrix of Appendix I Contents

Source Water Type	Technology	Cost Type	Exhibit Number
Surface	Chloramines	Capital O&M	I.1 I.2
	Chlorine Dioxide	Capital O&M	I.3 I.4
	UV	Capital O&M	I.5 I.6
	Ozone	Capital O&M	I.7 I.8
	Microfiltration/Ultrafiltration	Capital O&M	I.9 I.10
	GAC10	Capital O&M	I.11 I.12
	GAC20	Capital O&M	I.13 I.14
	Nanofiltration[1]	Capital O&M	I.15 I.16
Ground	Chloramines	Capital O&M	I.17 I.18
	UV	Capital O&M	I.19 I.20
	Ozone	Capital O&M	I.21 I.22
	GAC20	Capital O&M	I.23 I.24
	Nanofiltration	Capital O&M	I.25 I.26
Derivation of Household Unit Costs for Small System Affordability Analysis			I.27

[1]Nanofiltration is combined with microfiltration/ultrafiltration to represent the integrated membrane technology for surface water plants.

Exhibit I.1 Capital Costs for Switching to Chloramines
Surface Water Plants

Constraints: It can be used alone or in conjunction with the other technologies
Design Criteria:
1) Ammonia dose = 0.55 mg/L

Design Flow (mgd)	Capital Cost ($)
0.0001	$29,104
0.0070	$29,104
0.0220	$29,104
0.0370	$29,104
0.0910	$29,104
0.1800	$30,604
0.2700	$37,939
0.3600	$38,858
0.6800	$42,127
1.0000	$53,396
1.2000	$83,772
2.0000	$83,772
3.5000	$83,772
7.0000	$83,772
17.0000	$98,772
22.0000	$133,907
76.0000	$397,173
210.0000	$492,039
430.0000	$590,780
520.0000	$736,773
1500.0000	$2,326,467

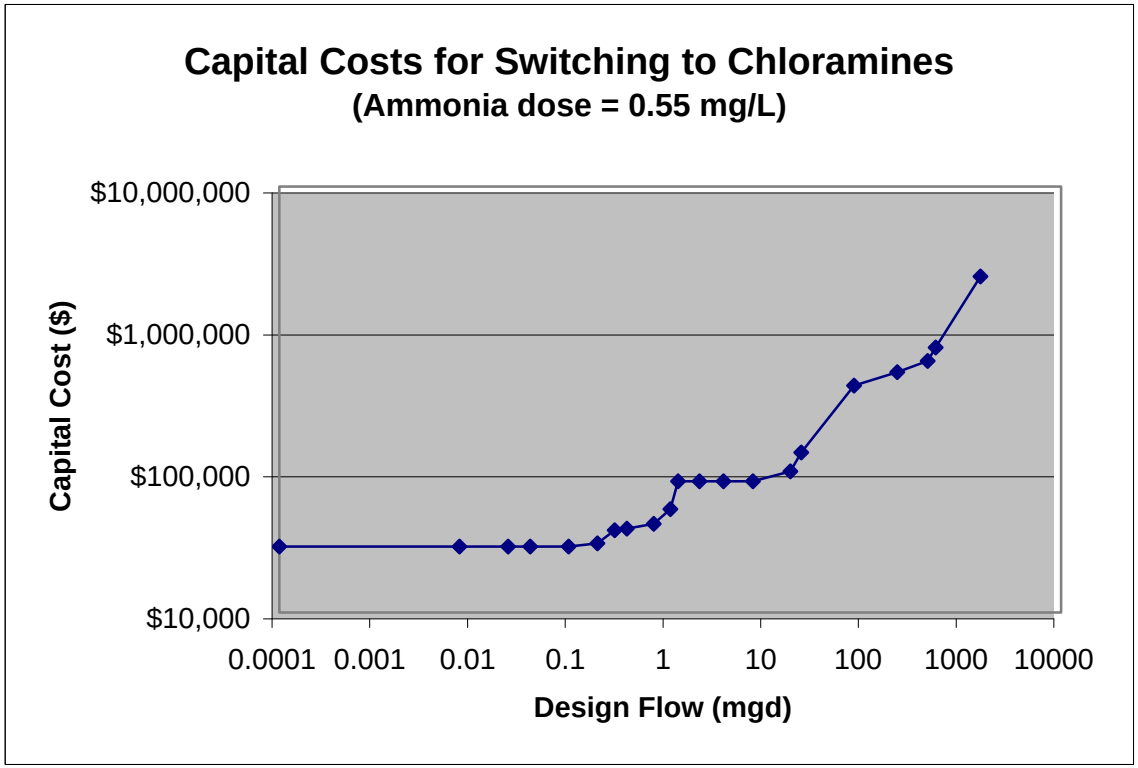


Exhibit I.2 O&M Costs for Switching to Chloramines
Surface Water Plants

Constraints: It can be used alone or in conjunction with the other technologies
Design Criteria:
1) Ammonia dose = 0.55 mg/L

Average Flow (mgd)	O&M cost ($)
0.00005	$1,362
0.00150	$1,362
0.00540	$1,366
0.00950	$1,370
0.02500	$1,483
0.05400	$1,515
0.08400	$3,014
0.11000	$3,041
0.23000	$3,077
0.35000	$4,443
0.41000	$6,000
0.77000	$6,747
1.40000	$8,102
3.00000	$10,536
7.80000	$15,491
11.00000	$18,954
38.00000	$31,538
120.00000	$80,340
270.00000	$161,502
350.00000	$204,728
750.00000	$420,859

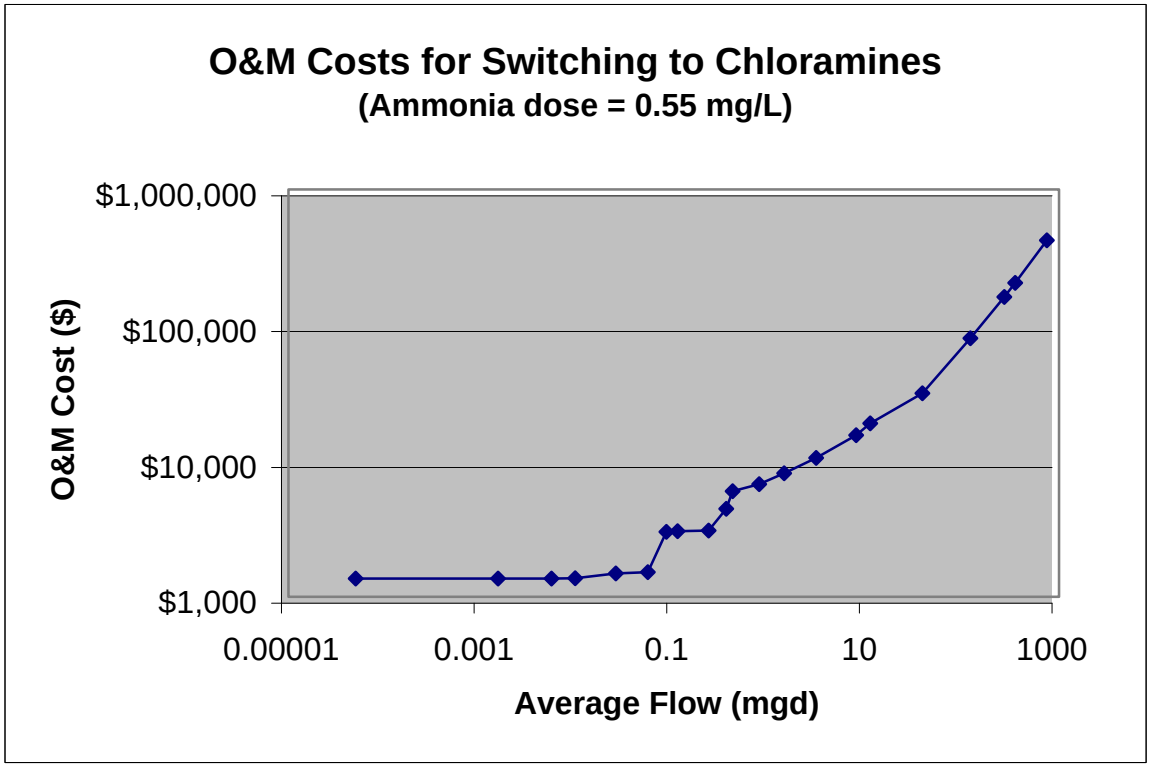


Exhibit I.3 Capital Costs for Chlorine Dioxide Surface Water Plants

Constraints: Not applicable for systems serving populations < 100

Design Criteria:

1) No new contact basin would be required
2) ClO_2 dose = 1.25 mg/L

Design Flow (mgd)	Capital Cost ($)
0.0001	Not Applicable
0.0070	Not Applicable
0.0220	Not Applicable
0.0370	Not Applicable
0.0910	$32,427
0.1800	$38,370
0.2700	$39,172
0.3600	$40,066
0.6800	$43,005
1.0000	$40,035
1.2000	$80,585
2.0000	$82,054
3.5000	$191,088
7.0000	$211,473
17.0000	$268,223
22.0000	$296,568
76.0000	$603,425
210.0000	$897,449
430.0000	$1,245,987
520.0000	$1,368,982
1500.0000	$2,708,268

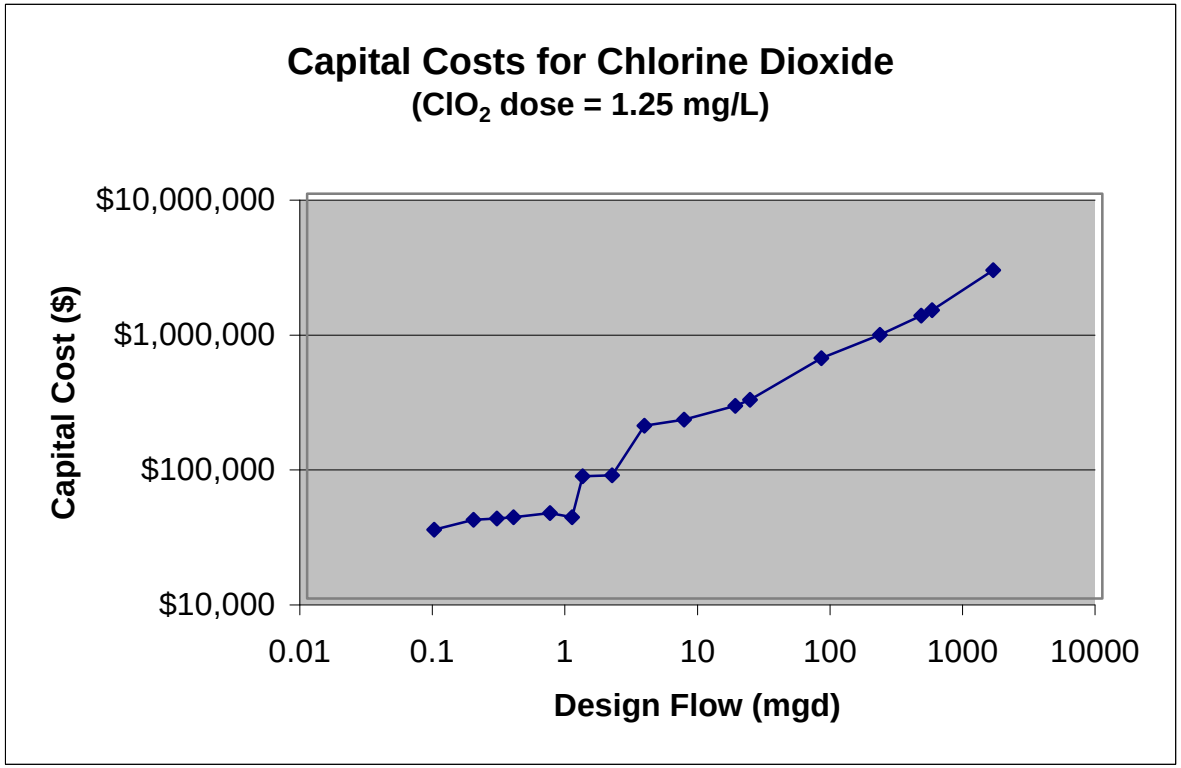


Exhibit I.4 O&M Costs for Chlorine Dioxide
Surface Water Plants

Constraints: Not applicable for systems serving populations < 100
Design Criteria:

1) No new contact basin would be required
2) ClO_2 dose = 1.25 mg/L

Average Flow (mgd)	O&M Cost ($)
0.00005	Not Applicable
0.00150	Not Applicable
0.00540	Not Applicable
0.00950	Not Applicable
0.02500	$14,093
0.05400	$15,204
0.08400	$16,721
0.11000	$16,999
0.23000	$17,812
0.35000	$18,571
0.41000	$18,984
0.77000	$21,638
1.40000	$22,001
3.00000	$25,392
7.80000	$35,939
11.00000	$42,336
38.00000	$87,061
120.00000	$216,813
270.00000	$446,533
350.00000	$561,934
750.00000	$1,138,937

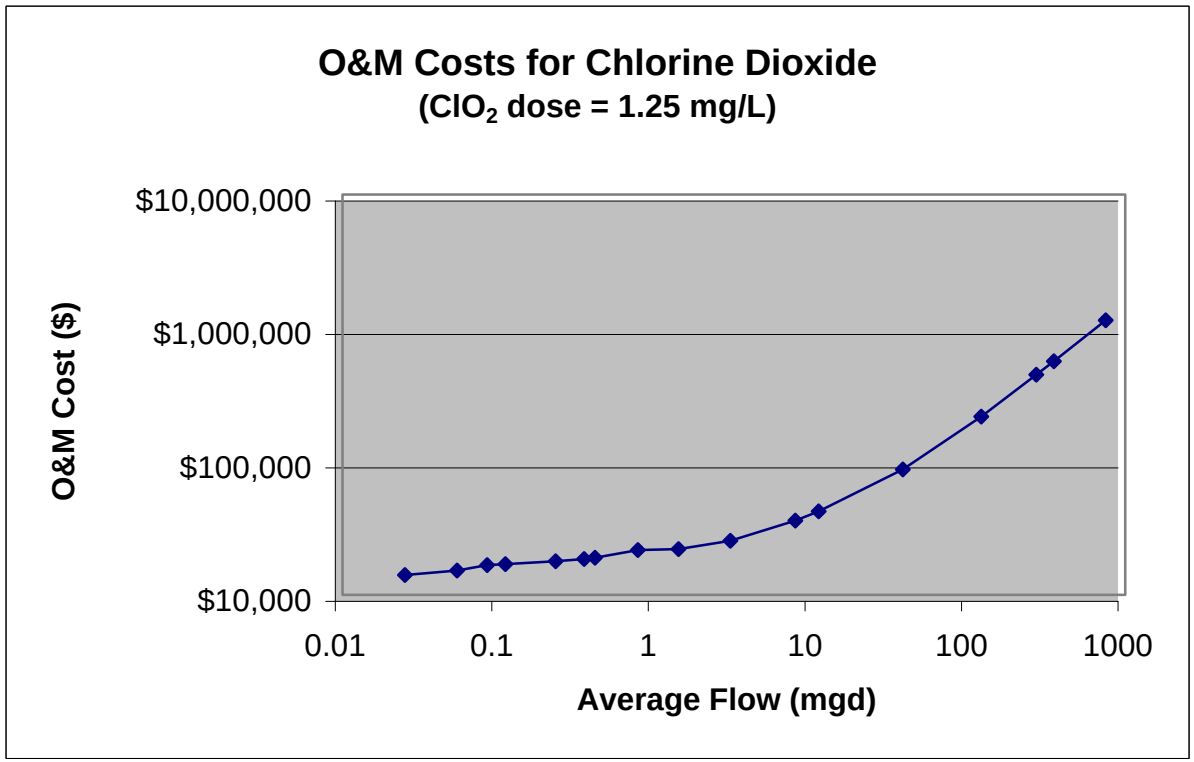


Exhibit I.5 Capital Costs for UV Surface Water Plants

Constraints: None
Design Criteria:

1) UV_{254} = 0.051 cm^{-1}, Turbidity = 0.1 NTU, Alkalinity = 60 mg/L $CaCO_3$, Hardness = 100 mg/L $CaCO_3$
2) UV dose = 40 mJ/cm^2

Design Flow (mgd)	Capital Cost ($)
0.0001	$10,195
0.0070	$10,195
0.0220	$13,034
0.0370	$15,834
0.0910	$25,596
0.1800	$40,597
0.2700	$54,386
0.3600	$66,790
0.6800	$99,661
1.0000	$310,154
1.2000	$313,662
2.0000	$333,331
3.5000	$362,965
7.0000	$544,728
17.0000	$1,342,022
22.0000	$1,933,041
76.0000	$3,367,751
210.0000	$8,074,450
430.0000	$15,798,603
520.0000	$18,601,681
1500.0000	$49,124,085

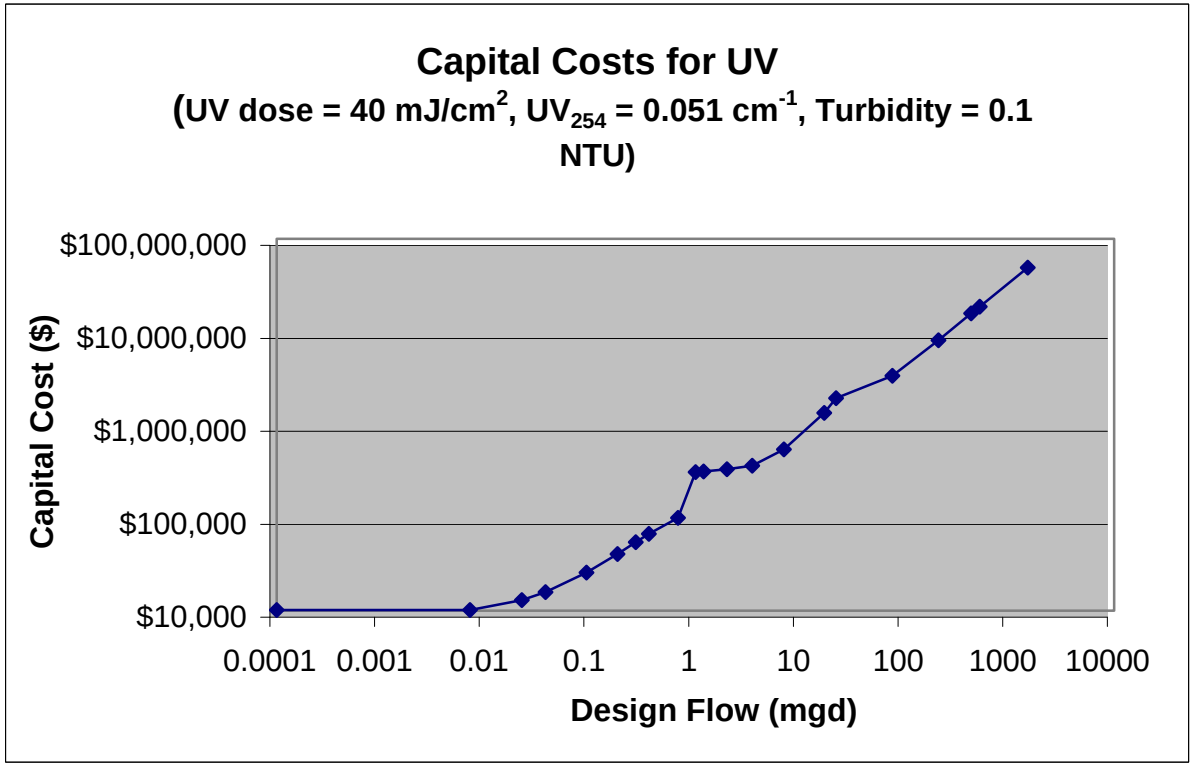


Exhibit I.6 O&M Costs for UV
Surface Water Plants

Constraints: None
Design Criteria:

1) UV_{254} = 0.051 cm^{-1}, Turbidity = 0.1 NTU, Alkalinity = 60 mg/L $CaCO_3$, Hardness = 100 mg/L $CaCO_3$
2) UV dose = 40 mJ/cm^2

Average Flow (mgd)	O&M Cost ($)
0.00005	$3,350
0.00150	$3,350
0.00540	$3,380
0.00950	$3,769
0.02500	$4,549
0.05400	$4,736
0.08400	$6,115
0.11000	$6,493
0.23000	$8,152
0.35000	$9,016
0.41000	$9,450
0.77000	$11,512
1.40000	$13,979
3.00000	$16,183
7.80000	$22,908
11.00000	$27,531
38.00000	$66,755
120.00000	$188,219
270.00000	$422,455
350.00000	$551,123
750.00000	$1,194,464

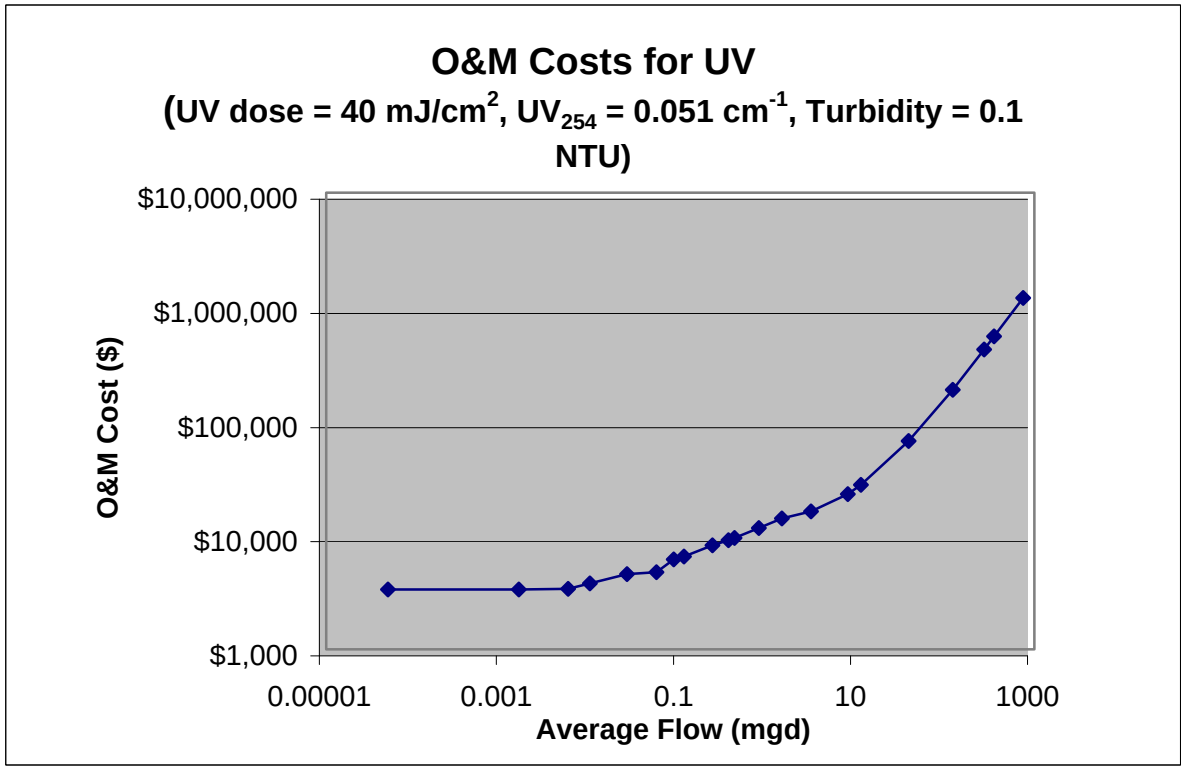


Exhibit I.7 Capital Costs for Ozone Surface Water Plants

Constraints: Not practical for systems serving 100 or fewer
Design Criteria:

1) Contact time = 12 minutes
2) Ozone Maximum dose = 3.19 mg/L

Design Flow (mgd)	Capital Cost ($)
0.0001	Not Applicable
0.0070	Not Applicable
0.0220	Not Applicable
0.0370	Not Applicable
0.0910	$322,787
0.1800	$382,874
0.2700	$438,785
0.3600	$493,394
0.6800	$675,951
1.0000	$804,614
1.2000	$902,391
2.0000	$1,226,541
3.5000	$1,595,373
7.0000	$2,357,412
17.0000	$3,946,957
22.0000	$4,546,365
76.0000	$12,628,950
210.0000	$26,317,852
430.0000	$44,918,178
520.0000	$53,248,978
1500.0000	$143,962,124

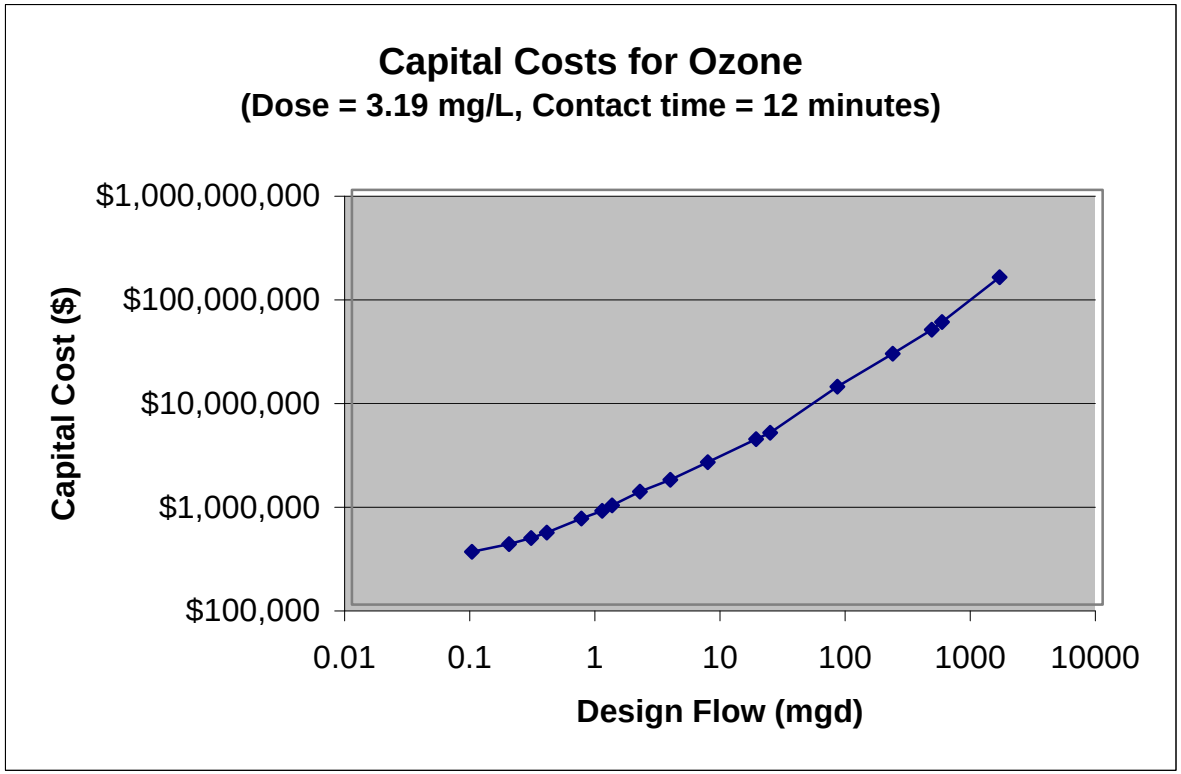


Exhibit I.8 O&M Costs for Ozone
Surface Water Plants

Constraints: Not practical for systems serving 100 or fewer
Design Criteria:

1) Contact time = 12 minutes
2) Ozone maximum dose = 3.19 mg/L

Average Flow (mgd)	O&M Cost ($)
0.00005	Not Applicable
0.00150	Not Applicable
0.00540	Not Applicable
0.00950	Not Applicable
0.02500	$55,520
0.05400	$55,884
0.08400	$59,391
0.11000	$59,737
0.23000	$61,152
0.35000	$62,566
0.41000	$63,350
0.77000	$67,621
1.40000	$77,719
3.00000	$95,346
7.80000	$145,700
11.00000	$177,752
38.00000	$464,832
120.00000	$1,377,320
270.00000	$2,871,997
350.00000	$3,662,456
750.00000	$7,614,752

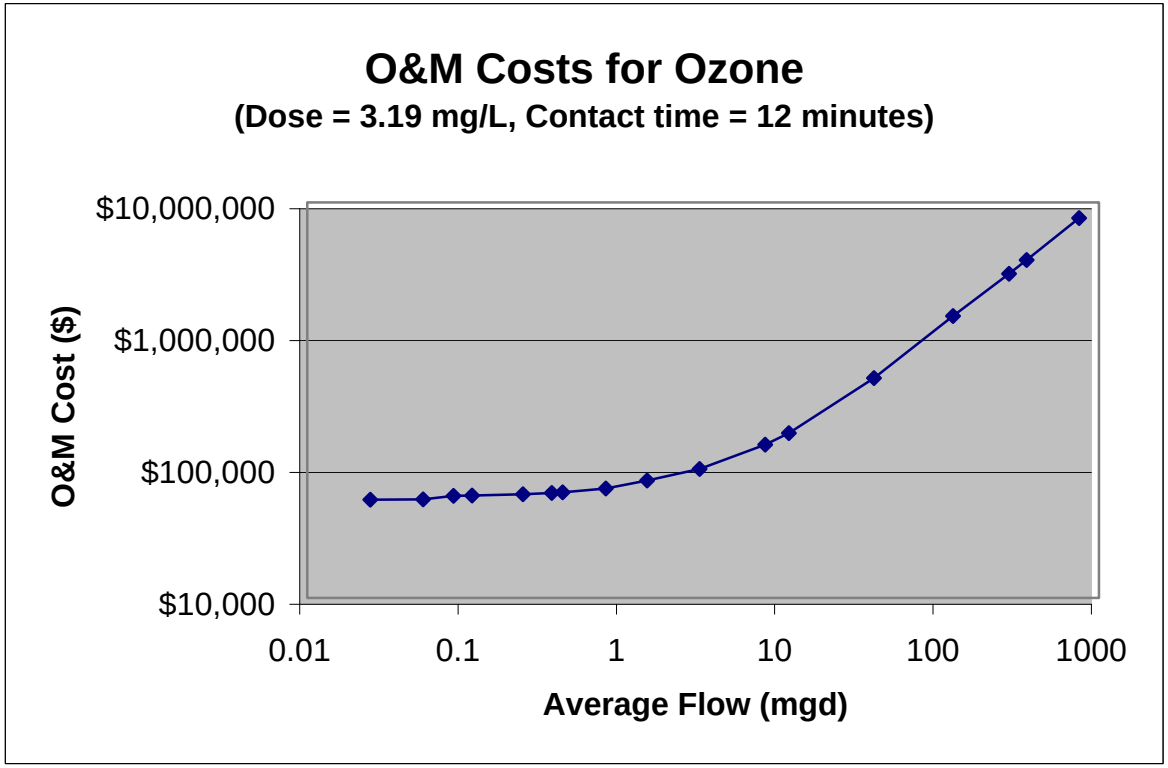


Exhibit I.9 Capital Costs for MF/UF Surface Water Plants

Constraints: None
Design Criteria:
1) Water temp. = 10 degrees C
2) Sewer disposal

Design Flow (mgd)	Capital Cost ($)
0.0001	$131,478
0.0070	$131,478
0.0220	$214,432
0.0370	$270,819
0.0910	$409,983
0.1800	$628,117
0.2700	$748,563
0.3600	$850,970
0.6800	$1,133,988
1.0000	$1,594,911
1.2000	$1,738,505
2.0000	$2,720,593
3.5000	$4,142,559
7.0000	$7,382,351
17.0000	$15,991,348
22.0000	$20,058,196
76.0000	$61,150,358
210.0000	$153,184,031
430.0000	$293,759,889
520.0000	$349,252,221
1500.0000	$953,502,064

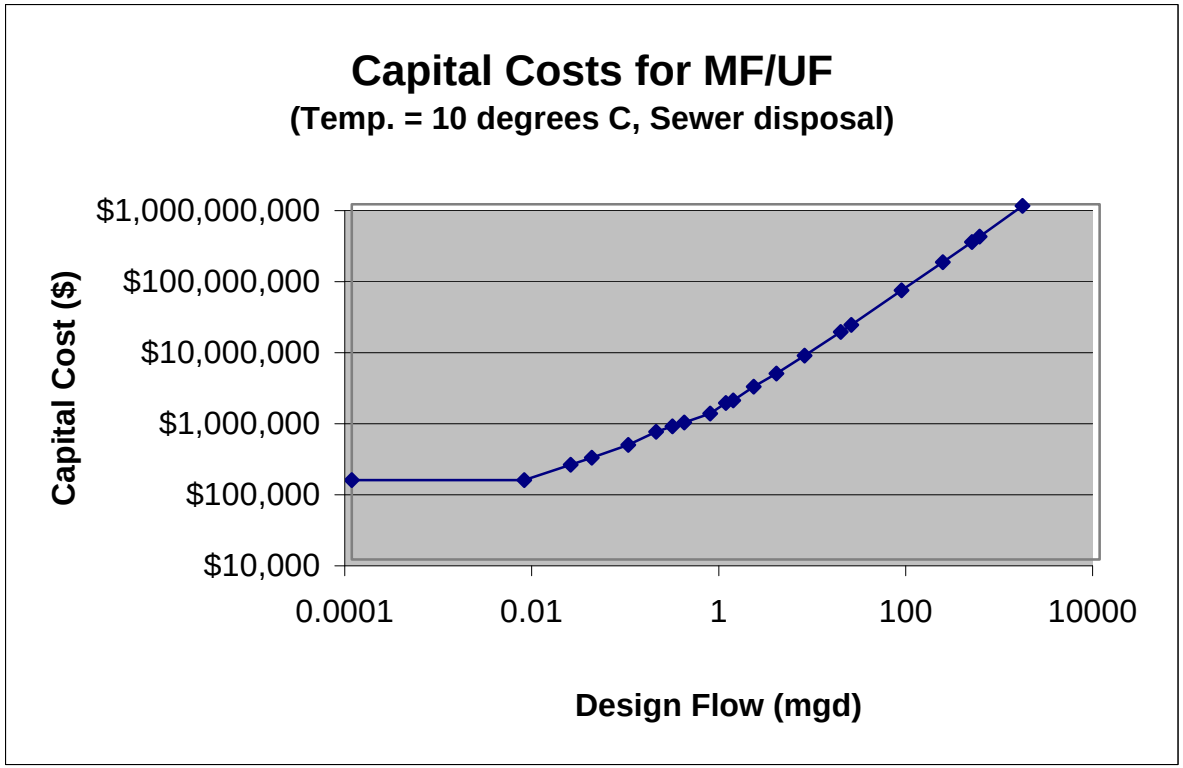


Exhibit I.10 O&M Costs for MF/UF Surface Water Plants

Constraints: None
Design Criteria:

1) Water temp. = 10 degrees C
2) Sewer disposal

Average Flow (mgd)	O&M Cost ($)
0.00005	$6,230
0.00150	$6,230
0.00540	$6,686
0.00950	$7,156
0.02500	$9,329
0.05400	$22,042
0.08400	$26,348
0.11000	$29,272
0.23000	$41,522
0.35000	$69,214
0.41000	$75,317
0.77000	$106,798
1.40000	$164,173
3.00000	$324,393
7.80000	$786,427
11.00000	$1,034,793
38.00000	$3,301,730
120.00000	$9,888,387
270.00000	$21,519,157
350.00000	$27,300,426
750.00000	$56,206,770

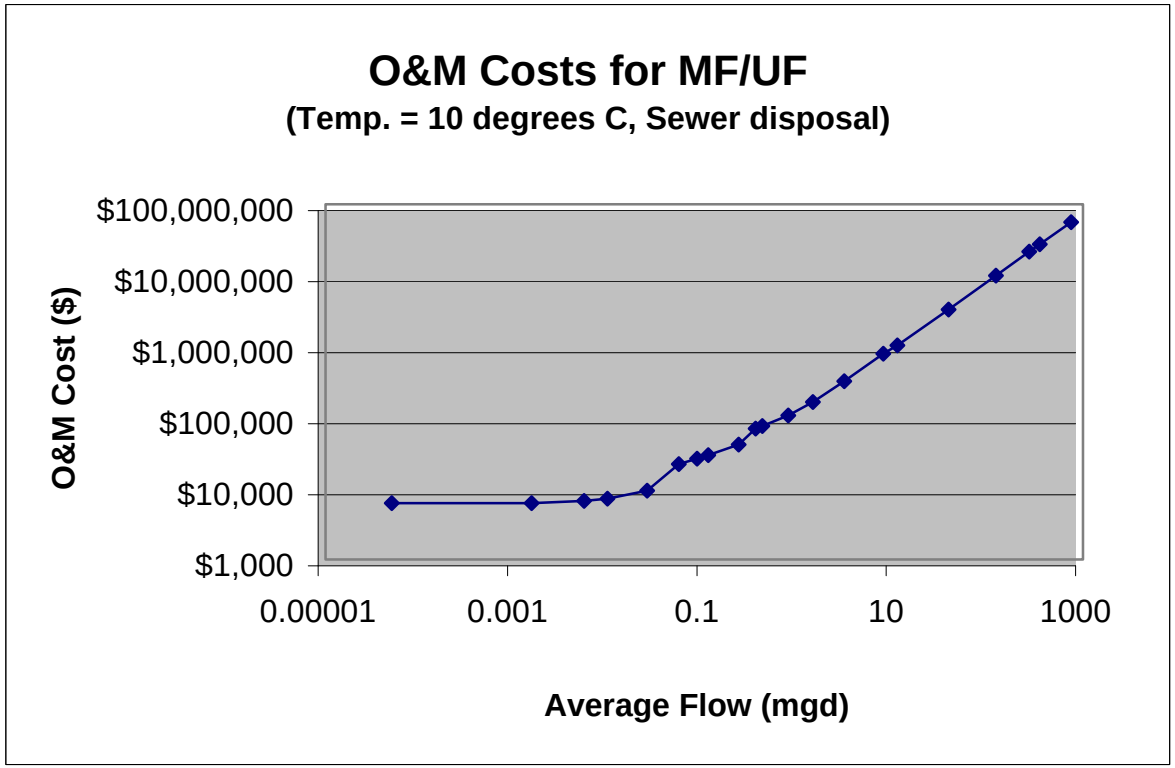


Exhibit I.11 Capital Costs for GAC10
Surface Water Plants

Constraints: Not practical for systems serving 10,000 or fewer persons
Design Criteria:

1) Reactivation frequency = 360 days
2) Onsite regeneration for large systems, offsite regeneration for small systems

Design Flow (mgd)	Capital Cost ($)
0.0001	Not Applicable
0.0070	Not Applicable
0.0220	Not Applicable
0.0370	$63,046
0.0910	$101,302
0.1800	$159,645
0.2700	$215,163
0.3600	$269,400
0.6800	$452,926
1.0000	$783,808
1.2000	$999,248
2.0000	$1,385,099
3.5000	$2,014,217
7.0000	$3,258,534
17.0000	$6,140,593
22.0000	$7,400,352
76.0000	$18,311,317
210.0000	$38,194,366
430.0000	$64,571,358
520.0000	$74,261,694
1500.0000	$179,778,692

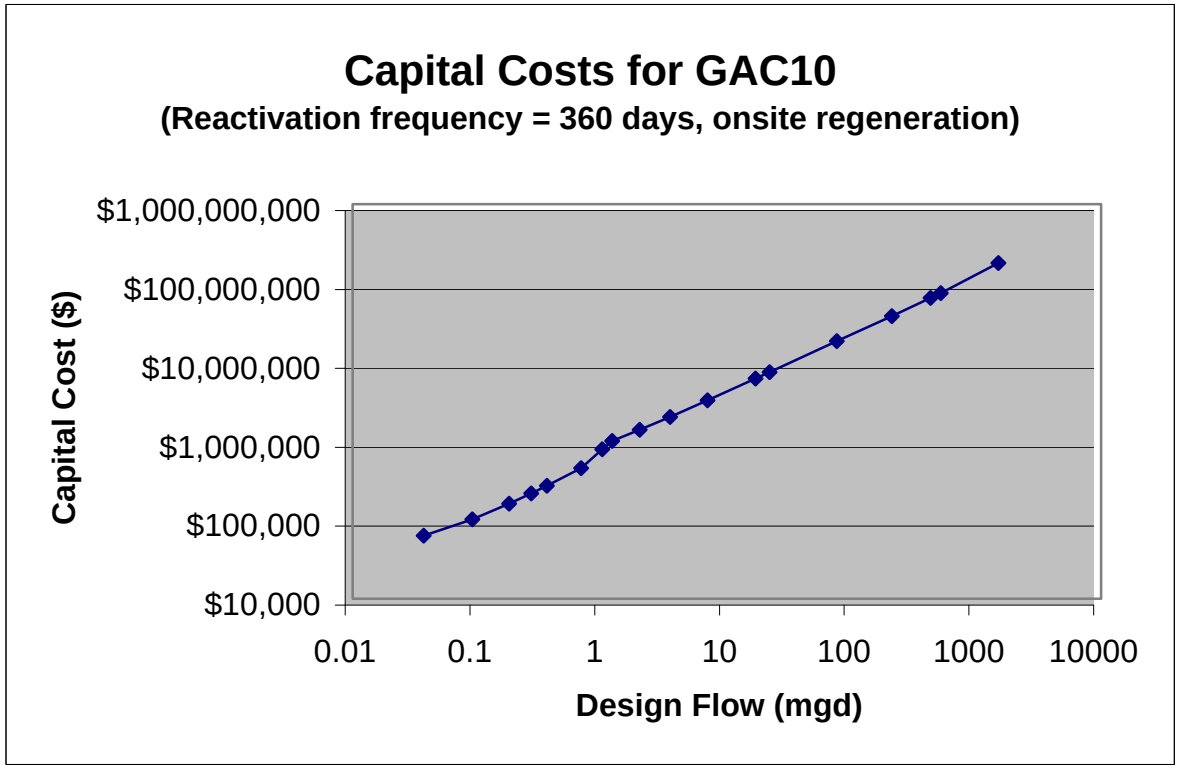


Exhibit I.12 O&M Costs for GAC10
Surface Water Plants

Constraints: Not practical for systems serving 10,000 or fewer persons
Design Criteria:

1) Reactivation frequency = 360 days
2) Onsite regeneration for large systems, offsite regeneration for small systems

Average Flow (mgd)	O&M Cost ($)
0.00005	Not Applicable
0.00150	Not Applicable
0.00540	Not Applicable
0.00950	$12,360
0.02500	$19,485
0.05400	$27,213
0.08400	$30,798
0.11000	$34,808
0.23000	$46,000
0.35000	$57,078
0.41000	$51,809
0.77000	$61,887
1.40000	$79,158
3.00000	$120,100
7.80000	$227,710
11.00000	$280,625
38.00000	$709,287
120.00000	$1,952,120
270.00000	$4,368,760
350.00000	$5,584,876
750.00000	$11,665,453

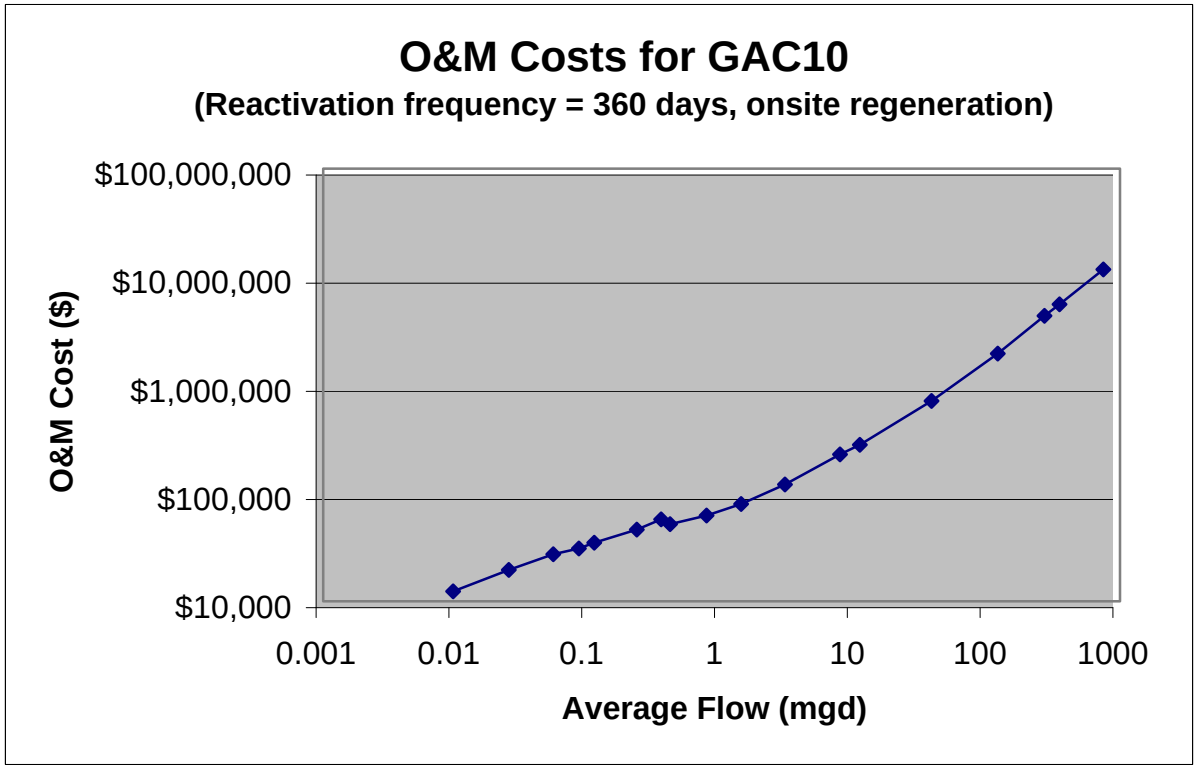


Exhibit I.13 Capital Costs for GAC20 Surface Water Plants

Constraints: None
Design Criteria:

1) Reactivation frequency = 90 days
2) Onsite regeneration for system serving more than 10,000 people
3) Media replacement for systems serving 10,000 or fewer people

Design Flow (mgd)	Capital Cost ($)
0.0001	$36,117
0.0070	$36,117
0.0220	$53,091
0.0370	$70,491
0.0910	$137,932
0.1800	$241,793
0.2700	$340,528
0.3600	$435,155
0.6800	$739,387
1.0000	$1,228,620
1.2000	$1,551,122
2.0000	$2,203,728
3.5000	$3,275,153
7.0000	$5,411,638
17.0000	$10,411,502
22.0000	$12,611,714
76.0000	$31,503,622
210.0000	$67,096,117
430.0000	$114,813,572
520.0000	$132,437,789
1500.0000	$324,345,925

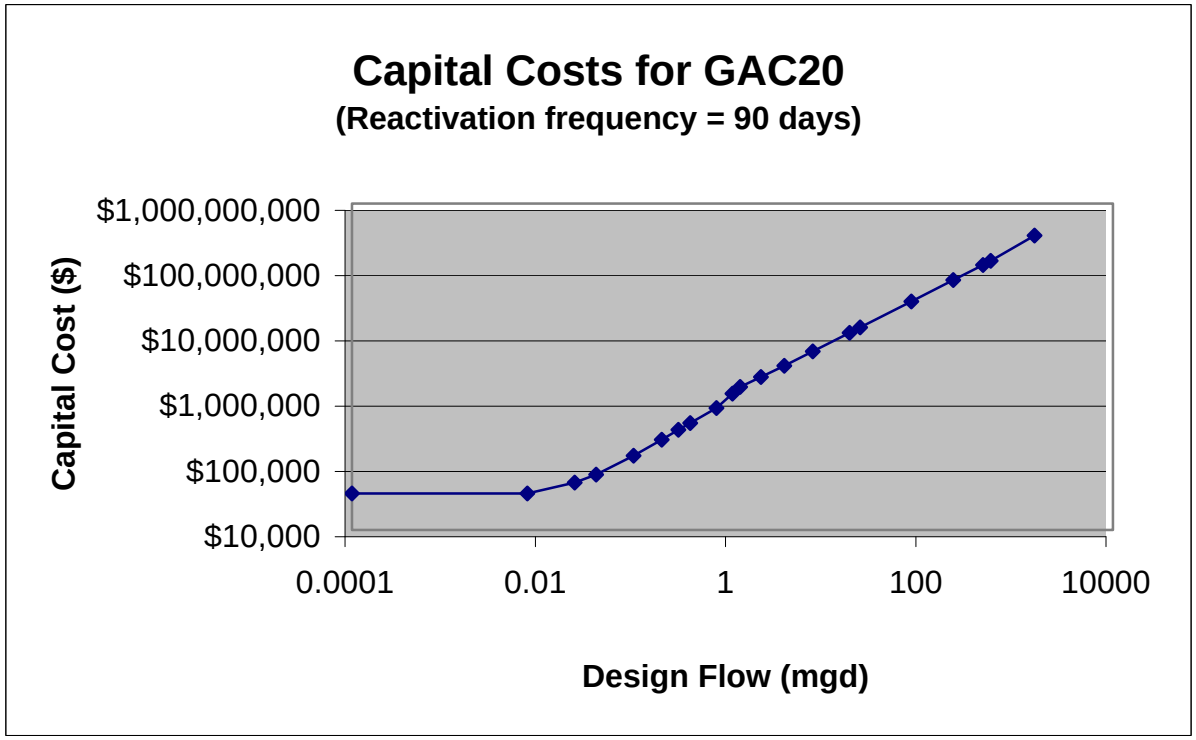


Exhibit I.14 O&M Costs for GAC20
Surface Water Plants

Constraints: None
Design Criteria:

1) Reactivation frequency = 90 days
2) Onsite regeneration for system serving more than 10,000 people
3) Media replacement for systems serving 10,000 or fewer people

Average Flow (mgd)	O&M Cost ($)
0.00005	$9,222
0.00150	$9,222
0.00540	$18,223
0.00950	$25,644
0.02500	$47,782
0.05400	$47,639
0.08400	$61,728
0.11000	$74,417
0.23000	$123,691
0.35000	$171,149
0.41000	$177,242
0.77000	$199,489
1.40000	$237,836
3.00000	$330,703
7.80000	$656,235
11.00000	$863,063
38.00000	$2,448,311
120.00000	$6,727,479
270.00000	$14,362,281
350.00000	$18,123,898
750.00000	$36,931,984

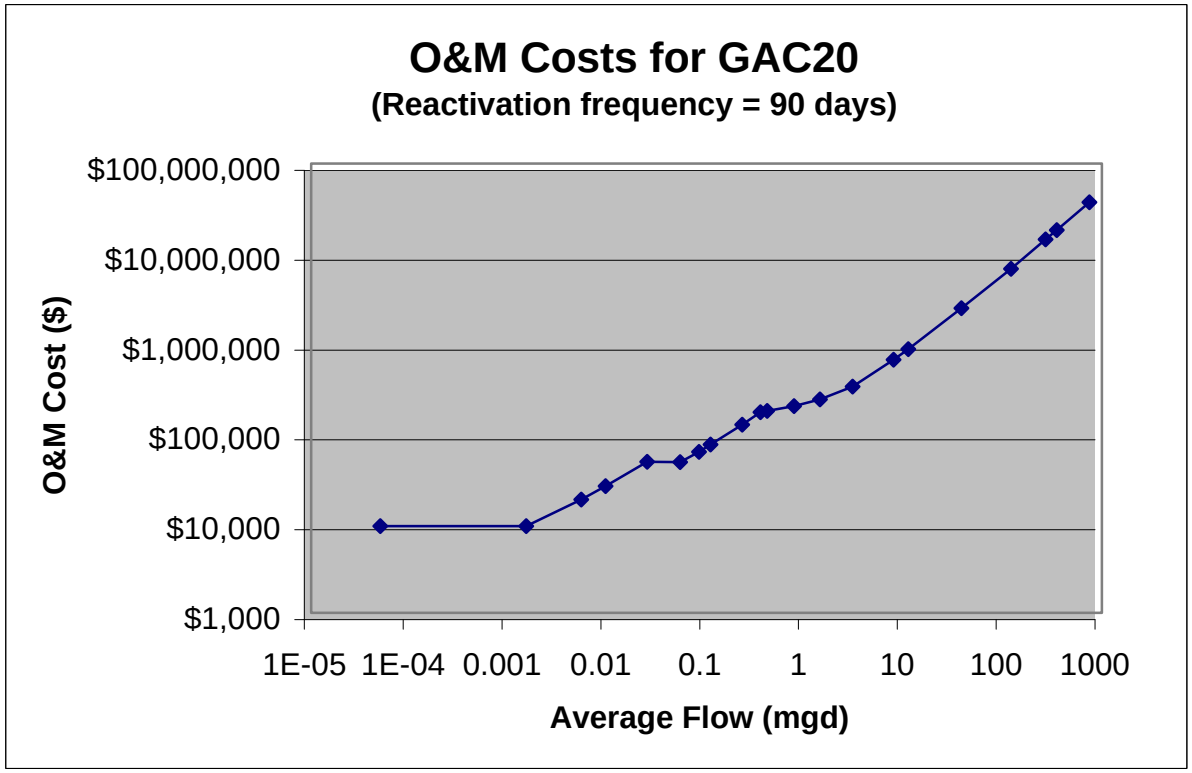


Exhibit I.15 Capital Costs for Nanofiltration
Surface Water Plants

Constraints: None
Design Criteria:
1) Water temp. = 10 degrees C
2) Ocean or Sewer discharge

Design Flow (mgd)	Capital Cost ($)
0.0001	$51,894
0.0070	$51,894
0.0220	$69,241
0.0370	$86,588
0.0910	$156,079
0.1800	$222,829
0.2700	$315,937
0.3600	$357,087
0.6800	$663,375
1.0000	$912,423
1.2000	$1,080,532
2.0000	$2,018,579
3.5000	$3,404,129
7.0000	$6,745,258
17.0000	$15,456,118
22.0000	$19,862,964
76.0000	$57,558,238
210.0000	$129,659,099
430.0000	$265,356,059
520.0000	$318,914,577
1500.0000	

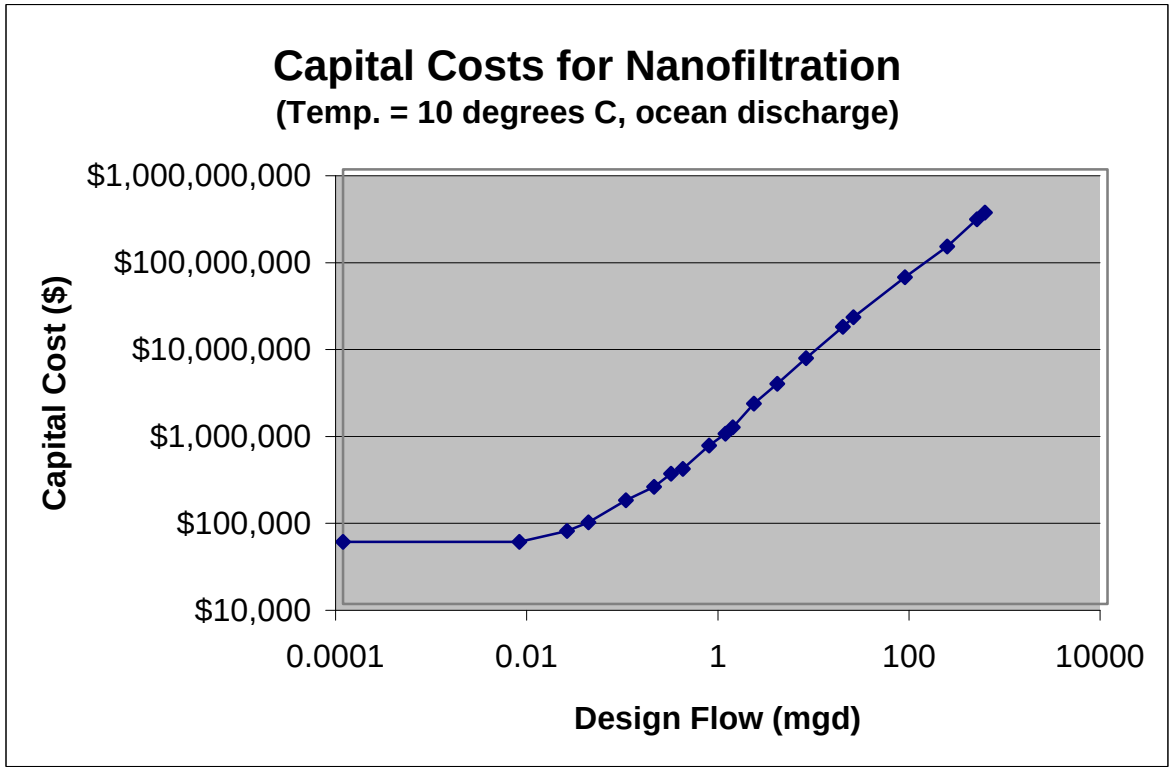


Exhibit I.16 O&M Costs for Nanofiltration
Surface Water Plants

Constraints: None
Design Criteria:

1) Water temp. = 10 degrees C
2) Ocean or sewer discharge

Average Flow (mgd)	O&M Cost ($)
0.00005	$6,909
0.00150	$6,909
0.00540	$7,937
0.00950	$9,025
0.02500	$13,703
0.05400	$29,539
0.08400	$37,904
0.11000	$43,223
0.23000	$70,725
0.35000	$112,309
0.41000	$126,572
0.77000	$205,817
1.40000	$343,298
3.00000	$710,894
7.80000	$1,780,761
11.00000	$2,429,844
38.00000	$7,914,024
120.00000	$23,845,168
270.00000	$52,975,344
350.00000	$68,097,181
750.00000	$143,706,367

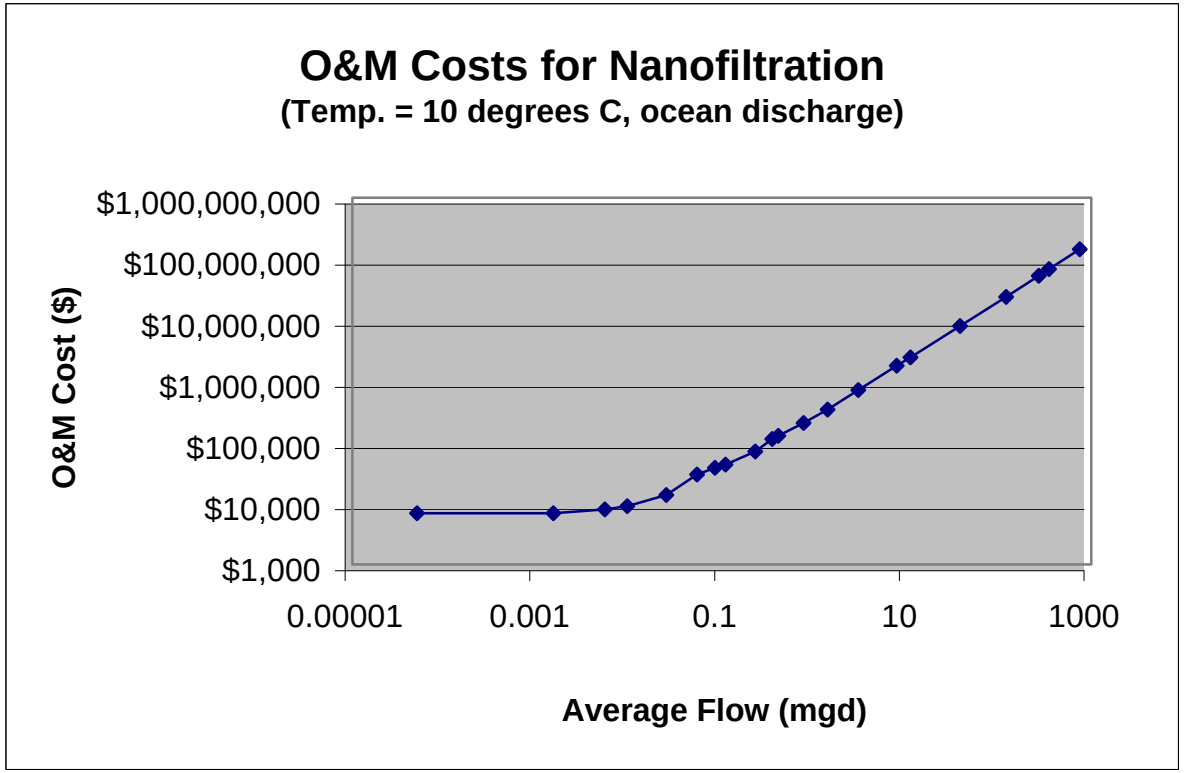


Exhibit I.17 Capital Costs for Switching to Chloramines
Ground Water Plants

Constraints: It can be used alone or in conjunction with the other technologies
Design Criteria:
1) Ammonia dose = 0.15 mg/L

Design Flow (mgd)	Capital Cost ($)
0.0001	$29,104
0.0070	$29,104
0.0220	$29,104
0.0370	$29,104
0.0910	$29,104
0.1800	$30,604
0.2700	$37,939
0.3600	$38,858
0.6800	$42,127
1.0000	$53,396
1.2000	$83,772
2.0000	$83,772
3.5000	$83,772
7.0000	$83,772
17.0000	$98,772
22.0000	$98,772
76.0000	$98,772
210.0000	$158,907
430.0000	$428,047
520.0000	$428,047
1500.0000	$428,047

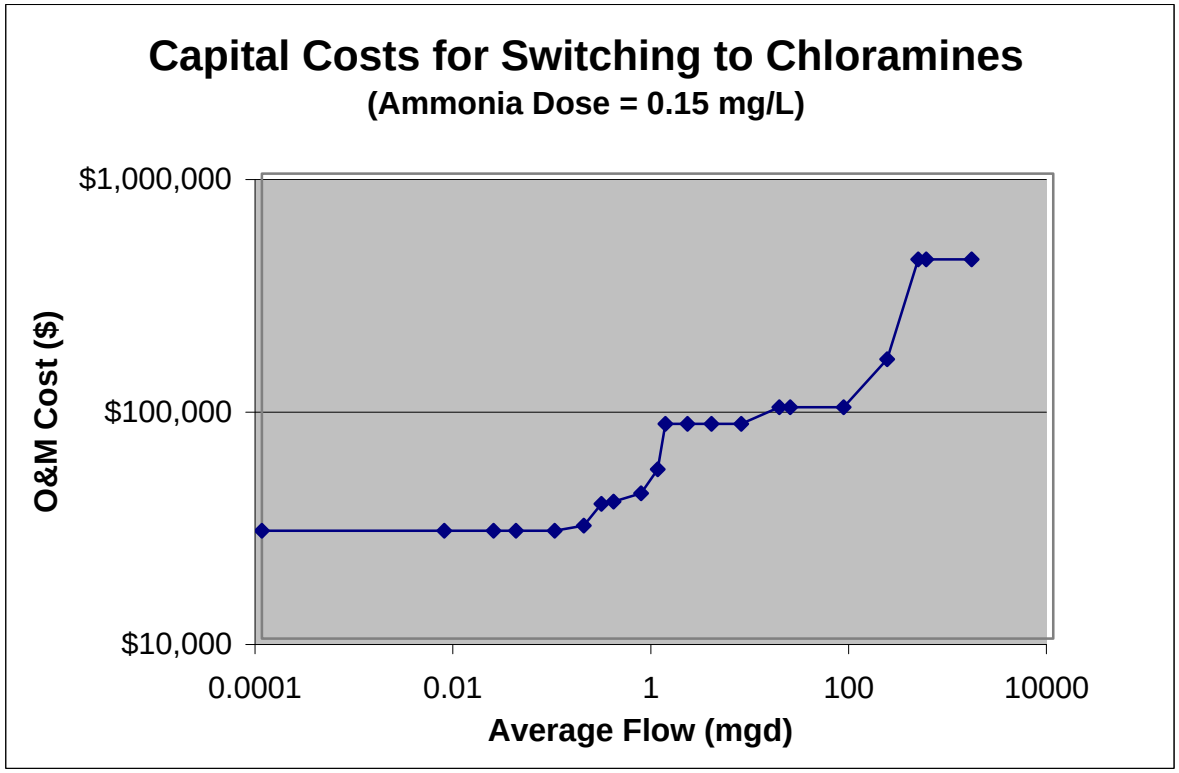


Exhibit I.18 O&M Costs for Switching to Chloramines
Ground Water Plants

Constraints: It can be used alone or in conjunction with the other technologies
Design Criteria:
1) Ammonia dose = 0.15 mg/L

Average Flow (mgd)	O&M Cost ($)
0.00005	$1,361
0.00150	$1,361
0.00540	$1,362
0.00950	$1,363
0.02500	$1,463
0.05400	$1,472
0.08400	$2,949
0.11000	$2,956
0.23000	$2,966
0.35000	$4,274
0.41000	$5,743
0.77000	$6,266
1.40000	$7,231
3.00000	$8,688
7.80000	$11,333
11.00000	$12,887
38.00000	$23,579
120.00000	$46,355
270.00000	$73,620
350.00000	$87,174
750.00000	$154,948

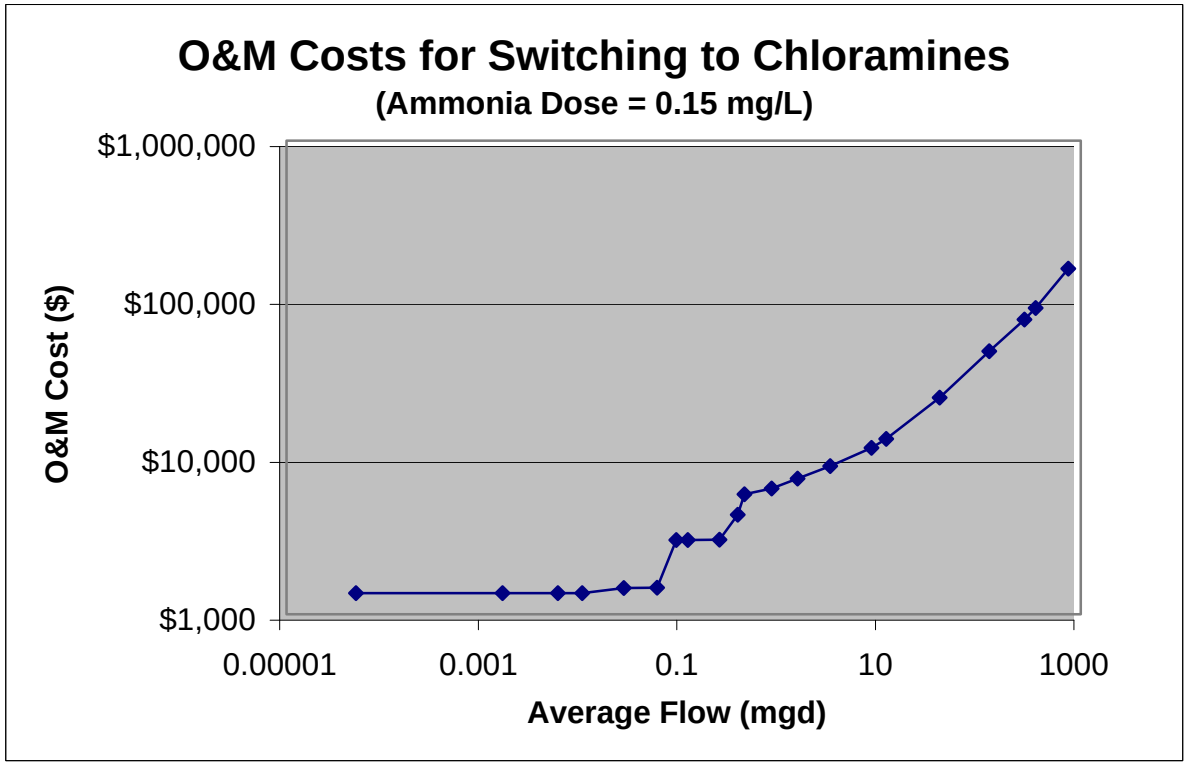
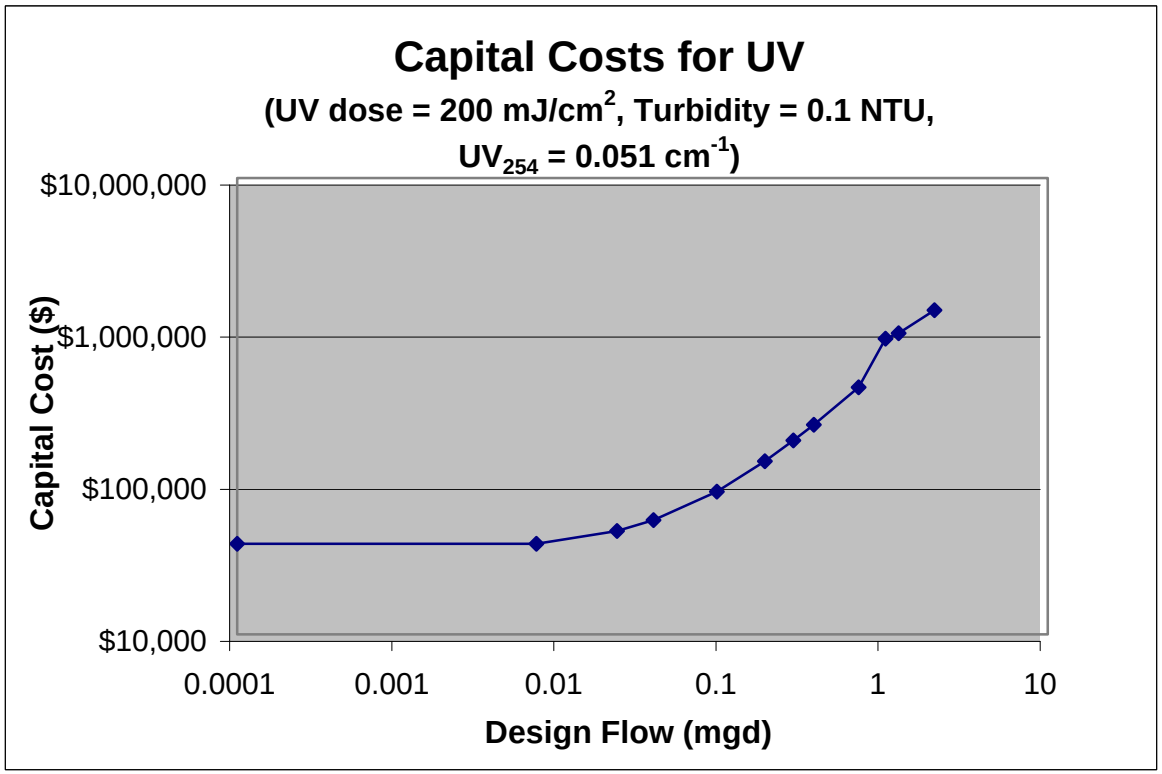


Exhibit I.19 Capital Costs for UV
Ground Water Plants

Constraints: Not practical for systems serving 10,000 or more
Design Criteria:

1) UV_{254} = 0.051 cm^{-1}, Turbidity = 0.1 NTU
2) Alkalinity = 60 mg/L $CaCO_3$, Hardness = 100 mg/L $CaCO_3$
3) UV dose = 200 mJ/cm^2
4) 2 reactors in series

Design Flow (mgd)	Capital Cost ($)
0.0001	$39,390
0.0070	$39,390
0.0220	$47,873
0.0370	$56,357
0.0910	$86,898
0.1800	$137,234
0.2700	$188,136
0.3600	$239,038
0.6800	$420,021
1.0000	$878,383
1.2000	$953,078
2.0000	$1,354,307
3.5000	Not Applicable
7.0000	Not Applicable
17.0000	Not Applicable
22.0000	Not Applicable
76.0000	Not Applicable
210.0000	Not Applicable
430.0000	Not Applicable
520.0000	Not Applicable
1500.0000	Not Applicable



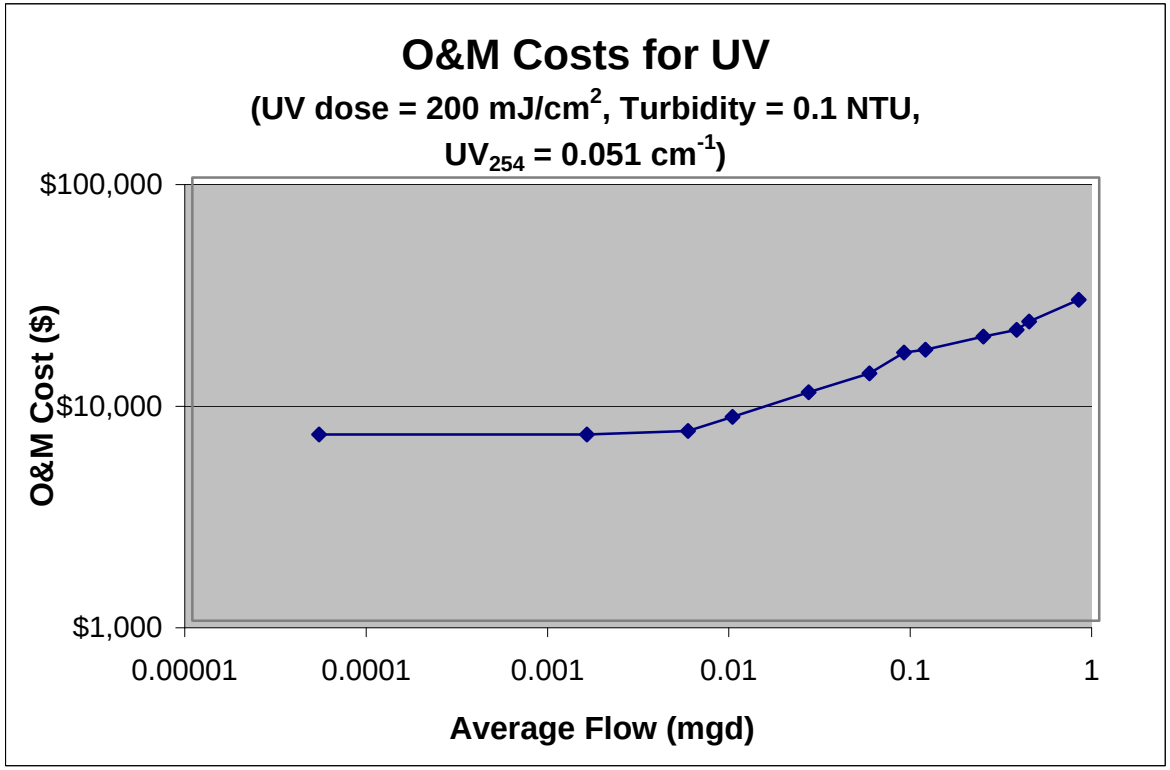
Note: EPA updated the 40 mJ/cm2 UV unit costs based on data obtained for recent installations of this technology. Similar data for 200 mJ/cm2 UV systems were not available within the time frame required to include in this analysis.

Exhibit I.20 O&M Costs for UV
Ground Water Plants

Constraints: Not practical for systems serving 10,000 or more
Design Criteria:

1) UV_{254} = 0.051 cm^{-1}, Turbidity = 0.1 NTU
2) Alkalinity = 60 mg/L $CaCO_3$, Hardness = 100 mg/L $CaCO_3$
3) UV dose = 200 mJ/cm^2
4) 2 reactors in series

Average Flow (mgd)	O&M Cost ($)
0.00005	$6,919
0.00150	$6,919
0.00540	$7,189
0.00950	$8,324
0.02500	$10,751
0.05400	$13,065
0.08400	$16,203
0.11000	$16,739
0.23000	$19,155
0.35000	$20,522
0.41000	$22,415
0.77000	$28,089
1.40000	Not Applicable
3.00000	Not Applicable
7.80000	Not Applicable
11.00000	Not Applicable
38.00000	Not Applicable
120.00000	Not Applicable
270.00000	Not Applicable
350.00000	Not Applicable
750.00000	Not Applicable



Note: EPA updated the 40 mJ/cm2 UV unit costs based on data obtained for recent installations of this technology. Similar data for 200 mJ/cm2 UV systems were not available within the time frame required to include in this analysis.

Exhibit I.21 Capital Costs for Ozone Ground Water Plants

Constraints: Not practical for systems serving 100 or fewer people
Design Criteria:

1) Contact time = 12 minutes
2) Ozone maximum dose = 3.19 mg/L

Design Flow (mgd)	Capital Cost ($)
0.0001	Not Applicable
0.0070	Not Applicable
0.0220	Not Applicable
0.0370	Not Applicable
0.0910	$322,787
0.1800	$382,874
0.2700	$438,785
0.3600	$493,394
0.6800	$675,951
1.0000	$804,614
1.2000	$902,391
2.0000	$1,226,541
3.5000	$1,595,373
7.0000	$2,357,412
17.0000	$3,946,957
22.0000	$4,546,365
76.0000	$12,628,950
210.0000	$26,317,852
430.0000	$44,918,178
520.0000	$53,248,978
1500.0000	$143,962,124

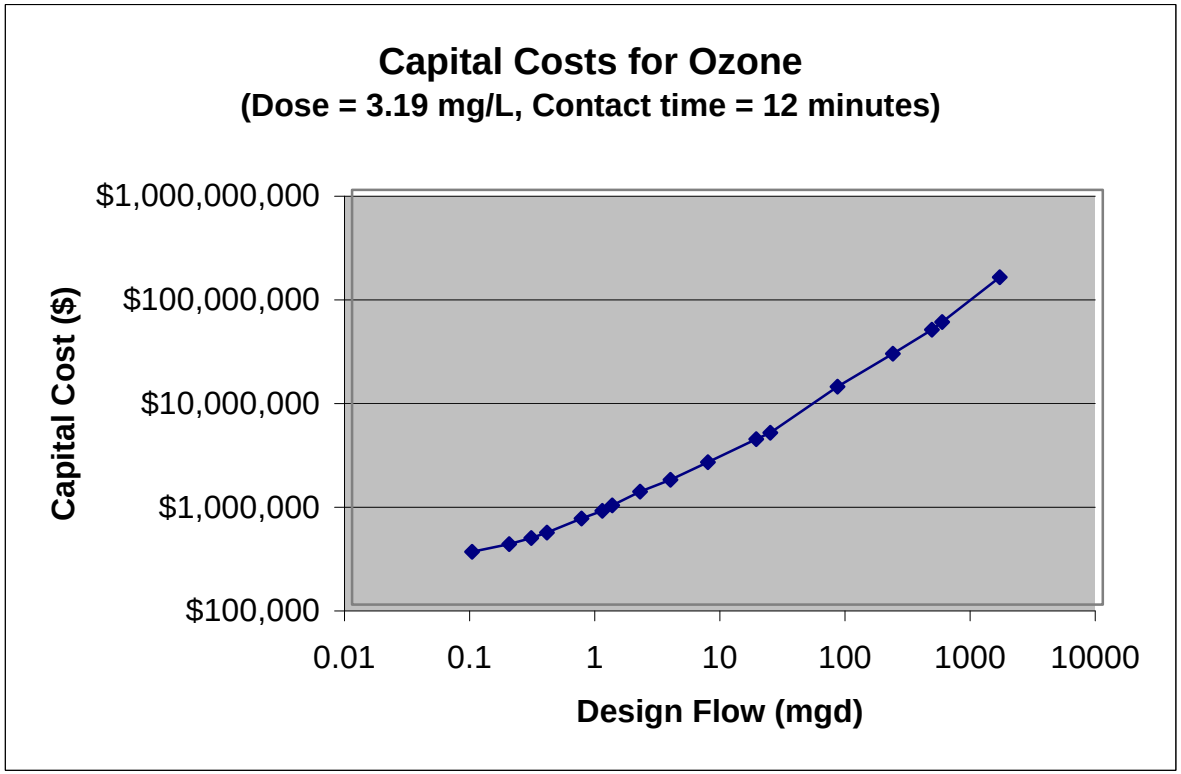


Exhibit I.22 O&M Costs for Ozone
Ground Water Plants

Constraints: Not practical for systems serving 100 or fewer people
Design Criteria:

1) Contact time = 12 minutes
2) Ozone maximum dose = 3.19 mg/L

Average Flow (mgd)	O&M Cost ($)
0.00005	Not Applicable
0.00150	Not Applicable
0.00540	Not Applicable
0.00950	Not Applicable
0.02500	$55,520
0.05400	$55,884
0.08400	$59,391
0.11000	$59,737
0.23000	$61,152
0.35000	$62,566
0.41000	$63,350
0.77000	$67,621
1.40000	$77,719
3.00000	$95,346
7.80000	$145,700
11.00000	$177,752
38.00000	$464,832
120.00000	$1,377,320
270.00000	$2,871,997
350.00000	$3,662,456
750.00000	

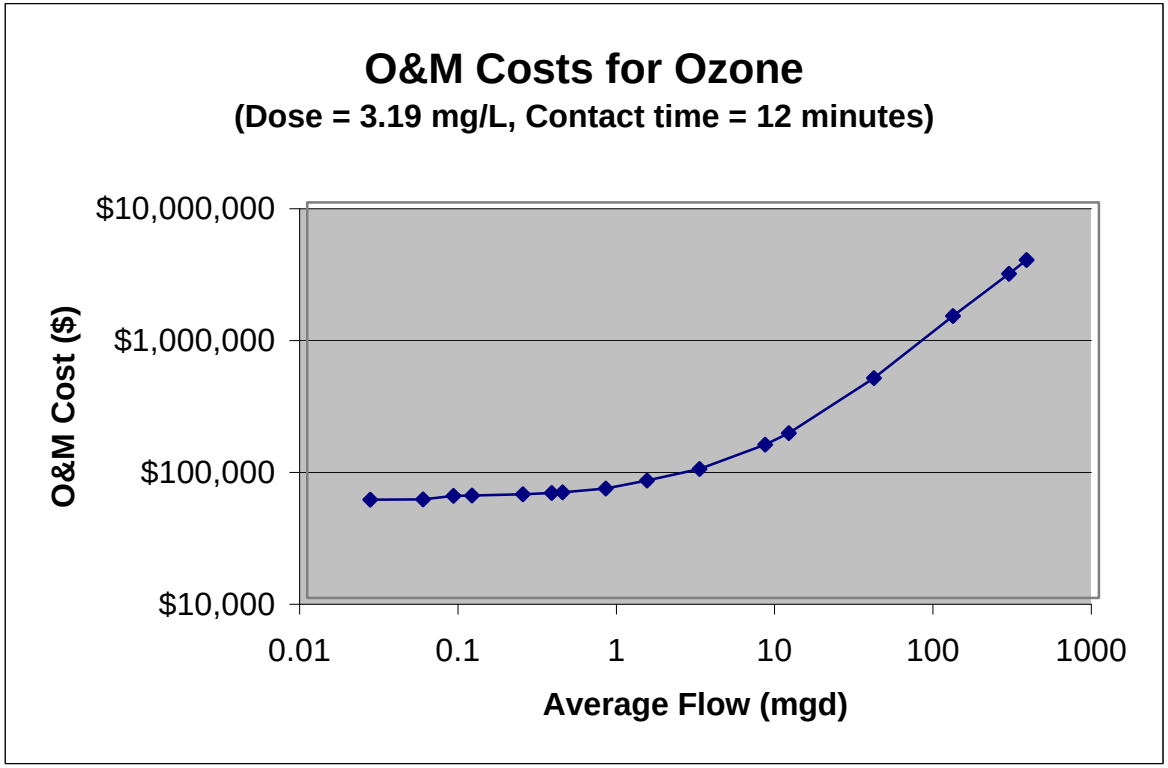


Exhibit I.23 Capital Costs for GAC20
Ground Water Plants

Constraints: None
Design Criteria:

1) Reactivation frequency = 240 days
2) Onsite regeneration for systems serving more than 10,000 people
3) Media replacement for systems serving 10,000 or fewer people

Design Flow (mgd)	Capital Cost ($)
0.0001	$36,117
0.0070	$36,117
0.0220	$53,091
0.0370	$70,491
0.0910	$137,932
0.1800	$241,793
0.2700	$340,528
0.3600	$435,155
0.6800	$739,387
1.0000	$1,228,620
1.2000	$1,351,323
2.0000	$1,931,036
3.5000	$2,894,585
7.0000	$4,844,129
17.0000	$9,491,603
22.0000	$11,561,478
76.0000	$29,712,377
210.0000	$64,708,727
430.0000	$112,528,561
520.0000	$130,362,039
1500.0000	$324,548,797

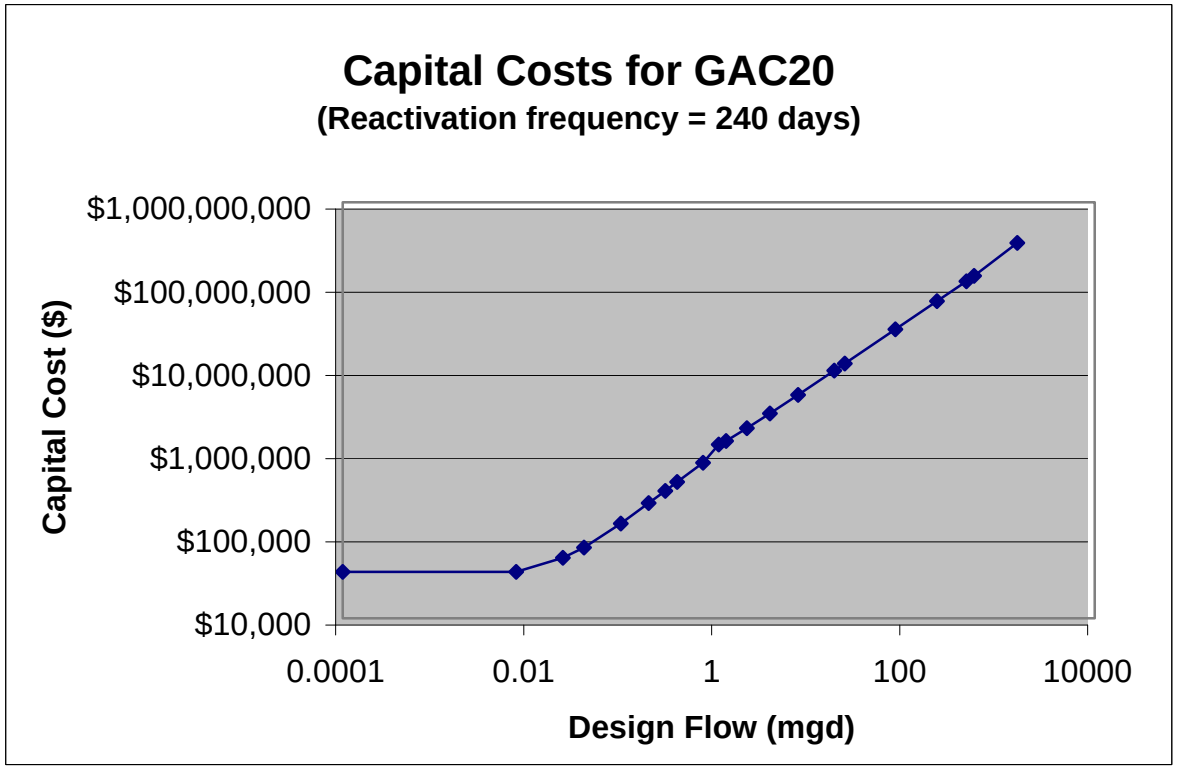


Exhibit I.24 O&M Costs for GAC20
Ground Water Plants

Constraints: None
Design Criteria:

1) Reactivation frequency = 240 days
2) Onsite regeneration for systems serving more than 10,000 people
3) Media replacement for systems serving 10,000 or fewer people

Average Flow (mgd)	O&M Cost ($)
0.00005	$6,673
0.00150	$6,673
0.00540	$11,206
0.00950	$14,742
0.02500	$24,752
0.05400	$35,068
0.08400	$42,835
0.11000	$50,123
0.23000	$75,023
0.35000	$98,679
0.41000	$96,623
0.77000	$110,575
1.40000	$134,831
3.00000	$193,396
7.80000	$367,103
11.00000	$469,818
38.00000	$1,294,938
120.00000	$3,624,295
270.00000	$7,945,037
350.00000	$9,865,622
750.00000	$19,468,547

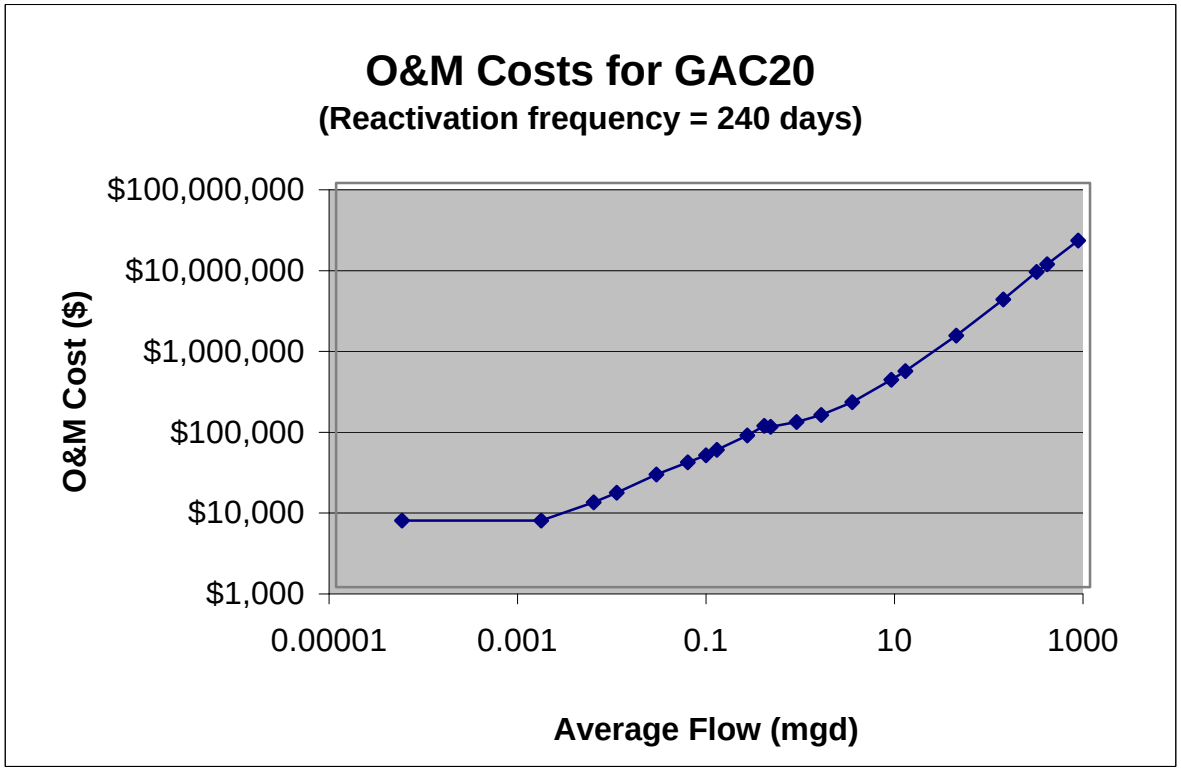


Exhibit I.25 Capital Costs for Nanofiltration Ground Water Plants

Constraints: None
Design Criteria:
1) Water temp. = 10 degrees C
2) Ocean or sewer discharge

Design Flow (mgd)	Capital Cost ($)
0.0001	$51,894
0.0070	$51,894
0.0220	$69,241
0.0370	$86,588
0.0910	$156,079
0.1800	$222,829
0.2700	$315,937
0.3600	$357,087
0.6800	$663,375
1.0000	$912,423
1.2000	$1,080,532
2.0000	$2,018,579
3.5000	$3,404,129
7.0000	$6,745,258
17.0000	$15,456,118
22.0000	$19,862,964
76.0000	$57,558,238
210.0000	$129,659,099
430.0000	$265,356,059
520.0000	$318,914,577
1500.0000	$902,107,327

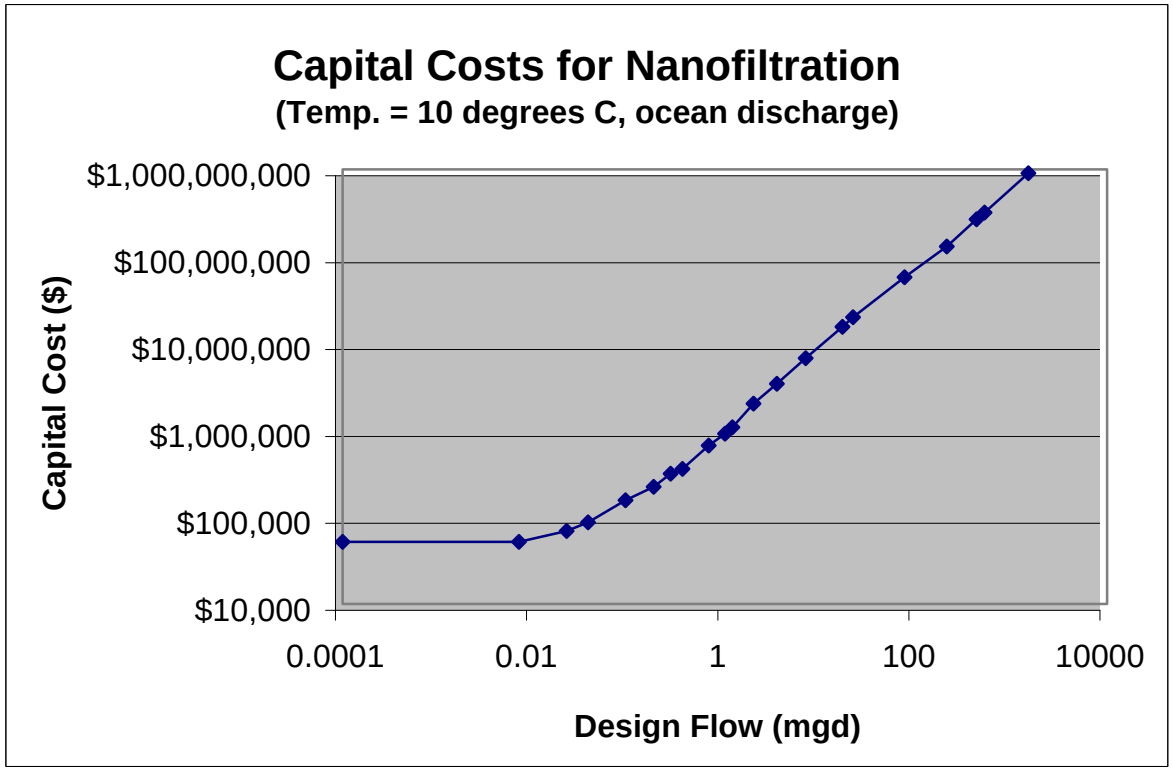


Exhibit I.26 O&M Costs for Nanofiltration
Ground Water Plants

Constraints: None
Design Criteria:

1) Water temp. = 10 degrees C
2) Ocean or sewer discharge

Average Flow (mgd)	O&M Cost ($)
0.00005	$6,909
0.00150	$6,909
0.00540	$7,937
0.00950	$9,025
0.02500	$13,703
0.05400	$29,539
0.08400	$37,904
0.11000	$43,223
0.23000	$70,725
0.35000	$112,309
0.41000	$126,572
0.77000	$205,817
1.40000	$343,298
3.00000	$710,894
7.80000	$1,780,761
11.00000	$2,429,844
38.00000	$7,914,024
120.00000	$23,845,168
270.00000	$52,975,344
350.00000	$68,097,181
750.00000	$143,706,367

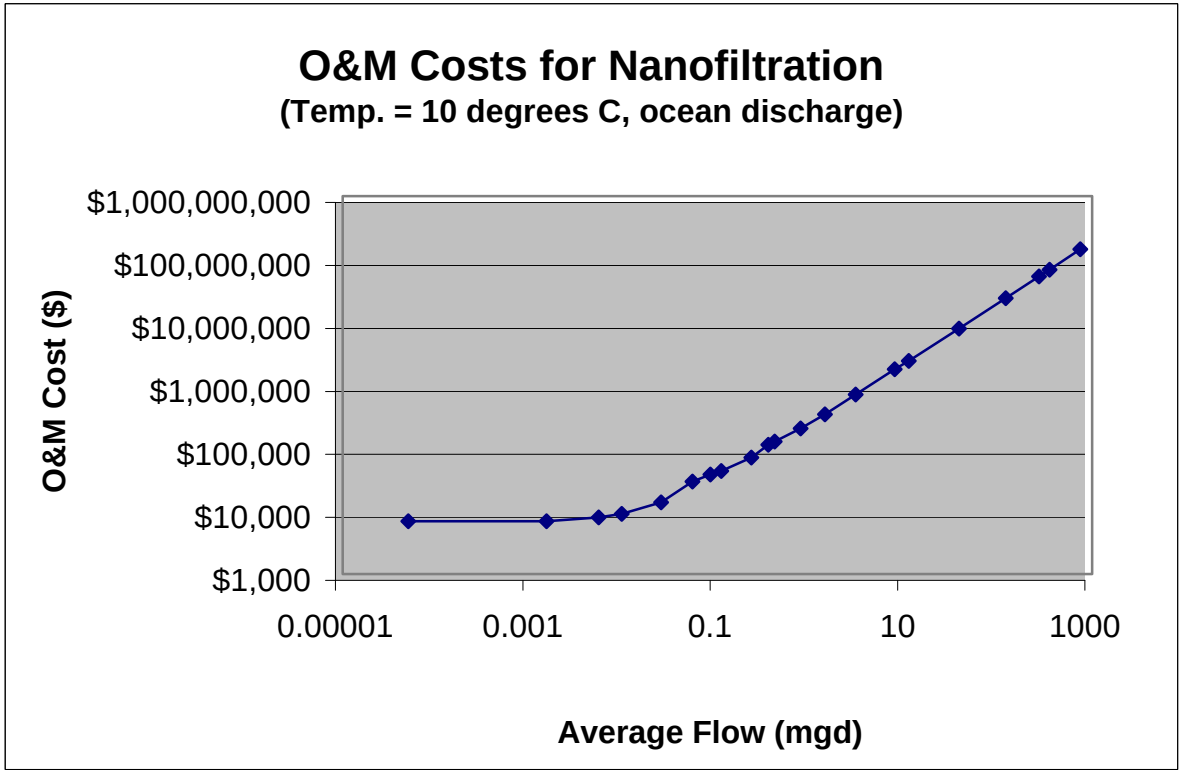


Exhibit I.27 Stage 2 DBPR - Small Systems Household Unit Costs for the Stage 2 Affordability Analysis

	Technology	Population Served	Design Flow (mgd)	Average Daily Flow (mgd)	Capital Cost ($)	Annual Capital Cost at 7%($)	O&M Cost ($)	Total Annual Costs ($)	Unit Costs ($/kgal/yr)	Median Annual Water Usage per HH (kgal/yr)	Household Unit Costs ($)
			A	B	C	D	E	F=D+E	G=F/A	H	I=G*H
Ground Water CWSs	Chloramines (0.15 mg/L)	25 - 500	0.058	0.015	$ 29,104	$ 2,747	$ 1,398	4,146	0.76	83	62.70
		501 - 3,300	0.5	0.17	$ 40,288	$ 3,803	$ 2,961	6,764	0.11	85	9.28
		3,301 - 10,000	1.8	0.7	$ 83,772	$ 7,908	$ 6,164	14,071	0.06	89	4.88
	UV (200mJ/cm^2)	25 - 500	0.058	0.015	$ 68,234	$ 6,441	$ 9,185	15,626	2.85	83	236.32
		501 - 3,300	0.5	0.17	$ 318,218	$ 30,038	$ 17,947	47,984	0.77	85	65.81
		3,301 - 10,000	1.8	0.7	$ 1,254,000	$ 118,369	$ 26,986	145,355	0.57	89	50.38
	Ozone (0.5-log dose)	25 - 500	0.058	0.015	$ 322,787	$ 30,469	$ 55,520	85,989	15.71	83	1,300.43
		501 - 3,300	0.5	0.17	$ 573,262	$ 54,112	$ 60,445	114,557	1.85	85	157.11
		3,301 - 10,000	1.8	0.7	$ 1,145,503	$ 108,127	$ 66,791	174,918	0.68	89	60.62
	GAC20 (EBCT=20 min, 240 day regeneration)	25 - 500	0.058	0.015	$ 96,718	$ 9,130	$ 18,294	27,424	5.01	83	414.74
		501 - 3,300	0.5	0.17	$ 568,257	$ 53,639	$ 62,573	116,213	1.87	85	159.38
		3,301 - 10,000	1.8	0.7	$ 1,786,108	$ 168,596	$ 107,862	276,458	1.08	89	95.81
	NF	25 - 500	0.058	0.015	$ 113,612	$ 10,724	$ 10,685	21,409	3.91	83	323.78
		501 - 3,300	0.5	0.17	$ 491,088	$ 46,355	$ 56,974	103,329	1.67	85	141.71
		3,301 - 10,000	1.8	0.7	$ 1,784,068	$ 168,403	$ 190,408	358,812	1.40	89	124.36
Surface Water CWSs	Chloramines (0.55 mg/L)	25 - 500	0.058	0.015	$ 29,104	$ 2,747	$ 1,410	4,158	0.76	83	62.88
		501 - 3,300	0.5	0.17	$ 40,288	$ 3,803	$ 3,059	6,862	0.11	85	9.41
		3,301 - 10,000	1.8	0.7	$ 83,772	$ 7,908	$ 6,602	14,509	0.06	89	5.03
	Chlorine Dioxide (1.25 mg/L)	25 - 500	0.058	0.015	$ 32,427	$ 3,061	$ 5,001	8,061	1.47	83	121.92
		501 - 3,300	0.5	0.17	$ 41,352	$ 3,903	$ 17,406	21,309	0.34	85	29.22
		3,301 - 10,000	1.8	0.7	$ 81,687	$ 7,711	$ 21,122	28,833	0.11	89	9.99
	UV (40mJ/cm^2)	25 - 500	0.058	0.015	$ 19,631	$ 1,853	$ 4,046	5,899	1.08	83	89.21
		501 - 3,300	0.5	0.17	$ 81,171	$ 7,662	$ 7,323	14,984	0.24	85	20.55
		3,301 - 10,000	1.8	0.7	$ 328,414	$ 31,000	$ 11,111	42,111	0.16	89	14.59
	Ozone (0.5-log dose)	25 - 500	0.058	0.015	$ 322,787	$ 30,469	$ 55,520	85,989	15.71	83	1,300.43
		501 - 3,300	0.5	0.17	$ 573,262	$ 54,112	$ 60,445	114,557	1.85	85	157.11
		3,301 - 10,000	1.8	0.7	$ 1,145,503	$ 108,127	$ 66,791	174,918	0.68	89	60.62
	MF/UF	25 - 500	0.058	0.015	$ 324,938	$ 30,672	$ 7,927	38,599	7.05	83	583.74
		501 - 3,300	0.5	0.17	$ 974,790	$ 92,013	$ 35,397	127,411	2.05	85	174.74
		3,301 - 10,000	1.8	0.7	$ 2,475,071	$ 233,629	$ 100,677	334,306	1.31	89	115.86
	GAC10 (EBCT=10 min, 360 day regeneration)	25 - 500	0.058	0.015	$ 77,923	$ 7,355	$ 14,888	22,244	4.06	83	336.40
		501 - 3,300	0.5	0.17	$ 349,693	$ 33,009	$ 40,404	73,413	1.18	85	100.68
		3,301 - 10,000	1.8	0.7	$ 1,288,636	$ 121,638	$ 59,927	181,565	0.71	89	62.93
	GAC20 (EBCT=20 min, 90 day regeneration)	25 - 500	0.058	0.015	$ 96,718	$ 9,130	$ 33,499	42,629	7.79	83	644.69
		501 - 3,300	0.5	0.17	$ 568,257	$ 53,639	$ 99,054	152,693	2.46	85	209.42
		3,301 - 10,000	1.8	0.7	$ 2,040,576	$ 192,616	$ 195,163	387,779	1.52	89	134.39
	Integrated Membranes	25 - 500	0.058	0.015	$ 438,551	$ 41,396	$ 18,612	60,008	10.96	83	907.52
		501 - 3,300	0.5	0.17	$ 1,465,879	$ 138,369	$ 92,371	230,740	3.72	85	316.45
		3,301 - 10,000	1.8	0.7	$ 4,259,139	$ 402,033	$ 291,086	693,118	2.71	89	240.22

Sources: Exhibits I.1-I.26, flows from Exhibit 8.3.

Note: HH consumption values derived from small system affordability document, values were multiplied by 1.15 to account for water lost due to leaks.

Appendix J
Stage 2 DBPR Cost Projections

Matrix of Appendix J Contents

Applicable Rule Alternative(s)	Exhibit Description	Applicable Source Water Type(s)	Applicable System Classification(s)	Applicable System Size	Exhibit Number
Preferred Alternative	Total Capital and O&M Costs	All	All	All	J.1a
Alternative 1	Total Capital and O&M Costs	All	All	All	J.1b
Alternative 2	Total Capital and O&M Costs	All	All	All	J.1c
Alternative 3	Total Capital and O&M Costs	All	All	All	J.1d
Preferred Alternative, ICR Matrix Method	Total Capital and O&M Costs	All	All	All	J.1e
Preferred Alternative, SWAT Method	Total Capital and O&M Costs	All	All	All	J.1f
All Alternatives	Total Implementation, IDSE, Additional Routine Monitoring, and Operational Evaluation Costs	All	All	All	J.1g
All Alternatives	Total Primacy Agency Costs	N/A	N/A	N/A	J.1h
Stage 2 Preferred Alternative	Annual PWS Cost Projections	Surface Water	CWS	<100	J.2a
				100-499	J.2b
				500-999	J.2c
				1,000-3,299	J.2d
				3,300-9,999	J.2e
				10,000-49,999	J.2f
				50,000-99,999	J.2g
				100,000-999,999	J.2h
				1,000,000+	J.2i
				All	J.2j
			NTNCWS	<100	J.2k
				100-499	J.2l
				500-999	J.2m
				1,000-3,299	J.2n
				3,300-9,999	J.2o
				10,000-49,999	J.2p
				50,000-99,999	J.2q
				100,000-999,999	J.2r
				1,000,000+	J.2s
				All	J.2t
			All	All	J.2u
		Ground Water	CWS	<100	J.2v
				100-499	J.2w
				500-999	J.2x
				1,000-3,299	J.2y
				3,300-9,999	J.2z
				10,000-49,999	J.2aa
				50,000-99,999	J.2ab
				100,000-999,999	J.2ac
				1,000,000+	J.2ad
				All	J.2ae
			NTNCWS	<100	J.2af
				100-499	J.2ag
				500-999	J.2ah
				1,000-3,299	J.2ai
				3,300-9,999	J.2aj
				10,000-49,999	J.2ak
				50,000-99,999	J.2al
				100,000-999,999	J.2am
				1,000,000+	J.2an
				All	J.2ao
			All	All	J.2ap
		All	All	All	J.2aq
	Annual Primacy Agency Cost Projections	N/A	N/A	N/A	J.2ar
	Present Value of Total Costs at 3% Discount Rate	All	All	All	J.2as
	Present Value of Capital Costs at 3% Discount Rate	All	All	All	J.2at
	Present Value of O&M Costs at 3% Discount Rate	All	All	All	J.2au
	Present Value of Non-treatment Costs at 3% Discount Rate	All	All	All	J.2av
	Present Value of Total Costs at 7% Discount Rate	All	All	All	J.2aw
	Present Value of Capital Costs at 7% Discount Rate	All	All	All	J.2ax
	Present Value of O&M Costs at 7% Discount Rate	All	All	All	J.2ay
	Present Value of Non-treatment Costs at 7% Discount Rate	All	All	All	J.2az

Applicable Rule Alternative(s)	Exhibit Description	Applicable Source Water Type(s)	Applicable System Classification(s)	Applicable System Size	Exhibit Number
Stage 2 Preferred Alternative (Continued)	Present Value of Total Costs at 3% Discount Rate	Surface Water	CWS	All	J.2ba
	Present Value of Capital Costs at 3% Discount Rate			All	J.2bb
	Present Value of O&M Costs at 3% Discount Rate			All	J.2bc
	Present Value of Non-Treatment Costs at 3% Discount Rate			All	J.2bd
	Present Value of Total Costs at 3% Discount Rate		NTNCWS	All	J.2be
	Present Value of Capital Costs at 3% Discount Rate			All	J.2bf
	Present Value of O&M Costs at 3% Discount Rate			All	J.2bg
	Present Value of Non-Treatment Costs at 3% Discount Rate			All	J.2bh
	Present Value of Total Costs at 3% Discount Rate	Ground Water	CWS	All	J.2bi
	Present Value of Capital Costs at 3% Discount Rate			All	J.2bj
	Present Value of O&M Costs at 3% Discount Rate			All	J.2bk
	Present Value of Non-Treatment Costs at 3% Discount Rate			All	J.2bl
	Present Value of Total Costs at 3% Discount Rate	Ground Water	NTNCWS	All	J.2bm
	Present Value of Capital Costs at 3% Discount Rate			All	J.2bn
	Present Value of O&M Costs at 3% Discount Rate			All	J.2bo
	Present Value of Non-Treatment Costs at 3% Discount Rate			All	J.2bp
	Present Value of Total Costs at 7% Discount Rate	Surface Water	CWS	All	J.2bq
	Present Value of Capital Costs at 7% Discount Rate			All	J.2br
	Present Value of O&M Costs at 7% Discount Rate			All	J.2bs
	Present Value of Non-Treatment Costs at 7% Discount Rate			All	J.2bt
	Present Value of Total Costs at 7% Discount Rate		NTNCWS	All	J.2bu
	Present Value of Capital Costs at 7% Discount Rate			All	J.2bv
	Present Value of O&M Costs at 7% Discount Rate			All	J.2bw
	Present Value of Non-Treatment Costs at 7% Discount Rate			All	J.2bx
	Present Value of Total Costs at 7% Discount Rate	Ground Water	CWS	All	J.2by
	Present Value of Capital Costs at 7% Discount Rate			All	J.2bz
	Present Value of O&M Costs at 7% Discount Rate			All	J.2ca
	Present Value of Non-Treatment Costs at 7% Discount Rate			All	J.2cb
	Present Value of Total Costs at 7% Discount Rate		NTNCWS	All	J.2cc
	Present Value of Capital Costs at 7% Discount Rate			All	J.2cd
	Present Value of O&M Costs at 7% Discount Rate			All	J.2ce
	Present Value of Non-Treatment Costs at 7% Discount Rate			All	J.2cf
Stage 2 Alternative 1	Annual PWS Cost Projections	Surface Water	CWSs	All	J.3a
			NTNCWs	All	J.3b
			All	All	J.3c
		Ground Water	CWSs	All	J.3d
			NTNCWs	All	J.3e
			All	All	J.3f
		All	All	All	J.3g
	Annual Primacy Agency Cost Projections	All	All	All	J.3h
	Present Value of Total Costs at 3% Discount Rate	All	All	All	J.3i
	Present Value of Capital Costs at 3% Discount Rate	All	All	All	J.3j
	Present Value of O&M Costs at 3% Discount Rate	All	All	All	J.3k
	Present Value of Non-treatment Costs at 3% Discount Rate	All	All	All	J.3l
	Present Value of Total Costs at 7% Discount Rate	All	All	All	J.3m
	Present Value of Capital Costs at 7% Discount Rate	All	All	All	J.3n
	Present Value of O&M Costs at 7% Discount Rate	All	All	All	J.3o
	Present Value of Non-treatment Costs at 7% Discount Rate	All	All	All	J.3p
Stage 2 Alternative 2	Annual PWS Cost Projections	Surface Water	CWSs	All	J.4a
			NTNCWs	All	J.4b
			All	All	J.4c
		Ground Water	CWSs	All	J.4d
			NTNCWs	All	J.4e
			All	All	J.4f
		All	All	All	J.4g
	Annual Primacy Agency Cost Projections	All	All	All	J.4h
	Present Value of Total Costs at 3% Discount Rate	All	All	All	J.4i
	Present Value of Capital Costs at 3% Discount Rate	All	All	All	J.4j
	Present Value of O&M Costs at 3% Discount Rate	All	All	All	J.4k
	Present Value of Non-treatment Costs at 3% Discount Rate	All	All	All	J.4l
	Present Value of Total Costs at 7% Discount Rate	All	All	All	J.4m
	Present Value of Capital Costs at 7% Discount Rate	All	All	All	J.4n
	Present Value of O&M Costs at 7% Discount Rate	All	All	All	J.4o
	Present Value of Non-treatment Costs at 7% Discount Rate	All	All	All	J.4p

Applicable Rule Alternative(s)	Exhibit Description	Applicable Source Water Type(s)	Applicable System Classification(s)	Applicable System Size	Exhibit Number
Stage 2 Alternative 3	Annual PWS Cost Projections	Surface Water	CWSs	All	J.5a
			NTNCWs	All	J.5b
			All	All	J.5c
		Ground Water	CWSs	All	J.5d
			NTNCWs	All	J.5e
			All	All	J.5f
		All	All	All	J.5g
	Annual Primacy Agency Cost Projections	All	All	All	J.5h
	Present Value of Total Costs at 3% Discount Rate	All	All	All	J.5i
	Present Value of Capital Costs at 3% Discount Rate	All	All	All	J.5j
	Present Value of O&M Costs at 3% Discount Rate	All	All	All	J.5k
	Present Value of Non-treatment Costs at 3% Discount Rate	All	All	All	J.5l
	Present Value of Total Costs at 7% Discount Rate	All	All	All	J.5m
	Present Value of Capital Costs at 7% Discount Rate	All	All	All	J.5n
	Present Value of O&M Costs at 7% Discount Rate	All	All	All	J.5o
	Present Value of Non-treatment Costs at 7% Discount Rate	All	All	All	J.5p
Stage 2 Preferred Alternative, ICR Matrix Method	Annual PWS Cost Projections	Surface Water	CWSs	All	J.6a
			NTNCWs	All	J.6b
			All	All	J.6c
		Ground Water	CWSs	All	J.6d
			NTNCWs	All	J.6e
			All	All	J.6f
		All	All	All	J.6g
	Annual Primacy Agency Cost Projections	All	All	All	J.6h
	Present Value of Total Costs at 3% Discount Rate	All	All	All	J.6i
Stage 2 Preferred Alternative, SWAT Method	Annual PWS Cost Projections	Surface Water	CWSs	All	J.7a
			NTNCWs	All	J.7b
			All	All	J.7c
		Ground Water	CWSs	All	J.7d
			NTNCWs	All	J.7e
			All	All	J.7f
		All	All	All	J.7g
	Annual Primacy Agency Cost Projections	All	All	All	J.7h
	Present Value of Total Costs at 3% Discount Rate	All	All	All	J.7i

Section J.1
Total Costs Summaries and Cost Schedules

Exhibit J.1a Total Stage 2 DBPR Capital and O&M Costs - PWSs

Preferred Alternative

Source	System Classification	System Size (population served)	Capital Costs: Mean Value	Capital Costs:	Capital Costs: 90 Percent Confidence Bound: Lower (5th %tile)	Capital Costs: 90 Percent Confidence Bound: Upper (95th %tile)	O&M Costs: Mean Value	O&M Costs: Median Value	O&M Costs: 90 Percent Confidence Bound: Lower (5th %tile)	O&M Costs: 90 Percent Confidence Bound: Upper (95th %tile)
Surface Water	CWSs	<100	$ 1.09	$ 1.07	$ 0.58	$ 1.68	$ 0.20	$ 0.20	$ 0.11	$ 0.29
		100-499	$ 3.27	$ 3.22	$ 1.77	$ 4.94	$ 0.82	$ 0.82	$ 0.46	$ 1.19
		500-999	$ 3.86	$ 3.78	$ 2.08	$ 5.89	$ 0.61	$ 0.61	$ 0.34	$ 0.88
		1,000-3,300	$ 24.39	$ 24.27	$ 13.37	$ 36.07	$ 3.36	$ 3.36	$ 1.88	$ 4.86
		3,301-9,999	$ 62.23	$ 61.92	$ 34.42	$ 91.81	$ 5.32	$ 5.34	$ 2.97	$ 7.70
		10,000-49,999	$ 113.20	$ 113.98	$ 62.72	$ 157.05	$ 6.04	$ 6.00	$ 3.74	$ 8.66
		50,000-99,999	$ 67.40	$ 68.08	$ 37.41	$ 93.50	$ 3.41	$ 3.36	$ 2.13	$ 4.95
		100,000-999,999	$ 183.98	$ 186.24	$ 98.21	$ 257.75	$ 8.17	$ 7.87	$ 5.21	$ 12.52
		1,000,000+	$ 86.04	$ 86.46	$ 47.14	$ 120.41	$ 4.91	$ 4.65	$ 3.11	$ 7.73
		All Sizes	$ 545.44	$ 549.03	$ 297.70	$ 769.10	$ 32.84	$ 32.21	$ 19.95	$ 48.78
	NTNCWSs	<100	$ 0.67	$ 0.66	$ 0.36	$ 1.03	$ 0.12	$ 0.12	$ 0.07	$ 0.17
		100-499	$ 1.32	$ 1.31	$ 0.72	$ 2.00	$ 0.33	$ 0.33	$ 0.19	$ 0.48
		500-999	$ 0.85	$ 0.84	$ 0.46	$ 1.30	$ 0.13	$ 0.13	$ 0.07	$ 0.20
		1,000-3,300	$ 1.89	$ 1.88	$ 1.04	$ 2.80	$ 0.26	$ 0.26	$ 0.15	$ 0.38
		3,301-9,999	$ 1.29	$ 1.28	$ 0.71	$ 1.90	$ 0.11	$ 0.11	$ 0.06	$ 0.16
		10,000-49,999	$ 0.55	$ 0.55	$ 0.30	$ 0.76	$ 0.03	$ 0.03	$ 0.02	$ 0.04
		50,000-99,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 0.41	$ 0.41	$ 0.22	$ 0.57	$ 0.02	$ 0.02	$ 0.01	$ 0.03
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 6.99	$ 6.95	$ 3.82	$ 10.36	$ 1.00	$ 1.00	$ 0.56	$ 1.46
	Subtotal		**$ 552.43**	**$ 555.97**	**$ 301.52**	**$ 779.46**	**$ 33.85**	**$ 33.22**	**$ 20.52**	**$ 50.24**
Ground Water	CWSs	<100	$ 8.34	$ 8.34	$ 7.19	$ 9.53	$ 0.98	$ 0.98	$ 0.91	$ 1.05
		100-499	$ 33.19	$ 33.18	$ 28.04	$ 38.38	$ 3.68	$ 3.68	$ 3.38	$ 3.98
		500-999	$ 20.18	$ 20.18	$ 17.00	$ 23.34	$ 1.96	$ 1.96	$ 1.80	$ 2.12
		1,000-3,300	$ 39.43	$ 39.42	$ 32.35	$ 46.54	$ 3.00	$ 3.00	$ 2.73	$ 3.26
		3,301-9,999	$ 65.91	$ 65.86	$ 53.53	$ 78.34	$ 2.55	$ 2.55	$ 2.33	$ 2.76
		10,000-49,999	$ 59.09	$ 59.08	$ 53.39	$ 64.79	$ 5.03	$ 5.03	$ 4.76	$ 5.30
		50,000-99,999	$ 14.96	$ 14.96	$ 13.38	$ 16.53	$ 1.28	$ 1.28	$ 1.20	$ 1.36
		100,000-999,999	$ 29.70	$ 29.71	$ 26.43	$ 32.95	$ 2.83	$ 2.83	$ 2.64	$ 3.02
		1,000,000+	$ 3.38	$ 3.38	$ 2.97	$ 3.79	$ 0.43	$ 0.43	$ 0.40	$ 0.46
		All Sizes	$ 274.18	$ 274.11	$ 234.29	$ 314.20	$ 21.73	$ 21.73	$ 20.16	$ 23.31
	NTNCWSs	<100	$ 3.17	$ 3.17	$ 2.73	$ 3.62	$ 0.37	$ 0.37	$ 0.35	$ 0.40
		100-499	$ 5.04	$ 5.04	$ 4.25	$ 5.81	$ 0.55	$ 0.55	$ 0.51	$ 0.60
		500-999	$ 2.47	$ 2.47	$ 2.07	$ 2.87	$ 0.23	$ 0.23	$ 0.21	$ 0.25
		1,000-3,300	$ 1.61	$ 1.61	$ 1.32	$ 1.90	$ 0.10	$ 0.10	$ 0.09	$ 0.11
		3,301-9,999	$ 0.46	$ 0.46	$ 0.38	$ 0.55	$ 0.01	$ 0.01	$ 0.01	$ 0.02
		10,000-49,999	$ 0.10	$ 0.10	$ 0.09	$ 0.11	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		50,000-99,999	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		100,000-999,999	$ 0.03	$ 0.03	$ 0.03	$ 0.03	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 12.90	$ 12.90	$ 10.87	$ 14.91	$ 1.29	$ 1.29	$ 1.18	$ 1.39
	Subtotal		**$ 287.08**	**$ 287.01**	**$ 245.16**	**$ 329.11**	**$ 23.02**	**$ 23.02**	**$ 21.34**	**$ 24.70**
Total			**$ 839.51**	**$ 842.98**	**$ 546.68**	**$ 1,108.57**	**$ 56.86**	**$ 56.23**	**$ 41.86**	**$ 74.94**

Notes: All values in millions of year 2003 dollars.

Detail may not add exactly to totals due to independent rounding.

Source: Derived by multiplying unit costs in Exhibits 7.10 and 7.11 by Technology Selection Deltas in Exhibits 5.14 and 5.17 for the Preferred Alternative, summed for all technologies.

Exhibit J.1b Total Stage 2 DBPR Capital and O&M Costs - PWSs

Alternative 1

Source	System Classification	System Size (population served)	Capital Costs: Mean Value	Capital Costs:	Capital Costs: 90 Percent Confidence Bound: Lower (5th %tile)	Capital Costs: 90 Percent Confidence Bound: Upper (95th %tile)	O&M Costs: Mean Value	O&M Costs: Median Value	O&M Costs: 90 Percent Confidence Bound: Lower (5th %tile)	O&M Costs: 90 Percent Confidence Bound: Upper (95th %tile)
Surface Water	CWSs	<100	$ 1.51	$ 1.49	$ 0.85	$ 2.22	$ 0.29	$ 0.29	$ 0.17	$ 0.41
		100-499	$ 9.48	$ 9.41	$ 5.44	$ 13.77	$ 0.90	$ 0.90	$ 0.52	$ 1.28
		500-999	$ 10.67	$ 10.61	$ 6.10	$ 15.60	$ 0.95	$ 0.95	$ 0.55	$ 1.36
		1,000-3,300	$ 48.39	$ 48.16	$ 27.79	$ 69.99	$ 4.27	$ 4.27	$ 2.47	$ 6.09
		3,301-9,999	$ 116.50	$ 115.99	$ 67.05	$ 168.69	$ 9.23	$ 9.25	$ 5.34	$ 13.13
		10,000-49,999	$ 345.64	$ 343.96	$ 197.75	$ 506.23	$ 25.04	$ 25.05	$ 14.54	$ 35.79
		50,000-99,999	$ 224.40	$ 223.14	$ 128.16	$ 327.88	$ 17.09	$ 17.13	$ 9.89	$ 24.37
		100,000-999,999	$ 716.41	$ 710.06	$ 409.82	$ 1,050.83	$ 59.64	$ 59.68	$ 34.52	$ 85.22
		1,000,000+	$ 437.27	$ 433.37	$ 250.07	$ 645.25	$ 47.16	$ 47.13	$ 27.25	$ 67.62
		All Sizes	$ 1,910.26	$ 1,896.21	$ 1,093.04	$ 2,800.45	$ 164.56	$ 164.64	$ 95.26	$ 235.28
	NTNCWSs	<100	$ 0.92	$ 0.92	$ 0.52	$ 1.36	$ 0.17	$ 0.17	$ 0.10	$ 0.25
		100-499	$ 3.84	$ 3.81	$ 2.20	$ 5.59	$ 0.36	$ 0.36	$ 0.21	$ 0.52
		500-999	$ 2.36	$ 2.35	$ 1.35	$ 3.44	$ 0.21	$ 0.21	$ 0.12	$ 0.30
		1,000-3,300	$ 3.75	$ 3.74	$ 2.17	$ 5.46	$ 0.33	$ 0.33	$ 0.19	$ 0.47
		3,301-9,999	$ 2.47	$ 2.47	$ 1.42	$ 3.57	$ 0.19	$ 0.19	$ 0.11	$ 0.27
		10,000-49,999	$ 1.80	$ 1.78	$ 1.03	$ 2.64	$ 0.13	$ 0.13	$ 0.08	$ 0.19
		50,000-99,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 1.75	$ 1.74	$ 1.00	$ 2.57	$ 0.15	$ 0.15	$ 0.09	$ 0.21
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 16.89	$ 16.80	$ 9.69	$ 24.62	$ 1.55	$ 1.55	$ 0.90	$ 2.20
		Subtotal	**$ 1,927.15**	**$ 1,913.02**	**$ 1,102.73**	**$ 2,825.08**	**$ 166.11**	**$ 166.19**	**$ 96.16**	**$ 237.48**
Ground Water	CWSs	<100	$ 9.49	$ 9.48	$ 8.20	$ 10.81	$ 1.16	$ 1.16	$ 1.08	$ 1.24
		100-499	$ 40.99	$ 41.00	$ 34.79	$ 47.17	$ 4.68	$ 4.68	$ 4.32	$ 5.05
		500-999	$ 25.87	$ 25.89	$ 22.01	$ 29.72	$ 2.67	$ 2.67	$ 2.48	$ 2.86
		1,000-3,300	$ 66.12	$ 66.14	$ 55.74	$ 76.61	$ 5.60	$ 5.60	$ 5.21	$ 6.01
		3,301-9,999	$ 111.34	$ 111.19	$ 93.05	$ 129.65	$ 5.45	$ 5.45	$ 5.09	$ 5.79
		10,000-49,999	$ 141.00	$ 140.97	$ 122.94	$ 159.17	$ 13.60	$ 13.60	$ 12.66	$ 14.56
		50,000-99,999	$ 41.16	$ 41.17	$ 35.68	$ 46.65	$ 3.92	$ 3.92	$ 3.62	$ 4.21
		100,000-999,999	$ 85.11	$ 85.20	$ 73.73	$ 96.51	$ 9.08	$ 9.08	$ 8.36	$ 9.80
		1,000,000+	$ 10.53	$ 10.52	$ 9.05	$ 12.01	$ 1.48	$ 1.48	$ 1.36	$ 1.60
		All Sizes	$ 531.62	$ 531.55	$ 455.18	$ 608.30	$ 47.64	$ 47.63	$ 44.18	$ 51.12
	NTNCWSs	<100	$ 3.60	$ 3.60	$ 3.10	$ 4.10	$ 0.44	$ 0.44	$ 0.41	$ 0.47
		100-499	$ 6.31	$ 6.31	$ 5.37	$ 7.25	$ 0.71	$ 0.71	$ 0.65	$ 0.76
		500-999	$ 3.20	$ 3.20	$ 2.71	$ 3.68	$ 0.31	$ 0.31	$ 0.29	$ 0.33
		1,000-3,300	$ 2.74	$ 2.74	$ 2.31	$ 3.17	$ 0.20	$ 0.20	$ 0.19	$ 0.21
		3,301-9,999	$ 0.79	$ 0.79	$ 0.66	$ 0.92	$ 0.03	$ 0.03	$ 0.03	$ 0.03
		10,000-49,999	$ 0.28	$ 0.28	$ 0.24	$ 0.31	$ 0.02	$ 0.02	$ 0.02	$ 0.03
		50,000-99,999	$ 0.07	$ 0.07	$ 0.06	$ 0.08	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		100,000-999,999	$ 0.09	$ 0.09	$ 0.08	$ 0.11	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 17.08	$ 17.08	$ 14.53	$ 19.62	$ 1.73	$ 1.73	$ 1.60	$ 1.86
		Subtotal	**$ 548.70**	**$ 548.63**	**$ 469.72**	**$ 627.92**	**$ 49.37**	**$ 49.37**	**$ 45.78**	**$ 52.97**
		Total	**$ 2,475.84**	**$ 2,461.65**	**$ 1,572.45**	**$ 3,453.00**	**$ 215.48**	**$ 215.55**	**$ 141.94**	**$ 290.45**

Notes: All values in millions of year 2003 dollars.

Detail may not add exactly to totals due to independent rounding.

Source: Derived by multiplying unit costs in Exhibits 7.10 and 7.11 by Technology Selection Deltas in in Appendix C (results for Alternative 1), summed for all technologies.

Exhibit J.1c Total Stage 2 DBPR Capital and O&M Costs - PWSs

Alternative 2

Source	System Classification	System Size (population served)	Capital Costs				O&M Costs			
			Mean Value		90 Percent Confidence Bound		Mean Value	Median Value	90 Percent Confidence Bound	
					Lower (5th %tile)	Upper (95th %tile)			Lower (5th %tile)	Upper (95th %tile)
Surface Water	CWSs	<100	$ 7.83	$ 7.80	$ 6.64	$ 9.12	$ 1.42	$ 1.42	$ 1.24	$ 1.59
		100-499	$ 41.99	$ 41.85	$ 35.92	$ 48.39	$ 7.35	$ 7.34	$ 6.44	$ 8.30
		500-999	$ 51.71	$ 51.62	$ 44.28	$ 59.51	$ 6.20	$ 6.21	$ 5.44	$ 6.99
		1,000-3,300	$ 237.23	$ 236.74	$ 202.71	$ 273.80	$ 30.81	$ 30.80	$ 26.94	$ 34.82
		3,301-9,999	$ 606.61	$ 604.85	$ 519.09	$ 699.76	$ 53.87	$ 53.84	$ 47.24	$ 60.77
		10,000-49,999	$ 790.08	$ 787.20	$ 677.45	$ 910.45	$ 40.74	$ 40.72	$ 35.85	$ 45.75
		50,000-99,999	$ 482.88	$ 481.43	$ 413.65	$ 555.18	$ 24.80	$ 24.81	$ 21.81	$ 27.82
		100,000-999,999	$ 1,314.71	$ 1,312.42	$ 1,128.74	$ 1,510.71	$ 69.45	$ 69.47	$ 61.03	$ 78.11
		1,000,000+	$ 677.61	$ 675.96	$ 581.34	$ 778.92	$ 47.47	$ 47.46	$ 41.68	$ 53.43
		All Sizes	$ 4,210.65	$ 4,199.87	$ 3,609.82	$ 4,845.84	$ 282.12	$ 282.06	$ 247.68	$ 317.58
	NTNCWSs	<100	$ 4.72	$ 4.71	$ 3.99	$ 5.51	$ 0.84	$ 0.84	$ 0.74	$ 0.95
		100-499	$ 16.95	$ 16.90	$ 14.52	$ 19.57	$ 2.98	$ 2.98	$ 2.61	$ 3.37
		500-999	$ 11.43	$ 11.40	$ 9.77	$ 13.16	$ 1.37	$ 1.37	$ 1.20	$ 1.54
		1,000-3,300	$ 18.31	$ 18.27	$ 15.69	$ 21.16	$ 2.38	$ 2.37	$ 2.08	$ 2.68
		3,301-9,999	$ 12.75	$ 12.71	$ 10.93	$ 14.72	$ 1.09	$ 1.09	$ 0.95	$ 1.23
		10,000-49,999	$ 3.92	$ 3.91	$ 3.36	$ 4.50	$ 0.20	$ 0.20	$ 0.17	$ 0.22
		50,000-99,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 3.06	$ 3.05	$ 2.62	$ 3.50	$ 0.16	$ 0.16	$ 0.14	$ 0.18
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 71.14	$ 70.95	$ 60.88	$ 82.12	$ 9.02	$ 9.01	$ 7.90	$ 10.18
	Subtotal		**$ 4,281.79**	**$ 4,270.83**	**$ 3,670.70**	**$ 4,927.96**	**$ 291.13**	**$ 291.07**	**$ 255.57**	**$ 327.76**
Ground Water	CWSs	<100	$ 12.69	$ 12.69	$ 11.00	$ 14.42	$ 1.09	$ 1.09	$ 1.02	$ 1.16
		100-499	$ 39.42	$ 39.48	$ 33.98	$ 44.83	$ 3.62	$ 3.62	$ 3.36	$ 3.88
		500-999	$ 21.64	$ 21.66	$ 18.68	$ 24.55	$ 1.86	$ 1.86	$ 1.73	$ 1.99
		1,000-3,300	$ 45.94	$ 45.94	$ 39.19	$ 52.72	$ 3.59	$ 3.59	$ 3.34	$ 3.85
		3,301-9,999	$ 70.20	$ 70.18	$ 58.77	$ 81.64	$ 3.20	$ 3.20	$ 2.99	$ 3.41
		10,000-49,999	$ 121.85	$ 121.92	$ 108.20	$ 135.41	$ 10.74	$ 10.74	$ 10.08	$ 11.41
		50,000-99,999	$ 30.69	$ 30.70	$ 26.84	$ 34.51	$ 2.78	$ 2.78	$ 2.58	$ 2.98
		100,000-999,999	$ 60.59	$ 60.61	$ 52.61	$ 68.58	$ 6.16	$ 6.16	$ 5.67	$ 6.65
		1,000,000+	$ 6.98	$ 6.98	$ 5.95	$ 8.00	$ 0.94	$ 0.94	$ 0.86	$ 1.02
		All Sizes	$ 410.01	$ 410.16	$ 355.22	$ 464.65	$ 33.98	$ 33.98	$ 31.62	$ 36.35
	NTNCWSs	<100	$ 4.87	$ 4.87	$ 4.21	$ 5.52	$ 0.42	$ 0.42	$ 0.39	$ 0.44
		100-499	$ 5.83	$ 5.84	$ 5.05	$ 6.62	$ 0.54	$ 0.54	$ 0.50	$ 0.58
		500-999	$ 2.59	$ 2.59	$ 2.23	$ 2.95	$ 0.23	$ 0.23	$ 0.21	$ 0.24
		1,000-3,300	$ 1.82	$ 1.82	$ 1.55	$ 2.10	$ 0.12	$ 0.12	$ 0.11	$ 0.13
		3,301-9,999	$ 0.49	$ 0.49	$ 0.41	$ 0.58	$ 0.02	$ 0.02	$ 0.02	$ 0.02
		10,000-49,999	$ 0.20	$ 0.20	$ 0.17	$ 0.22	$ 0.02	$ 0.02	$ 0.02	$ 0.02
		50,000-99,999	$ 0.05	$ 0.05	$ 0.04	$ 0.05	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		100,000-999,999	$ 0.06	$ 0.06	$ 0.05	$ 0.07	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 15.92	$ 15.92	$ 13.71	$ 18.11	$ 1.35	$ 1.35	$ 1.26	$ 1.44
	Subtotal		**$ 425.92**	**$ 426.09**	**$ 368.93**	**$ 482.77**	**$ 35.34**	**$ 35.34**	**$ 32.88**	**$ 37.80**
Total			**$ 4,707.72**	**$ 4,696.92**	**$ 4,039.63**	**$ 5,410.73**	**$ 326.47**	**$ 326.41**	**$ 288.45**	**$ 365.55**

Notes: All values in millions of year 2003 dollars.

Detail may not add exactly to totals due to independent rounding.

Source: Derived by multiplying unit costs in Exhibits 7.10 and 7.11 by Technology Selection Deltas in in Appendix C (results for Alternative 2), summed for all technologies.

Exhibit J.1d Total Stage 2 DBPR Capital and O&M Costs - PWSs

Alternative 3

Source	System Classification	System Size (population served)	Capital Costs: Mean Value	Capital Costs:	Capital Costs: 90 Percent Confidence Bound: Lower (5th %tile)	Capital Costs: 90 Percent Confidence Bound: Upper (95th %tile)	O&M Costs: Mean Value	O&M Costs: Median Value	O&M Costs: 90 Percent Confidence Bound: Lower (5th %tile)	O&M Costs: 90 Percent Confidence Bound: Upper (95th %tile)
Surface Water	CWSs	<100	$ 11.54	$ 11.50	$ 9.55	$ 13.67	$ 2.23	$ 2.23	$ 1.89	$ 2.57
		100-499	$ 59.56	$ 59.33	$ 49.57	$ 70.15	$ 11.38	$ 11.36	$ 9.64	$ 13.16
		500-999	$ 74.56	$ 74.48	$ 62.06	$ 87.70	$ 9.55	$ 9.55	$ 8.10	$ 11.05
		1,000-3,300	$ 335.08	$ 334.20	$ 278.08	$ 395.79	$ 47.07	$ 47.05	$ 39.80	$ 54.59
		3,301-9,999	$ 880.88	$ 878.17	$ 730.16	$ 1,042.02	$ 81.70	$ 81.61	$ 69.32	$ 94.63
		10,000-49,999	$ 1,279.64	$ 1,274.80	$ 1,063.93	$ 1,510.08	$ 62.27	$ 62.24	$ 52.95	$ 71.75
		50,000-99,999	$ 784.26	$ 781.84	$ 651.85	$ 923.59	$ 37.99	$ 37.99	$ 32.31	$ 43.72
		100,000-999,999	$ 2,142.74	$ 2,141.37	$ 1,786.86	$ 2,517.34	$ 106.23	$ 106.23	$ 90.34	$ 122.42
		1,000,000+	$ 1,123.90	$ 1,119.95	$ 939.10	$ 1,320.66	$ 72.59	$ 72.58	$ 61.75	$ 83.70
		All Sizes	$ 6,692.17	$ 6,675.63	$ 5,571.17	$ 7,881.01	$ 431.01	$ 430.85	$ 366.11	$ 497.60
	NTNCWSs	<100	$ 6.95	$ 6.93	$ 5.75	$ 8.24	$ 1.32	$ 1.32	$ 1.12	$ 1.53
		100-499	$ 24.03	$ 23.97	$ 20.02	$ 28.35	$ 4.62	$ 4.62	$ 3.91	$ 5.35
		500-999	$ 16.48	$ 16.46	$ 13.73	$ 19.41	$ 2.10	$ 2.10	$ 1.78	$ 2.44
		1,000-3,300	$ 25.81	$ 25.73	$ 21.44	$ 30.54	$ 3.62	$ 3.62	$ 3.07	$ 4.20
		3,301-9,999	$ 18.51	$ 18.43	$ 15.38	$ 21.95	$ 1.65	$ 1.65	$ 1.40	$ 1.92
		10,000-49,999	$ 6.37	$ 6.36	$ 5.30	$ 7.48	$ 0.30	$ 0.30	$ 0.26	$ 0.35
		50,000-99,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 5.00	$ 4.99	$ 4.16	$ 5.86	$ 0.25	$ 0.25	$ 0.21	$ 0.29
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 103.14	$ 102.87	$ 85.77	$ 121.84	$ 13.87	$ 13.87	$ 11.75	$ 16.06
	Subtotal		**$ 6,795.31**	**$ 6,778.50**	**$ 5,656.95**	**$ 8,002.84**	**$ 444.89**	**$ 444.71**	**$ 377.86**	**$ 513.66**
Ground Water	CWSs	<100	$ 9.37	$ 9.36	$ 8.18	$ 10.61	$ 0.98	$ 0.98	$ 0.91	$ 1.04
		100-499	$ 34.89	$ 34.89	$ 29.82	$ 40.02	$ 3.65	$ 3.65	$ 3.37	$ 3.94
		500-999	$ 20.55	$ 20.55	$ 17.48	$ 23.58	$ 1.93	$ 1.93	$ 1.78	$ 2.08
		1,000-3,300	$ 47.47	$ 47.48	$ 40.04	$ 54.95	$ 3.84	$ 3.84	$ 3.55	$ 4.12
		3,301-9,999	$ 77.34	$ 77.29	$ 64.53	$ 90.29	$ 3.48	$ 3.48	$ 3.24	$ 3.72
		10,000-49,999	$ 135.39	$ 135.36	$ 119.21	$ 151.65	$ 11.77	$ 11.76	$ 11.01	$ 12.52
		50,000-99,999	$ 35.74	$ 35.76	$ 31.04	$ 40.38	$ 3.06	$ 3.06	$ 2.84	$ 3.29
		100,000-999,999	$ 69.97	$ 69.97	$ 60.64	$ 79.29	$ 6.67	$ 6.67	$ 6.14	$ 7.20
		1,000,000+	$ 8.14	$ 8.14	$ 6.98	$ 9.30	$ 1.03	$ 1.03	$ 0.94	$ 1.12
		All Sizes	$ 438.87	$ 438.80	$ 377.92	$ 500.06	$ 36.39	$ 36.39	$ 33.78	$ 39.02
	NTNCWSs	<100	$ 3.58	$ 3.58	$ 3.11	$ 4.05	$ 0.37	$ 0.37	$ 0.35	$ 0.40
		100-499	$ 5.25	$ 5.25	$ 4.49	$ 6.01	$ 0.55	$ 0.55	$ 0.50	$ 0.59
		500-999	$ 2.50	$ 2.50	$ 2.12	$ 2.88	$ 0.23	$ 0.23	$ 0.21	$ 0.25
		1,000-3,300	$ 1.93	$ 1.93	$ 1.62	$ 2.24	$ 0.13	$ 0.13	$ 0.12	$ 0.14
		3,301-9,999	$ 0.54	$ 0.54	$ 0.45	$ 0.63	$ 0.02	$ 0.02	$ 0.02	$ 0.02
		10,000-49,999	$ 0.23	$ 0.23	$ 0.20	$ 0.26	$ 0.02	$ 0.02	$ 0.02	$ 0.02
		50,000-99,999	$ 0.05	$ 0.05	$ 0.05	$ 0.06	$ 0.00	$ 0.00	$ 0.00	$ 0.01
		100,000-999,999	$ 0.07	$ 0.07	$ 0.06	$ 0.08	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 14.16	$ 14.16	$ 12.10	$ 16.21	$ 1.33	$ 1.33	$ 1.23	$ 1.43
	Subtotal		**$ 453.03**	**$ 452.96**	**$ 390.02**	**$ 516.27**	**$ 37.72**	**$ 37.73**	**$ 35.01**	**$ 40.44**
Total			**$ 7,248.34**	**$ 7,231.46**	**$ 6,046.97**	**$ 8,519.11**	**$ 482.61**	**$ 482.44**	**$ 412.87**	**$ 554.11**

Notes: All values in millions of year 2003 dollars.

Detail may not add exactly to totals due to independent rounding.

Source: Derived by multiplying unit costs in Exhibits 7.10 and 7.11 by Technology Selection Deltas in in Appendix C (results for Alternative 3), summed for all technologies.

Exhibit J.1e Total Stage 2 DBPR Capital and O&M Costs - PWSs

Preferred Alternative, ICR Matrix Method

Source	System Classification	System Size (population served)	Capital Costs: Mean Value		Capital Costs: 90 Percent Confidence Bound: Lower (5th %tile)	Capital Costs: 90 Percent Confidence Bound: Upper (95th %tile)	O&M Costs: Mean Value	O&M Costs: Median Value	O&M Costs: 90 Percent Confidence Bound: Lower (5th %tile)	O&M Costs: 90 Percent Confidence Bound: Upper (95th %tile)
Surface Water	CWSs	<100	$ 1.57	$ 1.57	$ 1.21	$ 1.92	$ 0.29	$ 0.29	$ 0.27	$ 0.30
		100-499	$ 4.70	$ 4.69	$ 3.83	$ 5.57	$ 1.18	$ 1.18	$ 1.09	$ 1.26
		500-999	$ 5.54	$ 5.54	$ 4.41	$ 6.69	$ 0.88	$ 0.88	$ 0.82	$ 0.94
		1,000-3,300	$ 35.05	$ 35.05	$ 30.18	$ 39.94	$ 4.83	$ 4.82	$ 4.52	$ 5.13
		3,301-9,999	$ 89.47	$ 89.46	$ 78.09	$ 100.95	$ 7.65	$ 7.65	$ 7.16	$ 8.13
		10,000-49,999	$ 151.77	$ 151.70	$ 131.34	$ 172.61	$ 8.15	$ 8.10	$ 7.00	$ 9.32
		50,000-99,999	$ 90.37	$ 90.33	$ 78.48	$ 102.31	$ 4.60	$ 4.51	$ 3.89	$ 5.33
		100,000-999,999	$ 246.15	$ 245.41	$ 211.14	$ 283.71	$ 11.07	$ 10.29	$ 8.69	$ 13.53
		1,000,000+	$ 115.30	$ 115.12	$ 98.03	$ 132.64	$ 6.67	$ 6.07	$ 4.97	$ 8.44
		All Sizes	$ 845.75	$ 843.74	$ 725.00	$ 972.93	$ 51.65	$ 50.23	$ 44.11	$ 59.31
	NTNCWSs	<100	$ 0.97	$ 0.97	$ 0.76	$ 1.17	$ 0.17	$ 0.17	$ 0.16	$ 0.18
		100-499	$ 1.90	$ 1.90	$ 1.55	$ 2.26	$ 0.48	$ 0.48	$ 0.44	$ 0.51
		500-999	$ 1.23	$ 1.23	$ 0.98	$ 1.48	$ 0.19	$ 0.19	$ 0.18	$ 0.21
		1,000-3,300	$ 2.72	$ 2.72	$ 2.34	$ 3.10	$ 0.38	$ 0.38	$ 0.35	$ 0.40
		3,301-9,999	$ 1.85	$ 1.85	$ 1.61	$ 2.09	$ 0.15	$ 0.15	$ 0.14	$ 0.16
		10,000-49,999	$ 0.73	$ 0.73	$ 0.64	$ 0.83	$ 0.04	$ 0.04	$ 0.03	$ 0.04
		50,000-99,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 0.55	$ 0.55	$ 0.47	$ 0.63	$ 0.02	$ 0.02	$ 0.02	$ 0.03
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 11.28	$ 11.29	$ 9.46	$ 13.11	$ 1.63	$ 1.63	$ 1.51	$ 1.75
	Subtotal		**$ 857.03**	**$ 855.03**	**$ 734.45**	**$ 986.03**	**$ 53.28**	**$ 51.86**	**$ 45.63**	**$ 61.06**
Ground Water	CWSs	<100	$ 8.34	$ 8.34	$ 7.19	$ 9.53	$ 0.98	$ 0.98	$ 0.91	$ 1.05
		100-499	$ 33.19	$ 33.18	$ 28.04	$ 38.38	$ 3.68	$ 3.68	$ 3.38	$ 3.98
		500-999	$ 20.18	$ 20.18	$ 17.00	$ 23.34	$ 1.96	$ 1.96	$ 1.80	$ 2.12
		1,000-3,300	$ 39.43	$ 39.42	$ 32.35	$ 46.54	$ 3.00	$ 3.00	$ 2.73	$ 3.26
		3,301-9,999	$ 65.91	$ 65.86	$ 53.53	$ 78.34	$ 2.55	$ 2.55	$ 2.33	$ 2.76
		10,000-49,999	$ 59.09	$ 59.08	$ 53.39	$ 64.79	$ 5.03	$ 5.03	$ 4.76	$ 5.30
		50,000-99,999	$ 14.96	$ 14.96	$ 13.38	$ 16.53	$ 1.28	$ 1.28	$ 1.20	$ 1.36
		100,000-999,999	$ 29.70	$ 29.71	$ 26.43	$ 32.95	$ 2.83	$ 2.83	$ 2.64	$ 3.02
		1,000,000+	$ 3.38	$ 3.38	$ 2.97	$ 3.79	$ 0.43	$ 0.43	$ 0.40	$ 0.46
		All Sizes	$ 274.18	$ 274.11	$ 234.29	$ 314.20	$ 21.73	$ 21.73	$ 20.16	$ 23.31
	NTNCWSs	<100	$ 3.17	$ 3.17	$ 2.73	$ 3.62	$ 0.37	$ 0.37	$ 0.35	$ 0.40
		100-499	$ 5.04	$ 5.04	$ 4.25	$ 5.81	$ 0.55	$ 0.55	$ 0.51	$ 0.60
		500-999	$ 2.47	$ 2.47	$ 2.07	$ 2.87	$ 0.23	$ 0.23	$ 0.21	$ 0.25
		1,000-3,300	$ 1.61	$ 1.61	$ 1.32	$ 1.90	$ 0.10	$ 0.10	$ 0.09	$ 0.11
		3,301-9,999	$ 0.46	$ 0.46	$ 0.38	$ 0.55	$ 0.01	$ 0.01	$ 0.01	$ 0.02
		10,000-49,999	$ 0.10	$ 0.10	$ 0.09	$ 0.11	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		50,000-99,999	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		100,000-999,999	$ 0.03	$ 0.03	$ 0.03	$ 0.03	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 12.90	$ 12.90	$ 10.87	$ 14.91	$ 1.29	$ 1.29	$ 1.18	$ 1.39
	Subtotal		**$ 287.08**	**$ 287.01**	**$ 245.16**	**$ 329.11**	**$ 23.02**	**$ 23.02**	**$ 21.34**	**$ 24.70**
Total			**$ 1,144.12**	**$ 1,142.04**	**$ 979.62**	**$ 1,315.15**	**$ 76.29**	**$ 74.88**	**$ 66.97**	**$ 85.76**

Notes: All values in millions of year 2003 dollars.

Detail may not add exactly to totals due to independent rounding.

Source: Derived by multiplying unit costs in Exhibits 7.10 and 7.11 by Technology Selection Deltas in Exhibits 5.14 and 5.17 for the Preferred Alternative, summed for all technologies.

Exhibit J.1f Total Stage 2 DBPR Capital and O&M Costs - PWSs

Preferred Alternative, SWAT Method

Source	System Classification	System Size (population served)	Capital Costs: Mean Value	Capital Costs:	Capital Costs: 90 Percent Confidence Bound: Lower (5th %tile)	Capital Costs: 90 Percent Confidence Bound: Upper (95th %tile)	O&M Costs: Mean Value	O&M Costs: Median Value	O&M Costs: 90 Percent Confidence Bound: Lower (5th %tile)	O&M Costs: 90 Percent Confidence Bound: Upper (95th %tile)
Surface Water	CWSs	<100	$ 0.61	$ 0.61	$ 0.47	$ 0.75	$ 0.11	$ 0.11	$ 0.11	$ 0.12
		100-499	$ 1.83	$ 1.83	$ 1.49	$ 2.17	$ 0.46	$ 0.46	$ 0.43	$ 0.49
		500-999	$ 2.16	$ 2.16	$ 1.72	$ 2.60	$ 0.34	$ 0.34	$ 0.32	$ 0.36
		1,000-3,300	$ 13.64	$ 13.64	$ 11.74	$ 15.54	$ 1.88	$ 1.88	$ 1.76	$ 2.00
		3,301-9,999	$ 34.81	$ 34.81	$ 30.39	$ 39.28	$ 2.98	$ 2.98	$ 2.79	$ 3.16
		10,000-49,999	$ 74.08	$ 70.74	$ 52.74	$ 99.17	$ 3.90	$ 3.90	$ 3.33	$ 4.53
		50,000-99,999	$ 44.12	$ 42.49	$ 31.40	$ 59.02	$ 2.19	$ 2.17	$ 1.90	$ 2.52
		100,000-999,999	$ 120.96	$ 119.74	$ 82.80	$ 165.63	$ 5.22	$ 5.19	$ 4.79	$ 5.71
		1,000,000+	$ 56.41	$ 53.73	$ 39.29	$ 76.97	$ 3.12	$ 3.12	$ 2.88	$ 3.36
		All Sizes	$ 348.63	$ 339.74	$ 252.04	$ 461.14	$ 20.19	$ 20.14	$ 18.29	$ 22.27
	NTNCWSs	<100	$ 0.38	$ 0.38	$ 0.30	$ 0.46	$ 0.07	$ 0.07	$ 0.06	$ 0.07
		100-499	$ 0.74	$ 0.74	$ 0.60	$ 0.88	$ 0.19	$ 0.19	$ 0.17	$ 0.20
		500-999	$ 0.48	$ 0.48	$ 0.38	$ 0.57	$ 0.08	$ 0.08	$ 0.07	$ 0.08
		1,000-3,300	$ 1.06	$ 1.06	$ 0.91	$ 1.21	$ 0.15	$ 0.15	$ 0.14	$ 0.16
		3,301-9,999	$ 0.72	$ 0.72	$ 0.62	$ 0.81	$ 0.06	$ 0.06	$ 0.06	$ 0.06
		10,000-49,999	$ 0.36	$ 0.34	$ 0.26	$ 0.48	$ 0.02	$ 0.02	$ 0.02	$ 0.02
		50,000-99,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 0.27	$ 0.26	$ 0.19	$ 0.36	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 4.00	$ 3.98	$ 3.26	$ 4.77	$ 0.57	$ 0.57	$ 0.53	$ 0.61
		Subtotal	**$ 352.62**	**$ 343.71**	**$ 255.29**	**$ 465.91**	**$ 20.76**	**$ 20.70**	**$ 18.82**	**$ 22.87**
Ground Water	CWSs	<100	$ 8.34	$ 8.34	$ 7.19	$ 9.53	$ 0.98	$ 0.98	$ 0.91	$ 1.05
		100-499	$ 33.19	$ 33.18	$ 28.04	$ 38.38	$ 3.68	$ 3.68	$ 3.38	$ 3.98
		500-999	$ 20.18	$ 20.18	$ 17.00	$ 23.34	$ 1.96	$ 1.96	$ 1.80	$ 2.12
		1,000-3,300	$ 39.43	$ 39.42	$ 32.35	$ 46.54	$ 3.00	$ 3.00	$ 2.73	$ 3.26
		3,301-9,999	$ 65.91	$ 65.86	$ 53.53	$ 78.34	$ 2.55	$ 2.55	$ 2.33	$ 2.76
		10,000-49,999	$ 59.09	$ 59.08	$ 53.39	$ 64.79	$ 5.03	$ 5.03	$ 4.76	$ 5.30
		50,000-99,999	$ 14.96	$ 14.96	$ 13.38	$ 16.53	$ 1.28	$ 1.28	$ 1.20	$ 1.36
		100,000-999,999	$ 29.70	$ 29.71	$ 26.43	$ 32.95	$ 2.83	$ 2.83	$ 2.64	$ 3.02
		1,000,000+	$ 3.38	$ 3.38	$ 2.97	$ 3.79	$ 0.43	$ 0.43	$ 0.40	$ 0.46
		All Sizes	$ 274.18	$ 274.11	$ 234.29	$ 314.20	$ 21.73	$ 21.73	$ 20.16	$ 23.31
	NTNCWSs	<100	$ 3.17	$ 3.17	$ 2.73	$ 3.62	$ 0.37	$ 0.37	$ 0.35	$ 0.40
		100-499	$ 5.04	$ 5.04	$ 4.25	$ 5.81	$ 0.55	$ 0.55	$ 0.51	$ 0.60
		500-999	$ 2.47	$ 2.47	$ 2.07	$ 2.87	$ 0.23	$ 0.23	$ 0.21	$ 0.25
		1,000-3,300	$ 1.61	$ 1.61	$ 1.32	$ 1.90	$ 0.10	$ 0.10	$ 0.09	$ 0.11
		3,301-9,999	$ 0.46	$ 0.46	$ 0.38	$ 0.55	$ 0.01	$ 0.01	$ 0.01	$ 0.02
		10,000-49,999	$ 0.10	$ 0.10	$ 0.09	$ 0.11	$ 0.01	$ 0.01	$ 0.01	$ 0.01
		50,000-99,999	$ 0.02	$ 0.02	$ 0.02	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		100,000-999,999	$ 0.03	$ 0.03	$ 0.03	$ 0.03	$ 0.00	$ 0.00	$ 0.00	$ 0.00
		1,000,000+	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 12.90	$ 12.90	$ 10.87	$ 14.91	$ 1.29	$ 1.29	$ 1.18	$ 1.39
		Subtotal	**$ 287.08**	**$ 287.01**	**$ 245.16**	**$ 329.11**	**$ 23.02**	**$ 23.02**	**$ 21.34**	**$ 24.70**
		Total	**$ 639.71**	**$ 630.72**	**$ 500.46**	**$ 795.02**	**$ 43.78**	**$ 43.72**	**$ 40.16**	**$ 47.57**

Notes: All values in millions of year 2003 dollars.

Detail may not add exactly to totals due to independent rounding.

Source: Derived by multiplying unit costs in Exhibits 7.10 and 7.11 by Technology Selection Deltas in Exhibits 5.14 and 5.17 for the Preferred Alternative, summed for all technologies.

Exhibit J.1g Total Stage 2 DBPR Implementation, IDSE, Additional Routine Monitoring, and Operational Evaluation Costs - PWSs

All Alternatives

Source	System Classification	System Size (population served)	Total Implementation Costs	Total IDSE Costs	Total Stage 2 Monitoring Plan Costs	Annual Additional Routine Monitoring Costs	Annual Operational Evaluation Costs
Surface Water	CWSs	<100	$ 0.24	$ 0.45	$ 0.08	$ (0.05)	$ 0.00
		100-499	$ 0.50	$ 0.91	$ 0.16	$ (0.11)	$ 0.00
		500-999	$ 0.36	$ 3.14	$ 0.18	$ (0.33)	$ 0.00
		1,000-3,300	$ 0.64	$ 5.53	$ 0.32	$ (0.58)	$ 0.01
		3,301-9,999	$ 0.62	$ 8.38	$ 0.26	$ 0.95	$ 0.02
		10,000-49,999	$ 1.21	$ 17.85	$ 0.46	$ (2.48)	$ 0.10
		50,000-99,999	$ 0.24	$ 6.43	$ 0.09	$ 0.22	$ 0.04
		100,000-999,999	$ 0.21	$ 6.11	$ 0.09	$ 0.28	$ 0.04
		1,000,000+	$ 0.02	$ 0.73	$ 0.01	$ 0.04	$ 0.01
		All Sizes	$ 4.05	$ 49.53	$ 1.65	$ (2.07)	$ 0.21
	NTNCWSs	<100	$ 0.05	$ -	$ -	$ -	$ -
		100-499	$ 0.06	$ -	$ -	$ -	$ -
		500-999	$ 0.02	$ -	$ 0.01	$ -	$ -
		1,000-3,300	$ 0.02	$ -	$ 0.00	$ -	$ -
		3,301-9,999	$ 0.01	$ -	$ 0.00	$ 0.03	$ -
		10,000-49,999	$ 0.00	$ 0.05	$ 0.00	$ -	$ -
		50,000-99,999	$ -	$ -	$ -	$ -	$ -
		100,000-999,999	$ 0.00	$ 0.02	$ 0.00	$ 0.00	$ -
		1,000,000+	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 0.17	$ 0.07	$ 0.01	$ 0.03	$ -
		Subtotal	**$ 4.22**	**$ 49.60**	**$ 1.67**	**$ (2.04)**	**$ 0.21**
Ground Water	CWSs	<100	$ 1.60	$ 0.22	$ 0.08	$ 0.10	$ -
		100-499	$ 1.98	$ 0.27	$ 0.10	$ 0.12	$ -
		500-999	$ 0.89	$ 1.93	$ 0.51	$ 0.55	$ -
		1,000-3,300	$ 1.09	$ 2.34	$ 0.62	$ 0.67	$ -
		3,301-9,999	$ 0.49	$ 1.06	$ 0.28	$ 0.30	$ -
		10,000-49,999	$ 0.80	$ 1.64	$ 0.32	$ 0.12	$ -
		50,000-99,999	$ 0.09	$ 0.18	$ 0.04	$ 0.01	$ -
		100,000-999,999	$ 0.05	$ 0.17	$ 0.03	$ (0.09)	$ -
		1,000,000+	$ 0.00	$ 0.01	$ 0.00	$ (0.03)	$ -
		All Sizes	$ 6.98	$ 7.83	$ 1.96	$ 1.76	$ -
	NTNCWSs	<100	$ 0.50	$ -	$ 0.07	$ 0.18	$ -
		100-499	$ 0.43	$ -	$ 0.06	$ 0.15	$ -
		500-999	$ 0.13	$ -	$ 0.05	$ 0.25	$ -
		1,000-3,300	$ 0.06	$ -	$ 0.02	$ 0.11	$ -
		3,301-9,999	$ 0.00	$ -	$ 0.00	$ 0.01	$ -
		10,000-49,999	$ 0.00	$ 0.00	$ 0.00	$ 0.01	$ -
		50,000-99,999	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ -
		100,000-999,999	$ 0.00	$ -	$ 0.00	$ 0.00	$ -
		1,000,000+	$ -	$ -	$ -	$ -	$ -
		All Sizes	$ 1.12	$ 0.00	$ 0.21	$ 0.71	$ -
		Subtotal	**$ 8.10**	**$ 7.83**	**$ 2.18**	**$ 2.47**	**$ -**
		Total	**$ 12.31**	**$ 57.44**	**$ 3.85**	**$ 0.43**	**$ 0.21**

Notes: All values in millions of year 2003 dollars.
Detail may not add exactly to totals due to independent rounding.

Source: Derived from Exhibits H.12 and H.13.

Exhibit J.1h Total Implementaion, IDSE, and Compliance Monitoring Costs - Primacy Agencies

All Alternatives

Total Implementation Costs	Total IDSE Costs	Total Stage 2 Monitoring Plan Costs	Annual Compliance Monitoring Costs	Annual Operation Evaluation Report Costs
$ 7.77	$ 2.23	$ 0.93	$ 1.59	$ 0.11

Notes: All values in millions of year 2003 dollars.

Source: Exhibit H.11.

Section J.2
Cost Projections (Preferred Alternative)

Exhibit J.2a Projections of Stage 2 DBPR PWS Costs
(Surface Water CWSs Serving <100 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.05	$ -	$ -	$ -	$ 0.14	$ 0.14	$ 0.14
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.01	$ -	$ -	$ 0.13	$ 0.13	$ 0.13
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.28	$ 0.02	$ -	$ -	$ 0.33	$ 0.33	$ 0.33
2009	$ 0.17	$ 0.09	$ 0.26	$ -	$ -	$ -	$ 0.05	$ -	$ 0.05	$ -	$ -	$ 0.26	$ 0.19	$ 0.35
2010	$ 0.17	$ 0.09	$ 0.26	$ 0.03	$ 0.02	$ 0.04	$ 0.04	$ -	$ -	$ -	$ -	$ 0.24	$ 0.15	$ 0.35
2011	$ 0.17	$ 0.09	$ 0.26	$ 0.06	$ 0.03	$ 0.09	$ -	$ -	$ -	$ -	$ -	$ 0.23	$ 0.12	$ 0.35
2012	$ 0.17	$ 0.09	$ 0.26	$ 0.09	$ 0.05	$ 0.13	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.23	$ 0.12	$ 0.36
2013	$ 0.17	$ 0.09	$ 0.26	$ 0.12	$ 0.07	$ 0.18	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.24	$ 0.11	$ 0.38
2014	$ 0.17	$ 0.09	$ 0.26	$ 0.15	$ 0.09	$ 0.22	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.27	$ 0.12	$ 0.43
2015	$ 0.08	$ 0.04	$ 0.13	$ 0.18	$ 0.10	$ 0.26	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.22	$ 0.10	$ 0.34
2016	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2017	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2018	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2019	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2020	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2021	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2022	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2023	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2024	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2025	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2026	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2027	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2028	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24
2029	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ (0.05)	$ 0.00	$ 0.15	$ 0.06	$ 0.24

Note: All values in millions of year 2003 dollars.
Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2b Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 100-499 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ -	$ -	$ -	$ -	$ 0.07	$ 0.07	$ 0.07
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ 0.10	$ -	$ -	$ -	$ 0.28	$ 0.28	$ 0.28
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.24	$ 0.02	$ -	$ -	$ 0.26	$ 0.26	$ 0.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.06	$ 0.57	$ 0.04	$ -	$ -	$ 0.68	$ 0.68	$ 0.68
2009	$ 0.50	$ 0.27	$ 0.76	$ -	$ -	$ -	$ 0.10	$ -	$ 0.10	$ -	$ -	$ 0.70	$ 0.47	$ 0.96
2010	$ 0.50	$ 0.27	$ 0.76	$ 0.13	$ 0.07	$ 0.18	$ 0.09	$ -	$ -	$ -	$ -	$ 0.72	$ 0.43	$ 1.03
2011	$ 0.50	$ 0.27	$ 0.76	$ 0.25	$ 0.14	$ 0.37	$ -	$ -	$ -	$ -	$ -	$ 0.75	$ 0.41	$ 1.13
2012	$ 0.50	$ 0.27	$ 0.76	$ 0.38	$ 0.21	$ 0.55	$ -	$ -	$ -	$ (0.05)	$ -	$ 0.83	$ 0.43	$ 1.26
2013	$ 0.50	$ 0.27	$ 0.76	$ 0.50	$ 0.28	$ 0.73	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.90	$ 0.45	$ 1.39
2014	$ 0.50	$ 0.27	$ 0.76	$ 0.63	$ 0.35	$ 0.91	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 1.03	$ 0.52	$ 1.57
2015	$ 0.25	$ 0.14	$ 0.38	$ 0.76	$ 0.42	$ 1.10	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.90	$ 0.45	$ 1.37
2016	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2017	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2018	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2019	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2020	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2021	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2022	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2023	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2024	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2025	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2026	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2027	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2028	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08
2029	$ -	$ -	$ -	$ 0.82	$ 0.46	$ 1.19	$ -	$ -	$ -	$ (0.11)	$ 0.00	$ 0.71	$ 0.35	$ 1.08

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2c Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 500-999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.05	$ -	$ -	$ -	$ -	$ 0.05	$ 0.05	$ 0.05
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.34	$ -	$ -	$ -	$ 0.47	$ 0.47	$ 0.47
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.83	$ 0.02	$ -	$ -	$ 0.85	$ 0.85	$ 0.85
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.05	$ 1.97	$ 0.05	$ -	$ -	$ 2.06	$ 2.06	$ 2.06
2009	$ 0.59	$ 0.32	$ 0.91	$ -	$ -	$ -	$ 0.07	$ -	$ 0.11	$ -	$ -	$ 0.78	$ 0.50	$ 1.09
2010	$ 0.59	$ 0.32	$ 0.91	$ 0.09	$ 0.05	$ 0.14	$ 0.07	$ -	$ -	$ -	$ -	$ 0.75	$ 0.44	$ 1.11
2011	$ 0.59	$ 0.32	$ 0.91	$ 0.19	$ 0.10	$ 0.27	$ -	$ -	$ -	$ -	$ -	$ 0.78	$ 0.42	$ 1.18
2012	$ 0.59	$ 0.32	$ 0.91	$ 0.28	$ 0.16	$ 0.41	$ -	$ -	$ -	$ (0.17)	$ -	$ 0.71	$ 0.31	$ 1.15
2013	$ 0.59	$ 0.32	$ 0.91	$ 0.38	$ 0.21	$ 0.54	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.64	$ 0.20	$ 1.12
2014	$ 0.59	$ 0.32	$ 0.91	$ 0.47	$ 0.26	$ 0.68	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.73	$ 0.25	$ 1.26
2015	$ 0.30	$ 0.16	$ 0.45	$ 0.56	$ 0.31	$ 0.82	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.53	$ 0.14	$ 0.94
2016	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2017	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2018	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2019	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2020	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2021	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2022	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2023	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2024	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2025	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2026	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2027	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2028	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56
2029	$ -	$ -	$ -	$ 0.61	$ 0.34	$ 0.88	$ -	$ -	$ -	$ (0.33)	$ 0.00	$ 0.28	$ 0.01	$ 0.56

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2d Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 1,000-3,300 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ -	$ -	$ -	$ -	$ 0.09	$ 0.09	$ 0.09
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.23	$ 0.60	$ -	$ -	$ -	$ 0.83	$ 0.83	$ 0.83
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.46	$ 0.03	$ -	$ -	$ 1.49	$ 1.49	$ 1.49
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 3.47	$ 0.08	$ -	$ -	$ 3.63	$ 3.63	$ 3.63
2009	$ 3.75	$ 2.06	$ 5.55	$ -	$ -	$ -	$ 0.13	$ -	$ 0.20	$ -	$ -	$ 4.08	$ 2.38	$ 5.87
2010	$ 3.75	$ 2.06	$ 5.55	$ 0.52	$ 0.29	$ 0.75	$ 0.11	$ -	$ -	$ -	$ -	$ 4.38	$ 2.46	$ 6.41
2011	$ 3.75	$ 2.06	$ 5.55	$ 1.03	$ 0.58	$ 1.50	$ -	$ -	$ -	$ -	$ -	$ 4.78	$ 2.63	$ 7.04
2012	$ 3.75	$ 2.06	$ 5.55	$ 1.55	$ 0.87	$ 2.24	$ -	$ -	$ -	$ (0.29)	$ -	$ 5.01	$ 2.63	$ 7.50
2013	$ 3.75	$ 2.06	$ 5.55	$ 2.07	$ 1.15	$ 2.99	$ -	$ -	$ -	$ (0.58)	$ 0.00	$ 5.23	$ 2.63	$ 7.96
2014	$ 3.75	$ 2.06	$ 5.55	$ 2.58	$ 1.44	$ 3.74	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 5.75	$ 2.92	$ 8.71
2015	$ 1.88	$ 1.03	$ 2.77	$ 3.10	$ 1.73	$ 4.49	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 4.39	$ 2.18	$ 6.68
2016	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2017	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2018	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2019	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2020	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2021	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2022	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2023	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2024	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2025	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2026	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2027	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2028	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28
2029	$ -	$ -	$ -	$ 3.36	$ 1.88	$ 4.86	$ -	$ -	$ -	$ (0.58)	$ 0.01	$ 2.78	$ 1.30	$ 4.28

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2e Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 3,301-9,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ -	$ -	$ -	$ -	$ 0.09	$ 0.09	$ 0.09
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.22	$ 0.91	$ -	$ -	$ -	$ 1.14	$ 1.14	$ 1.14
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.21	$ 0.03	$ -	$ -	$ 2.24	$ 2.24	$ 2.24
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 5.25	$ 0.07	$ -	$ -	$ 5.40	$ 5.40	$ 5.40
2009	$ 9.57	$ 5.29	$ 14.12	$ -	$ -	$ -	$ 0.12	$ -	$ 0.16	$ -	$ -	$ 9.85	$ 5.58	$ 14.40
2010	$ 9.57	$ 5.29	$ 14.12	$ 0.82	$ 0.46	$ 1.18	$ 0.11	$ -	$ -	$ -	$ -	$ 10.50	$ 5.86	$ 15.42
2011	$ 9.57	$ 5.29	$ 14.12	$ 1.64	$ 0.92	$ 2.37	$ -	$ -	$ -	$ -	$ -	$ 11.21	$ 6.21	$ 16.49
2012	$ 9.57	$ 5.29	$ 14.12	$ 2.46	$ 1.37	$ 3.55	$ -	$ -	$ -	$ 0.48	$ -	$ 12.50	$ 7.14	$ 18.15
2013	$ 9.57	$ 5.29	$ 14.12	$ 3.27	$ 1.83	$ 4.74	$ -	$ -	$ -	$ 0.95	$ 0.01	$ 13.81	$ 8.09	$ 19.82
2014	$ 9.57	$ 5.29	$ 14.12	$ 4.09	$ 2.29	$ 5.92	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 14.64	$ 8.56	$ 21.02
2015	$ 4.79	$ 2.65	$ 7.06	$ 4.91	$ 2.75	$ 7.11	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 10.67	$ 6.37	$ 15.14
2016	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2017	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2018	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2019	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2020	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2021	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2022	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2023	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2024	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2025	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2026	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2027	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2028	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67
2029	$ -	$ -	$ -	$ 5.32	$ 2.97	$ 7.70	$ -	$ -	$ -	$ 0.95	$ 0.02	$ 6.29	$ 3.95	$ 8.67

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2f Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 10,000-49,999 People)

Preferred Alternative

	All Stage 2 DBPR Costs			All Stage 2 DBPR Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.30	$ -	$ -	$ -	$ -	$ 0.30	$ 0.30	$ 0.30
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.30	$ 3.82	$ -	$ -	$ -	$ 4.12	$ 4.12	$ 4.12
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9.59	$ 0.10	$ -	$ -	$ 9.68	$ 9.68	$ 9.68
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.28	$ 4.44	$ 0.25	$ -	$ -	$ 4.97	$ 4.97	$ 4.97
2009	$ 20.58	$ 11.40	$ 28.55	$ -	$ -	$ -	$ 0.17	$ -	$ 0.11	$ -	$ -	$ 20.87	$ 11.69	$ 28.84
2010	$ 20.58	$ 11.40	$ 28.55	$ 1.10	$ 0.68	$ 1.58	$ 0.15	$ -	$ -	$ -	$ -	$ 21.83	$ 12.23	$ 30.28
2011	$ 20.58	$ 11.40	$ 28.55	$ 2.20	$ 1.36	$ 3.15	$ -	$ -	$ -	$ -	$ -	$ 22.78	$ 12.76	$ 31.70
2012	$ 20.58	$ 11.40	$ 28.55	$ 3.30	$ 2.04	$ 4.73	$ -	$ -	$ -	$ (1.24)	$ -	$ 22.64	$ 12.21	$ 32.04
2013	$ 20.58	$ 11.40	$ 28.55	$ 4.39	$ 2.72	$ 6.30	$ -	$ -	$ -	$ (2.48)	$ 0.05	$ 22.55	$ 11.70	$ 32.42
2014	$ 10.29	$ 5.70	$ 14.28	$ 5.49	$ 3.40	$ 7.88	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 13.40	$ 6.73	$ 19.77
2015	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2016	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2017	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2018	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2019	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2020	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2021	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2022	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2023	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2024	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2025	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2026	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2027	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2028	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28
2029	$ -	$ -	$ -	$ 6.04	$ 3.74	$ 8.66	$ -	$ -	$ -	$ (2.48)	$ 0.10	$ 3.66	$ 1.36	$ 6.28

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2g Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 50,000-99,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ -	$ -	$ -	$ -	$ 0.12	$ 0.12	$ 0.12
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.36	$ -	$ -	$ -	$ 1.36	$ 1.36	$ 1.36
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.07	$ 0.02	$ -	$ -	$ 5.09	$ 5.09	$ 5.09
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ -	$ 0.07	$ -	$ -	$ 0.16	$ 0.16	$ 0.16
2009	$ 14.98	$ 8.31	$ 20.78	$ -	$ -	$ -	$ 0.03	$ -	$ -	$ -	$ -	$ 15.01	$ 8.35	$ 20.81
2010	$ 14.98	$ 8.31	$ 20.78	$ 0.76	$ 0.47	$ 1.10	$ -	$ -	$ -	$ -	$ -	$ 15.73	$ 8.79	$ 21.88
2011	$ 14.98	$ 8.31	$ 20.78	$ 1.51	$ 0.95	$ 2.20	$ -	$ -	$ -	$ 0.11	$ -	$ 16.60	$ 9.37	$ 23.09
2012	$ 14.98	$ 8.31	$ 20.78	$ 2.27	$ 1.42	$ 3.30	$ -	$ -	$ -	$ 0.22	$ 0.02	$ 17.48	$ 9.97	$ 24.31
2013	$ 7.49	$ 4.16	$ 10.39	$ 3.03	$ 1.89	$ 4.40	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 10.77	$ 6.31	$ 15.04
2014	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2015	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2016	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2017	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2018	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2019	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2020	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2021	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2022	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2023	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2024	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2025	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2026	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2027	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2028	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20
2029	$ -	$ -	$ -	$ 3.41	$ 2.13	$ 4.95	$ -	$ -	$ -	$ 0.22	$ 0.04	$ 3.66	$ 2.39	$ 5.20

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2h Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 100,000-999,999)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ -	$ -	$ -	$ -	$ 0.11	$ 0.11	$ 0.11
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.06	$ -	$ -	$ -	$ 3.06	$ 3.06	$ 3.06
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.06	$ 0.05	$ -	$ -	$ 3.10	$ 3.10	$ 3.10
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ -	$ 0.05	$ -	$ -	$ 0.15	$ 0.15	$ 0.15
2009	$ 45.99	$ 24.55	$ 64.44	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 45.99	$ 24.55	$ 64.44
2010	$ 45.99	$ 24.55	$ 64.44	$ 2.04	$ 1.30	$ 3.13	$ -	$ -	$ -	$ -	$ -	$ 48.04	$ 25.86	$ 67.57
2011	$ 45.99	$ 24.55	$ 64.44	$ 4.09	$ 2.60	$ 6.26	$ -	$ -	$ -	$ 0.28	$ -	$ 50.36	$ 27.43	$ 70.97
2012	$ 45.99	$ 24.55	$ 64.44	$ 6.13	$ 3.91	$ 9.39	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 52.44	$ 28.77	$ 74.14
2013	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2014	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2015	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2016	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2017	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2018	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2019	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2020	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2021	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2022	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2023	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2024	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2025	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2026	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2027	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2028	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83
2029	$ -	$ -	$ -	$ 8.17	$ 5.21	$ 12.52	$ -	$ -	$ -	$ 0.28	$ 0.04	$ 8.49	$ 5.52	$ 12.83

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2i Projections of Stage 2 DBPR PWS Costs

(Surface Water CWSs Serving 1,000,000+)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.37	$ -	$ -	$ -	$ 0.37	$ 0.37	$ 0.37
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.37	$ 0.01	$ -	$ -	$ 0.37	$ 0.37	$ 0.37
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ 0.01	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2009	$ 21.51	$ 11.78	$ 30.10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21.51	$ 11.78	$ 30.10
2010	$ 21.51	$ 11.78	$ 30.10	$ 1.23	$ 0.78	$ 1.93	$ -	$ -	$ -	$ -	$ -	$ 22.74	$ 12.56	$ 32.04
2011	$ 21.51	$ 11.78	$ 30.10	$ 2.46	$ 1.56	$ 3.87	$ -	$ -	$ -	$ 0.04	$ -	$ 24.00	$ 13.38	$ 34.00
2012	$ 21.51	$ 11.78	$ 30.10	$ 3.69	$ 2.33	$ 5.80	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 25.24	$ 14.16	$ 35.94
2013	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2014	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2015	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2016	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2017	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2018	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2019	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2020	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2021	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2022	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2023	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2024	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2025	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2026	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2027	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2028	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77
2029	$ -	$ -	$ -	$ 4.91	$ 3.11	$ 7.73	$ -	$ -	$ -	$ 0.04	$ 0.01	$ 4.96	$ 3.15	$ 7.77

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2j Projections of Stage 2 DBPR PWS Costs

(All Surface Water CWSs)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.87	$ -	$ -	$ -	$ -	$ 0.87	$ 0.87	$ 0.87
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.15	#####	$ -	$ -	$ -	$ 11.76	$ 11.76	$ 11.76
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	#####	$ 0.28	$ -	$ -	$ 23.22	$ 23.22	$ 23.22
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	#####	$ 0.64	$ -	$ -	$ 17.40	$ 17.40	$ 17.40
2009	#####	$ 64.08	######	$ -	$ -	$ -	$ 0.67	$ -	$ 0.74	$ -	$ -	$ 119.05	$ 65.49	$ 166.87
2010	#####	$ 64.08	######	$ 6.71	$ 4.12	$ 10.03	$ 0.58	$ -	$ -	$ -	$ -	$ 124.93	$ 68.78	$ 176.07
2011	#####	$ 64.08	######	#####	$ 8.24	$ 20.06	$ -	$ -	$ -	$ 0.42	$ -	$ 131.49	$ 72.75	$ 185.95
2012	#####	$ 64.08	######	#####	#####	$ 30.10	$ -	$ -	$ -	$ (0.77)	$ 0.06	$ 137.08	$ 75.74	$ 194.85
2013	$42.65	$ 23.59	$ 60.53	#####	#####	$ 40.13	$ -	$ -	$ -	$ (2.07)	$ 0.15	$ 67.58	$ 38.15	$ 98.74
2014	$24.87	$ 13.73	$ 35.87	#####	#####	$ 44.55	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 52.93	$ 30.16	$ 78.56
2015	$ 7.29	$ 4.02	$ 10.80	#####	#####	$ 47.63	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 37.48	$ 21.67	$ 56.57
2016	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2017	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2018	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2019	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2020	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2021	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2022	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2023	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2024	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2025	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2026	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2027	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2028	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92
2029	$ -	$ -	$ -	#####	#####	$ 48.78	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 30.98	$ 18.10	$ 46.92

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2k Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving <100 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.10	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.11	$ 0.07	$ 0.17
2010	$ 0.10	$ 0.06	$ 0.16	$ 0.02	$ 0.01	$ 0.03	$ 0.01	$ -	$ -	$ -	$ -	$ 0.13	$ 0.08	$ 0.20
2011	$ 0.10	$ 0.06	$ 0.16	$ 0.04	$ 0.02	$ 0.05	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.08	$ 0.21
2012	$ 0.10	$ 0.06	$ 0.16	$ 0.06	$ 0.03	$ 0.08	$ -	$ -	$ -	$ -	$ -	$ 0.16	$ 0.09	$ 0.24
2013	$ 0.10	$ 0.06	$ 0.16	$ 0.07	$ 0.04	$ 0.11	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ 0.10	$ 0.27
2014	$ 0.10	$ 0.06	$ 0.16	$ 0.09	$ 0.05	$ 0.13	$ -	$ -	$ -	$ -	$ -	$ 0.20	$ 0.11	$ 0.29
2015	$ 0.05	$ 0.03	$ 0.08	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ -	$ -	$ 0.16	$ 0.09	$ 0.24
2016	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2017	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2018	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2019	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2020	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2021	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2022	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2023	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2024	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2025	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2026	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2027	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2028	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2029	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2l Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 100-499 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.20	$ 0.11	$ 0.31	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.22	$ 0.12	$ 0.32
2010	$ 0.20	$ 0.11	$ 0.31	$ 0.05	$ 0.03	$ 0.07	$ 0.01	$ -	$ -	$ -	$ -	$ 0.27	$ 0.15	$ 0.40
2011	$ 0.20	$ 0.11	$ 0.31	$ 0.10	$ 0.06	$ 0.15	$ -	$ -	$ -	$ -	$ -	$ 0.31	$ 0.17	$ 0.46
2012	$ 0.20	$ 0.11	$ 0.31	$ 0.15	$ 0.09	$ 0.22	$ -	$ -	$ -	$ -	$ -	$ 0.36	$ 0.20	$ 0.53
2013	$ 0.20	$ 0.11	$ 0.31	$ 0.21	$ 0.11	$ 0.30	$ -	$ -	$ -	$ -	$ -	$ 0.41	$ 0.22	$ 0.60
2014	$ 0.20	$ 0.11	$ 0.31	$ 0.26	$ 0.14	$ 0.37	$ -	$ -	$ -	$ -	$ -	$ 0.46	$ 0.25	$ 0.68
2015	$ 0.10	$ 0.06	$ 0.15	$ 0.31	$ 0.17	$ 0.45	$ -	$ -	$ -	$ -	$ -	$ 0.41	$ 0.23	$ 0.60
2016	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2017	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2018	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2019	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2020	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2021	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2022	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2023	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2024	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2025	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2026	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2027	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2028	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48
2029	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48	$ -	$ -	$ -	$ -	$ -	$ 0.33	$ 0.19	$ 0.48

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2m Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 500-999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.13	$ 0.07	$ 0.20	$ -	$ -	$ -	$ 0.01	$ -	$ 0.01	$ -	$ -	$ 0.14	$ 0.08	$ 0.21
2010	$ 0.13	$ 0.07	$ 0.20	$ 0.02	$ 0.01	$ 0.03	$ 0.01	$ -	$ -	$ -	$ -	$ 0.16	$ 0.09	$ 0.23
2011	$ 0.13	$ 0.07	$ 0.20	$ 0.04	$ 0.02	$ 0.06	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.09	$ 0.26
2012	$ 0.13	$ 0.07	$ 0.20	$ 0.06	$ 0.03	$ 0.09	$ -	$ -	$ -	$ -	$ -	$ 0.19	$ 0.10	$ 0.29
2013	$ 0.13	$ 0.07	$ 0.20	$ 0.08	$ 0.05	$ 0.12	$ -	$ -	$ -	$ -	$ -	$ 0.21	$ 0.12	$ 0.32
2014	$ 0.13	$ 0.07	$ 0.20	$ 0.10	$ 0.06	$ 0.15	$ -	$ -	$ -	$ -	$ -	$ 0.23	$ 0.13	$ 0.35
2015	$ 0.07	$ 0.04	$ 0.10	$ 0.12	$ 0.07	$ 0.18	$ -	$ -	$ -	$ -	$ -	$ 0.19	$ 0.10	$ 0.28
2016	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2017	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2018	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2019	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2020	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2021	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2022	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2023	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2024	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2025	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2026	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2027	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2028	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19
2029	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.07	$ 0.19

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2n Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 1,000-3,300 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.29	$ 0.16	$ 0.43	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.30	$ 0.17	$ 0.44
2010	$ 0.29	$ 0.16	$ 0.43	$ 0.04	$ 0.02	$ 0.06	$ 0.00	$ -	$ -	$ -	$ -	$ 0.34	$ 0.19	$ 0.49
2011	$ 0.29	$ 0.16	$ 0.43	$ 0.08	$ 0.05	$ 0.12	$ -	$ -	$ -	$ -	$ -	$ 0.37	$ 0.21	$ 0.55
2012	$ 0.29	$ 0.16	$ 0.43	$ 0.12	$ 0.07	$ 0.18	$ -	$ -	$ -	$ -	$ -	$ 0.41	$ 0.23	$ 0.61
2013	$ 0.29	$ 0.16	$ 0.43	$ 0.16	$ 0.09	$ 0.23	$ -	$ -	$ -	$ -	$ -	$ 0.45	$ 0.25	$ 0.66
2014	$ 0.29	$ 0.16	$ 0.43	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ -	$ -	$ 0.49	$ 0.27	$ 0.72
2015	$ 0.15	$ 0.08	$ 0.22	$ 0.24	$ 0.14	$ 0.35	$ -	$ -	$ -	$ -	$ -	$ 0.39	$ 0.22	$ 0.57
2016	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2017	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2018	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2019	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2020	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2021	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2022	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2023	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2024	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2025	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2026	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2027	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2028	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38
2029	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.15	$ 0.38

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2o Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 3,301-9,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.20	$ 0.11	$ 0.29	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.20	$ 0.11	$ 0.29
2010	$ 0.20	$ 0.11	$ 0.29	$ 0.02	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ -	$ -	$ 0.22	$ 0.12	$ 0.32
2011	$ 0.20	$ 0.11	$ 0.29	$ 0.03	$ 0.02	$ 0.05	$ -	$ -	$ -	$ -	$ -	$ 0.23	$ 0.13	$ 0.34
2012	$ 0.20	$ 0.11	$ 0.29	$ 0.05	$ 0.03	$ 0.07	$ -	$ -	$ -	$ 0.01	$ -	$ 0.26	$ 0.15	$ 0.38
2013	$ 0.20	$ 0.11	$ 0.29	$ 0.07	$ 0.04	$ 0.10	$ -	$ -	$ -	$ 0.03	$ -	$ 0.29	$ 0.17	$ 0.41
2014	$ 0.20	$ 0.11	$ 0.29	$ 0.08	$ 0.05	$ 0.12	$ -	$ -	$ -	$ 0.03	$ -	$ 0.31	$ 0.18	$ 0.44
2015	$ 0.10	$ 0.05	$ 0.15	$ 0.10	$ 0.06	$ 0.14	$ -	$ -	$ -	$ 0.03	$ -	$ 0.22	$ 0.14	$ 0.31
2016	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2017	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2018	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2019	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2020	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2021	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2022	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2023	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2024	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2025	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2026	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2027	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2028	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18
2029	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16	$ -	$ -	$ -	$ 0.03	$ -	$ 0.13	$ 0.09	$ 0.18

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2p Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 10,000-49,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.00	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2009	$ 0.10	$ 0.06	$ 0.14	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.10	$ 0.06	$ 0.14
2010	$ 0.10	$ 0.06	$ 0.14	$ 0.01	$ 0.00	$ 0.01	$ 0.00	$ -	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.15
2011	$ 0.10	$ 0.06	$ 0.14	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.15
2012	$ 0.10	$ 0.06	$ 0.14	$ 0.02	$ 0.01	$ 0.02	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.16
2013	$ 0.10	$ 0.06	$ 0.14	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ -	$ -	$ 0.12	$ 0.07	$ 0.17
2014	$ 0.05	$ 0.03	$ 0.07	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.04	$ 0.10
2015	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2016	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2017	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2018	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2019	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2020	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2021	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2022	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2023	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2024	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2025	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2026	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2027	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2028	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04
2029	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.02	$ 0.04

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2q Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 50,000-99,999 People)

Preferred Alternative

Year	Treatment Capital Costs			Treatment O&M Costs			Stage 2 DBPR Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2r Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 100,000-999,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.00	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.10	$ 0.06	$ 0.14	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.10	$ 0.06	$ 0.14
2010	$ 0.10	$ 0.06	$ 0.14	$ 0.00	$ 0.00	$ 0.01	$ -	$ -	$ -	$ -	$ -	$ 0.11	$ 0.06	$ 0.15
2011	$ 0.10	$ 0.06	$ 0.14	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.00	$ -	$ 0.12	$ 0.07	$ 0.16
2012	$ 0.10	$ 0.06	$ 0.14	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.00	$ -	$ 0.12	$ 0.07	$ 0.17
2013	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2014	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2015	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2016	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2017	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2018	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2019	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2020	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2021	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2022	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2023	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2024	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2025	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2026	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2027	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2028	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03
2029	$ -	$ -	$ -	$ 0.02	$ 0.01	$ 0.03	$ -	$ -	$ -	$ 0.00	$ -	$ 0.02	$ 0.02	$ 0.03

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2s Projections of Stage 2 DBPR PWS Costs

(Surface Water NTNCWSs Serving 1,000,000+ People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2t Projections of Stage 2 DBPR PWS Costs

(All Surface Water NTNCWSs)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.01	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.00	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2009	$ 1.13	$ 0.62	$ 1.67	$ -	$ -	$ -	$ 0.04	$ -	$ 0.01	$ -	$ -	$ 1.18	$ 0.67	$ 1.72
2010	$ 1.13	$ 0.62	$ 1.67	$ 0.16	$ 0.09	$ 0.23	$ 0.04	$ -	$ -	$ -	$ -	$ 1.32	$ 0.74	$ 1.93
2011	$ 1.13	$ 0.62	$ 1.67	$ 0.31	$ 0.18	$ 0.46	$ -	$ -	$ -	$ 0.00	$ -	$ 1.45	$ 0.80	$ 2.13
2012	$ 1.13	$ 0.62	$ 1.67	$ 0.47	$ 0.26	$ 0.68	$ -	$ -	$ -	$ 0.02	$ -	$ 1.62	$ 0.90	$ 2.37
2013	$ 1.03	$ 0.56	$ 1.53	$ 0.63	$ 0.35	$ 0.91	$ -	$ -	$ -	$ 0.03	$ -	$ 1.68	$ 0.94	$ 2.47
2014	$ 0.98	$ 0.53	$ 1.46	$ 0.78	$ 0.44	$ 1.13	$ -	$ -	$ -	$ 0.03	$ -	$ 1.79	$ 1.00	$ 2.62
2015	$ 0.46	$ 0.25	$ 0.69	$ 0.93	$ 0.52	$ 1.35	$ -	$ -	$ -	$ 0.03	$ -	$ 1.42	$ 0.80	$ 2.07
2016	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2017	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2018	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2019	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2020	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2021	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2022	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2023	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2024	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2025	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2026	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2027	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2028	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49
2029	$ -	$ -	$ -	$ 1.00	$ 0.56	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 1.03	$ 0.59	$ 1.49

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2u Projections of Stage 2 DBPR PWS Costs

(All Surface Water Systems)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ -	$ -	$ -	$ -	$ 0.88	$ 0.88	$ 0.88
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.22	$10.62	$ -	$ -	$ -	$ 11.84	$ 11.84	$ 11.84
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$22.98	$ 0.28	$ -	$ -	$ 23.26	$ 23.26	$ 23.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.79	$16.01	$ 0.64	$ -	$ -	$ 17.44	$ 17.44	$ 17.44
2009	$ 118.78	$64.70	$167.13	$ -	$ -	$ -	$ 0.71	$ -	$ 0.75	$ -	$ -	$ 120.23	$ 66.16	$ 168.59
2010	$ 118.78	$64.70	$167.13	$ 6.87	$ 4.21	$10.26	$ 0.61	$ -	$ -	$ -	$ -	$ 126.26	$ 69.52	$ 178.00
2011	$ 118.78	$64.70	$167.13	$ 13.74	$ 8.42	$20.52	$ -	$ -	$ -	$ 0.42	$ -	$ 132.94	$ 73.54	$ 188.07
2012	$ 118.78	$64.70	$167.13	$ 20.61	$12.62	$30.78	$ -	$ -	$ -	$ (0.75)	$ 0.06	$ 138.69	$ 76.64	$ 197.22
2013	$ 43.68	$24.15	$ 62.06	$ 27.48	$16.83	$41.04	$ -	$ -	$ -	$ (2.04)	$ 0.15	$ 69.26	$ 39.09	$ 101.21
2014	$ 25.85	$14.27	$ 37.33	$ 30.69	$18.72	$45.68	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 54.72	$ 31.16	$ 81.18
2015	$ 7.76	$ 4.27	$ 11.49	$ 32.98	$20.03	$48.98	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 38.90	$ 22.47	$ 58.64
2016	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2017	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2018	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2019	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2020	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2021	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2022	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2023	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2024	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2025	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2026	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2027	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2028	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41
2029	$ -	$ -	$ -	$ 33.84	$20.51	$50.23	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.02	$ 18.69	$ 48.41

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2v Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving <100 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	$ -	$ -	$ -	$ -	$ 0.78	$ 0.78	$ 0.78
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.22	$ -	$ -	$ -	$ 0.23	$ 0.23	$ 0.23
2009	$ 1.28	$ 1.11	$ 1.47	$ -	$ -	$ -	$ 0.39	$ -	$ 0.08	$ -	$ -	$ 1.75	$ 1.58	$ 1.94
2010	$ 1.28	$ 1.11	$ 1.47	$ 0.15	$ 0.14	$ 0.16	$ 0.39	$ -	$ -	$ -	$ -	$ 1.83	$ 1.64	$ 2.02
2011	$ 1.28	$ 1.11	$ 1.47	$ 0.30	$ 0.28	$ 0.32	$ -	$ -	$ -	$ -	$ -	$ 1.58	$ 1.39	$ 1.79
2012	$ 1.28	$ 1.11	$ 1.47	$ 0.45	$ 0.42	$ 0.49	$ -	$ -	$ -	$ 0.05	$ -	$ 1.78	$ 1.57	$ 2.00
2013	$ 1.28	$ 1.11	$ 1.47	$ 0.60	$ 0.56	$ 0.65	$ -	$ -	$ -	$ 0.10	$ -	$ 1.98	$ 1.76	$ 2.21
2014	$ 1.28	$ 1.11	$ 1.47	$ 0.75	$ 0.70	$ 0.81	$ -	$ -	$ -	$ 0.10	$ -	$ 2.13	$ 1.90	$ 2.37
2015	$ 0.64	$ 0.55	$ 0.73	$ 0.90	$ 0.84	$ 0.97	$ -	$ -	$ -	$ 0.10	$ -	$ 1.64	$ 1.49	$ 1.80
2016	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2017	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2018	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2019	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2020	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2021	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2022	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2023	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2024	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2025	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2026	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2027	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2028	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15
2029	$ -	$ -	$ -	$ 0.98	$ 0.91	$ 1.05	$ -	$ -	$ -	$ 0.10	$ -	$ 1.08	$ 1.01	$ 1.15

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2w Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 100-499 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.97	$ -	$ -	$ -	$ -	$ 0.97	$ 0.97	$ 0.97
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.27	$ -	$ -	$ -	$ 0.29	$ 0.29	$ 0.29
2009	$ 5.10	$ 4.31	$ 5.90	$ -	$ -	$ -	$ 0.49	$ -	$ 0.10	$ -	$ -	$ 5.69	$ 4.90	$ 6.49
2010	$ 5.10	$ 4.31	$ 5.90	$ 0.57	$ 0.52	$ 0.61	$ 0.48	$ -	$ -	$ -	$ -	$ 6.16	$ 5.32	$ 7.00
2011	$ 5.10	$ 4.31	$ 5.90	$ 1.13	$ 1.04	$ 1.22	$ -	$ -	$ -	$ -	$ -	$ 6.24	$ 5.35	$ 7.13
2012	$ 5.10	$ 4.31	$ 5.90	$ 1.70	$ 1.56	$ 1.83	$ -	$ -	$ -	$ 0.06	$ -	$ 6.86	$ 5.93	$ 7.80
2013	$ 5.10	$ 4.31	$ 5.90	$ 2.26	$ 2.08	$ 2.45	$ -	$ -	$ -	$ 0.12	$ -	$ 7.49	$ 6.51	$ 8.47
2014	$ 5.10	$ 4.31	$ 5.90	$ 2.83	$ 2.60	$ 3.06	$ -	$ -	$ -	$ 0.12	$ -	$ 8.05	$ 7.03	$ 9.08
2015	$ 2.55	$ 2.16	$ 2.95	$ 3.39	$ 3.12	$ 3.67	$ -	$ -	$ -	$ 0.12	$ -	$ 6.07	$ 5.40	$ 6.74
2016	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2017	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2018	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2019	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2020	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2021	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2022	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2023	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2024	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2025	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2026	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2027	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2028	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09
2029	$ -	$ -	$ -	$ 3.68	$ 3.38	$ 3.97	$ -	$ -	$ -	$ 0.12	$ -	$ 3.80	$ 3.50	$ 4.09

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2x Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 500-999 People)

Preferred Alternative

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.44	$ -	$ -	$ -	$ -	$ 0.44	$ 0.44	$ 0.44
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 1.93	$ -	$ -	$ -	$ 1.94	$ 1.94	$ 1.94
2009	$ 3.10	$ 2.62	$ 3.59	$ -	$ -	$ -	$ 0.22	$ -	$ 0.51	$ -	$ -	$ 3.83	$ 3.34	$ 4.32
2010	$ 3.10	$ 2.62	$ 3.59	$ 0.30	$ 0.28	$ 0.33	$ 0.22	$ -	$ -	$ -	$ -	$ 3.62	$ 3.11	$ 4.13
2011	$ 3.10	$ 2.62	$ 3.59	$ 0.60	$ 0.55	$ 0.65	$ -	$ -	$ -	$ -	$ -	$ 3.71	$ 3.17	$ 4.24
2012	$ 3.10	$ 2.62	$ 3.59	$ 0.90	$ 0.83	$ 0.98	$ -	$ -	$ -	$ 0.28	$ -	$ 4.29	$ 3.72	$ 4.84
2013	$ 3.10	$ 2.62	$ 3.59	$ 1.21	$ 1.11	$ 1.30	$ -	$ -	$ -	$ 0.55	$ -	$ 4.86	$ 4.28	$ 5.45
2014	$ 3.10	$ 2.62	$ 3.59	$ 1.51	$ 1.39	$ 1.63	$ -	$ -	$ -	$ 0.55	$ -	$ 5.16	$ 4.56	$ 5.77
2015	$ 1.55	$ 1.31	$ 1.79	$ 1.81	$ 1.66	$ 1.95	$ -	$ -	$ -	$ 0.55	$ -	$ 3.91	$ 3.53	$ 4.30
2016	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2017	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2018	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2019	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2020	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2021	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2022	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2023	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2024	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2025	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2026	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2027	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2028	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67
2029	$ -	$ -	$ -	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.55	$ -	$ 2.51	$ 2.36	$ 2.67

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2y Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 1,000-3,300 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.53	$ -	$ -	$ -	$ -	$ 0.53	$ 0.53	$ 0.53
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 2.34	$ -	$ -	$ -	$ 2.35	$ 2.35	$ 2.35
2009	$ 6.06	$ 4.98	$ 7.16	$ -	$ -	$ -	$ 0.27	$ -	$ 0.62	$ -	$ -	$ 6.95	$ 5.86	$ 8.04
2010	$ 6.06	$ 4.98	$ 7.16	$ 0.46	$ 0.42	$ 0.50	$ 0.27	$ -	$ -	$ -	$ -	$ 6.79	$ 5.66	$ 7.93
2011	$ 6.06	$ 4.98	$ 7.16	$ 0.92	$ 0.84	$ 1.00	$ -	$ -	$ -	$ -	$ -	$ 6.99	$ 5.82	$ 8.16
2012	$ 6.06	$ 4.98	$ 7.16	$ 1.38	$ 1.26	$ 1.50	$ -	$ -	$ -	$ 0.34	$ -	$ 7.78	$ 6.57	$ 9.00
2013	$ 6.06	$ 4.98	$ 7.16	$ 1.84	$ 1.68	$ 2.00	$ -	$ -	$ -	$ 0.67	$ -	$ 8.58	$ 7.33	$ 9.83
2014	$ 6.06	$ 4.98	$ 7.16	$ 2.30	$ 2.10	$ 2.51	$ -	$ -	$ -	$ 0.67	$ -	$ 9.04	$ 7.75	$ 10.34
2015	$ 3.03	$ 2.49	$ 3.58	$ 2.76	$ 2.52	$ 3.01	$ -	$ -	$ -	$ 0.67	$ -	$ 6.47	$ 5.68	$ 7.26
2016	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2017	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2018	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2019	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2020	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2021	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2022	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2023	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2024	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2025	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2026	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2027	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2028	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93
2029	$ -	$ -	$ -	$ 2.99	$ 2.73	$ 3.26	$ -	$ -	$ -	$ 0.67	$ -	$ 3.67	$ 3.40	$ 3.93

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2z Projections of Stage 2 DBPR PWSCosts

(Ground Water CWSs Serving 3,301-9,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.24	$ -	$ -	$ -	$ -	$ 0.24	$ 0.24	$ 0.24
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 1.06	$ -	$ -	$ -	$ 1.07	$ 1.07	$ 1.07
2009	$ 10.14	$ 8.23	$ 12.05	$ -	$ -	$ -	$ 0.12	$ -	$ 0.28	$ -	$ -	$ 10.54	$ 8.63	$ 12.45
2010	$ 10.14	$ 8.23	$ 12.05	$ 0.39	$ 0.36	$ 0.42	$ 0.12	$ -	$ -	$ -	$ -	$ 10.65	$ 8.71	$ 12.59
2011	$ 10.14	$ 8.23	$ 12.05	$ 0.78	$ 0.72	$ 0.85	$ -	$ -	$ -	$ -	$ -	$ 10.92	$ 8.95	$ 12.90
2012	$ 10.14	$ 8.23	$ 12.05	$ 1.17	$ 1.08	$ 1.27	$ -	$ -	$ -	$ 0.15	$ -	$ 11.46	$ 9.46	$ 13.47
2013	$ 10.14	$ 8.23	$ 12.05	$ 1.57	$ 1.44	$ 1.70	$ -	$ -	$ -	$ 0.30	$ -	$ 12.01	$ 9.97	$ 14.05
2014	$ 10.14	$ 8.23	$ 12.05	$ 1.96	$ 1.80	$ 2.12	$ -	$ -	$ -	$ 0.30	$ -	$ 12.40	$ 10.33	$ 14.47
2015	$ 5.07	$ 4.12	$ 6.02	$ 2.35	$ 2.15	$ 2.54	$ -	$ -	$ -	$ 0.30	$ -	$ 7.72	$ 6.58	$ 8.87
2016	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2017	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2018	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2019	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2020	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2021	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2022	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2023	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2024	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2025	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2026	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2027	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2028	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06
2029	$ -	$ -	$ -	$ 2.55	$ 2.33	$ 2.76	$ -	$ -	$ -	$ 0.30	$ -	$ 2.85	$ 2.64	$ 3.06

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2aa Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 10,000-49,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.05	$ -	$ -	$ -	$ -	$ 0.05	$ 0.05	$ 0.05
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.35	$ -	$ -	$ -	$ -	$ 0.35	$ 0.35	$ 0.35
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.82	$ -	$ -	$ -	$ 0.82	$ 0.82	$ 0.82
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.82	$ 0.16	$ -	$ -	$ 1.03	$ 1.03	$ 1.03
2009	$ 10.74	$ 9.71	$ 11.78	$ -	$ -	$ -	$ 0.18	$ -	$ 0.16	$ -	$ -	$ 11.08	$ 10.05	$ 12.12
2010	$ 10.74	$ 9.71	$ 11.78	$ 0.91	$ 0.87	$ 0.96	$ 0.17	$ -	$ -	$ -	$ -	$ 11.83	$ 10.75	$ 12.92
2011	$ 10.74	$ 9.71	$ 11.78	$ 1.83	$ 1.73	$ 1.93	$ -	$ -	$ -	$ -	$ -	$ 12.57	$ 11.44	$ 13.71
2012	$ 10.74	$ 9.71	$ 11.78	$ 2.74	$ 2.60	$ 2.89	$ -	$ -	$ -	$ 0.06	$ -	$ 13.54	$ 12.36	$ 14.73
2013	$ 10.74	$ 9.71	$ 11.78	$ 3.66	$ 3.46	$ 3.86	$ -	$ -	$ -	$ 0.12	$ -	$ 14.52	$ 13.29	$ 15.75
2014	$ 5.37	$ 4.85	$ 5.89	$ 4.57	$ 4.33	$ 4.82	$ -	$ -	$ -	$ 0.12	$ -	$ 10.06	$ 9.30	$ 10.83
2015	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2016	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2017	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2018	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2019	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2020	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2021	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2022	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2023	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2024	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2025	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2026	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2027	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2028	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42
2029	$ -	$ -	$ -	$ 5.03	$ 4.76	$ 5.30	$ -	$ -	$ -	$ 0.12	$ -	$ 5.15	$ 4.88	$ 5.42

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ab Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 50,000-99,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ -	$ -	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ -	$ 0.04	$ -	$ -	$ 0.06	$ 0.06	$ 0.06
2009	$ 3.32	$ 2.97	$ 3.67	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ 3.34	$ 2.99	$ 3.69
2010	$ 3.32	$ 2.97	$ 3.67	$ 0.28	$ 0.27	$ 0.30	$ -	$ -	$ -	$ -	$ -	$ 3.61	$ 3.24	$ 3.98
2011	$ 3.32	$ 2.97	$ 3.67	$ 0.57	$ 0.53	$ 0.60	$ -	$ -	$ -	$ 0.01	$ -	$ 3.90	$ 3.51	$ 4.28
2012	$ 3.32	$ 2.97	$ 3.67	$ 0.85	$ 0.80	$ 0.91	$ -	$ -	$ -	$ 0.01	$ -	$ 4.19	$ 3.79	$ 4.59
2013	$ 1.66	$ 1.49	$ 1.84	$ 1.14	$ 1.07	$ 1.21	$ -	$ -	$ -	$ 0.01	$ -	$ 2.81	$ 2.57	$ 3.06
2014	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2015	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2016	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2017	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2018	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2019	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2020	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2021	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2022	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2023	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2024	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2025	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2026	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2027	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2028	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37
2029	$ -	$ -	$ -	$ 1.28	$ 1.20	$ 1.36	$ -	$ -	$ -	$ 0.01	$ -	$ 1.29	$ 1.21	$ 1.37

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ac Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 100,000-999,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 0.02	$ -	$ -	$ 0.10	$ 0.10	$ 0.10
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ -	$ 0.02	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2009	$ 7.42	$ 6.61	$ 8.24	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7.42	$ 6.61	$ 8.24
2010	$ 7.42	$ 6.61	$ 8.24	$ 0.71	$ 0.66	$ 0.76	$ -	$ -	$ -	$ -	$ -	$ 8.13	$ 7.27	$ 8.99
2011	$ 7.42	$ 6.61	$ 8.24	$ 1.41	$ 1.32	$ 1.51	$ -	$ -	$ -	$ (0.09)	$ -	$ 8.75	$ 7.83	$ 9.66
2012	$ 7.42	$ 6.61	$ 8.24	$ 2.12	$ 1.98	$ 2.27	$ -	$ -	$ -	$ (0.09)	$ -	$ 9.45	$ 8.49	$ 10.41
2013	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2014	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2015	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2016	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2017	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2018	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2019	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2020	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2021	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2022	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2023	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2024	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2025	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2026	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2027	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2028	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93
2029	$ -	$ -	$ -	$ 2.83	$ 2.64	$ 3.02	$ -	$ -	$ -	$ (0.09)	$ -	$ 2.74	$ 2.54	$ 2.93

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ad Projections of Stage 2 DBPR PWS Costs

(Ground Water CWSs Serving 1,000,000+ People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.85	$ 0.74	$ 0.95	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.85	$ 0.74	$ 0.95
2010	$ 0.85	$ 0.74	$ 0.95	$ 0.11	$ 0.10	$ 0.12	$ -	$ -	$ -	$ -	$ -	$ 0.95	$ 0.84	$ 1.06
2011	$ 0.85	$ 0.74	$ 0.95	$ 0.22	$ 0.20	$ 0.23	$ -	$ -	$ -	$ (0.03)	$ -	$ 1.04	$ 0.92	$ 1.16
2012	$ 0.85	$ 0.74	$ 0.95	$ 0.32	$ 0.30	$ 0.35	$ -	$ -	$ -	$ (0.03)	$ -	$ 1.14	$ 1.02	$ 1.27
2013	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2014	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2015	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2016	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2017	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2018	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2019	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2020	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2021	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2022	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2023	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2024	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2025	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2026	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2027	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2028	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44
2029	$ -	$ -	$ -	$ 0.43	$ 0.40	$ 0.46	$ -	$ -	$ -	$ (0.03)	$ -	$ 0.41	$ 0.37	$ 0.44

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ae Projections of Stage 2 DBPR PWS Costs

(All Ground Water CWSs)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.31	$ 0.09	$ -	$ -	$ -	$ 3.40	$ 3.40	$ 3.40
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 48.03	$ 41.27	$ 54.80	$ -	$ -	$ -	$ 1.69	$ -	$ 1.74	$ -	$ -	$ 51.46	$ 44.70	$ 58.23
2010	$ 48.03	$ 41.27	$ 54.80	$ 3.88	$ 3.61	$ 4.16	$ 1.66	$ -	$ -	$ -	$ -	$ 53.57	$ 46.54	$ 60.62
2011	$ 48.03	$ 41.27	$ 54.80	$ 7.77	$ 7.21	$ 8.32	$ -	$ -	$ -	$ (0.11)	$ -	$ 55.69	$ 48.38	$ 63.02
2012	$ 48.03	$ 41.27	$ 54.80	$ 11.65	$ 10.82	$ 12.49	$ -	$ -	$ -	$ 0.83	$ -	$ 60.51	$ 52.92	$ 68.12
2013	$ 38.10	$ 32.43	$ 43.78	$ 15.54	$ 14.43	$ 16.65	$ -	$ -	$ -	$ 1.76	$ -	$ 55.39	$ 48.62	$ 62.19
2014	$ 31.06	$ 26.09	$ 36.05	$ 18.46	$ 17.14	$ 19.79	$ -	$ -	$ -	$ 1.76	$ -	$ 51.29	$ 45.00	$ 57.60
2015	$ 12.85	$ 10.62	$ 15.08	$ 20.79	$ 19.29	$ 22.29	$ -	$ -	$ -	$ 1.76	$ -	$ 35.40	$ 31.67	$ 39.14
2016	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2017	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2018	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2019	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2020	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2021	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2022	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2023	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2024	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2025	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2026	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2027	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2028	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2029	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2af Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving <100 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.25	$ -	$ -	$ -	$ -	$ 0.25	$ 0.25	$ 0.25
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.49	$ 0.42	$ 0.56	$ -	$ -	$ -	$ 0.12	$ -	$ 0.07	$ -	$ -	$ 0.69	$ 0.62	$ 0.76
2010	$ 0.49	$ 0.42	$ 0.56	$ 0.06	$ 0.05	$ 0.06	$ 0.12	$ -	$ -	$ -	$ -	$ 0.67	$ 0.60	$ 0.74
2011	$ 0.49	$ 0.42	$ 0.56	$ 0.11	$ 0.11	$ 0.12	$ -	$ -	$ -	$ -	$ -	$ 0.60	$ 0.53	$ 0.68
2012	$ 0.49	$ 0.42	$ 0.56	$ 0.17	$ 0.16	$ 0.18	$ -	$ -	$ -	$ 0.09	$ -	$ 0.75	$ 0.67	$ 0.83
2013	$ 0.49	$ 0.42	$ 0.56	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.18	$ -	$ 0.89	$ 0.81	$ 0.98
2014	$ 0.49	$ 0.42	$ 0.56	$ 0.29	$ 0.27	$ 0.31	$ -	$ -	$ -	$ 0.18	$ -	$ 0.95	$ 0.86	$ 1.04
2015	$ 0.24	$ 0.21	$ 0.28	$ 0.34	$ 0.32	$ 0.37	$ -	$ -	$ -	$ 0.18	$ -	$ 0.76	$ 0.70	$ 0.82
2016	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2017	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2018	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2019	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2020	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2021	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2022	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2023	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2024	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2025	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2026	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2027	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2028	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58
2029	$ -	$ -	$ -	$ 0.37	$ 0.35	$ 0.40	$ -	$ -	$ -	$ 0.18	$ -	$ 0.55	$ 0.52	$ 0.58

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ag Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 100-499 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.21	$ -	$ -	$ -	$ -	$ 0.21	$ 0.21	$ 0.21
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.77	$ 0.65	$ 0.89	$ -	$ -	$ -	$ 0.11	$ -	$ 0.06	$ -	$ -	$ 0.94	$ 0.82	$ 1.06
2010	$ 0.77	$ 0.65	$ 0.89	$ 0.09	$ 0.08	$ 0.09	$ 0.11	$ -	$ -	$ -	$ -	$ 0.97	$ 0.84	$ 1.09
2011	$ 0.77	$ 0.65	$ 0.89	$ 0.17	$ 0.16	$ 0.18	$ -	$ -	$ -	$ -	$ -	$ 0.94	$ 0.81	$ 1.08
2012	$ 0.77	$ 0.65	$ 0.89	$ 0.26	$ 0.23	$ 0.28	$ -	$ -	$ -	$ 0.07	$ -	$ 1.10	$ 0.96	$ 1.24
2013	$ 0.77	$ 0.65	$ 0.89	$ 0.34	$ 0.31	$ 0.37	$ -	$ -	$ -	$ 0.15	$ -	$ 1.26	$ 1.12	$ 1.41
2014	$ 0.77	$ 0.65	$ 0.89	$ 0.43	$ 0.39	$ 0.46	$ -	$ -	$ -	$ 0.15	$ -	$ 1.35	$ 1.19	$ 1.50
2015	$ 0.39	$ 0.33	$ 0.45	$ 0.51	$ 0.47	$ 0.55	$ -	$ -	$ -	$ 0.15	$ -	$ 1.05	$ 0.95	$ 1.15
2016	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2017	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2018	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2019	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2020	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2021	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2022	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2023	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2024	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2025	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2026	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2027	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2028	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75
2029	$ -	$ -	$ -	$ 0.55	$ 0.51	$ 0.60	$ -	$ -	$ -	$ 0.15	$ -	$ 0.70	$ 0.66	$ 0.75

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ah Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 500-999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ -	$ -	$ -	$ -	$ 0.07	$ 0.07	$ 0.07
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.38	$ 0.32	$ 0.44	$ -	$ -	$ -	$ 0.03	$ -	$ 0.05	$ -	$ -	$ 0.47	$ 0.40	$ 0.53
2010	$ 0.38	$ 0.32	$ 0.44	$ 0.04	$ 0.03	$ 0.04	$ 0.03	$ -	$ -	$ -	$ -	$ 0.45	$ 0.38	$ 0.51
2011	$ 0.38	$ 0.32	$ 0.44	$ 0.07	$ 0.07	$ 0.08	$ -	$ -	$ -	$ -	$ -	$ 0.45	$ 0.38	$ 0.52
2012	$ 0.38	$ 0.32	$ 0.44	$ 0.11	$ 0.10	$ 0.11	$ -	$ -	$ -	$ 0.13	$ -	$ 0.61	$ 0.54	$ 0.68
2013	$ 0.38	$ 0.32	$ 0.44	$ 0.14	$ 0.13	$ 0.15	$ -	$ -	$ -	$ 0.25	$ -	$ 0.78	$ 0.70	$ 0.85
2014	$ 0.38	$ 0.32	$ 0.44	$ 0.18	$ 0.16	$ 0.19	$ -	$ -	$ -	$ 0.25	$ -	$ 0.81	$ 0.74	$ 0.89
2015	$ 0.19	$ 0.16	$ 0.22	$ 0.21	$ 0.20	$ 0.23	$ -	$ -	$ -	$ 0.25	$ -	$ 0.66	$ 0.61	$ 0.70
2016	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2017	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2018	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2019	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2020	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2021	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2022	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2023	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2024	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2025	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2026	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2027	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2028	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50
2029	$ -	$ -	$ -	$ 0.23	$ 0.21	$ 0.25	$ -	$ -	$ -	$ 0.25	$ -	$ 0.48	$ 0.47	$ 0.50

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ai Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 1,000-3,300 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.25	$ 0.20	$ 0.29	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ -	$ -	$ 0.28	$ 0.24	$ 0.33
2010	$ 0.25	$ 0.20	$ 0.29	$ 0.02	$ 0.01	$ 0.02	$ 0.01	$ -	$ -	$ -	$ -	$ 0.28	$ 0.23	$ 0.32
2011	$ 0.25	$ 0.20	$ 0.29	$ 0.03	$ 0.03	$ 0.03	$ -	$ -	$ -	$ -	$ -	$ 0.28	$ 0.23	$ 0.33
2012	$ 0.25	$ 0.20	$ 0.29	$ 0.05	$ 0.04	$ 0.05	$ -	$ -	$ -	$ 0.05	$ -	$ 0.35	$ 0.30	$ 0.40
2013	$ 0.25	$ 0.20	$ 0.29	$ 0.06	$ 0.06	$ 0.07	$ -	$ -	$ -	$ 0.11	$ -	$ 0.42	$ 0.37	$ 0.47
2014	$ 0.25	$ 0.20	$ 0.29	$ 0.08	$ 0.07	$ 0.09	$ -	$ -	$ -	$ 0.11	$ -	$ 0.43	$ 0.38	$ 0.48
2015	$ 0.12	$ 0.10	$ 0.15	$ 0.09	$ 0.09	$ 0.10	$ -	$ -	$ -	$ 0.11	$ -	$ 0.32	$ 0.29	$ 0.36
2016	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2017	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2018	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2019	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2020	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2021	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2022	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2023	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2024	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2025	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2026	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2027	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2028	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22
2029	$ -	$ -	$ -	$ 0.10	$ 0.09	$ 0.11	$ -	$ -	$ -	$ 0.11	$ -	$ 0.21	$ 0.20	$ 0.22

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2aj Projections of Stage 2 DBPR PWSCosts

(Ground Water NTNCWSs Serving 3,301-9,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.07	$ 0.06	$0.08	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.07	$ 0.06	$ 0.09
2010	$ 0.07	$ 0.06	$0.08	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ 0.07	$ 0.06	$ 0.09
2011	$ 0.07	$ 0.06	$0.08	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 0.06	$ 0.09
2012	$ 0.07	$ 0.06	$0.08	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.00	$ -	$ 0.08	$ 0.07	$ 0.10
2013	$ 0.07	$ 0.06	$0.08	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.09	$ 0.07	$ 0.10
2014	$ 0.07	$ 0.06	$0.08	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.09	$ 0.08	$ 0.11
2015	$ 0.04	$ 0.03	$0.04	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.06	$ 0.05	$ 0.07
2016	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2017	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2018	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2019	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2020	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2021	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2022	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2023	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2024	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2025	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2026	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2027	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2028	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2029	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.02	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ak Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 10,000-49,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.02	$ 0.02	$ 0.02	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2010	$ 0.02	$ 0.02	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2011	$ 0.02	$ 0.02	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.02
2012	$ 0.02	$ 0.02	$ 0.02	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.01	$ -	$ 0.03	$ 0.03	$ 0.03
2013	$ 0.02	$ 0.02	$ 0.02	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.04	$ 0.03	$ 0.04
2014	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.03	$ 0.03	$ 0.03
2015	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2016	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2017	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2018	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2019	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2020	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2021	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2022	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2023	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2024	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2025	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2026	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2027	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2028	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02
2029	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ 0.01	$ -	$ 0.02	$ 0.02	$ 0.02

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2al Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 50,000-99,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.00	$ 0.00	$ 0.01	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.01
2010	$ 0.00	$ 0.00	$ 0.01	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.00	$ 0.01
2011	$ 0.00	$ 0.00	$ 0.01	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.01	$ 0.01
2012	$ 0.00	$ 0.00	$ 0.01	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.01	$ 0.01
2013	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2014	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2015	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2016	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2017	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2018	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2019	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2020	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2021	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2022	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2023	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2024	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2025	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2026	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2027	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2028	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00
2029	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ 0.00	$ 0.00

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2am Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 100,000-999,999 People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 0.01	$ 0.01	$ 0.01	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2010	$ 0.01	$ 0.01	$ 0.01	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2011	$ 0.01	$ 0.01	$ 0.01	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.01	$ 0.01
2012	$ 0.01	$ 0.01	$ 0.01	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.01	$ 0.01
2013	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2014	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2015	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2016	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2017	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2018	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2019	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2020	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2021	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2022	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2023	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2024	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2025	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2026	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2027	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2028	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01
2029	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ -	$ 0.00	$ -	$ 0.01	$ 0.00	$ 0.01

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2an Projections of Stage 2 DBPR PWS Costs

(Ground Water NTNCWSs Serving 1,000,000+ People)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ao Projections of Stage 2 DBPR PWS Costs

(All Ground Water NTNCWSs)

Preferred Alternative

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ -	$ 0.56	$ 0.56	$ 0.56
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 1.99	$ 1.68	$ 2.30	$ -	$ -	$ -	$ 0.28	$ -	$ 0.21	$ -	$ -	$ 2.48	$ 2.17	$ 2.79
2010	$ 1.99	$ 1.68	$ 2.30	$ 0.20	$ 0.18	$ 0.21	$ 0.28	$ -	$ -	$ -	$ -	$ 2.47	$ 2.14	$ 2.79
2011	$ 1.99	$ 1.68	$ 2.30	$ 0.40	$ 0.37	$ 0.43	$ -	$ -	$ -	$ 0.00	$ -	$ 2.39	$ 2.05	$ 2.73
2012	$ 1.99	$ 1.68	$ 2.30	$ 0.59	$ 0.55	$ 0.64	$ -	$ -	$ -	$ 0.36	$ -	$ 2.94	$ 2.58	$ 3.30
2013	$ 1.98	$ 1.67	$ 2.29	$ 0.79	$ 0.73	$ 0.86	$ -	$ -	$ -	$ 0.71	$ -	$ 3.49	$ 3.11	$ 3.86
2014	$ 1.97	$ 1.66	$ 2.28	$ 0.99	$ 0.91	$ 1.07	$ -	$ -	$ -	$ 0.71	$ -	$ 3.67	$ 3.28	$ 4.06
2015	$ 0.98	$ 0.83	$ 1.13	$ 1.19	$ 1.09	$ 1.28	$ -	$ -	$ -	$ 0.71	$ -	$ 2.88	$ 2.63	$ 3.12
2016	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2017	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2018	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2019	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2020	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2021	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2022	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2023	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2024	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2025	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2026	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2027	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2028	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2029	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ap Projections of Stage 2 DBPR PWS Costs

(All Ground Water Systems)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluations	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.87	$ 0.09	$ -	$ -	$ -	$ 3.96	$ 3.96	$ 3.96
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 50.02	$42.95	$ 57.11	$ -	$ -	$ -	$ 1.97	$ -	$ 1.95	$ -	$ -	$ 53.94	$ 46.87	$ 61.02
2010	$ 50.02	$42.95	$ 57.11	$ 4.08	$ 3.79	$ 4.38	$ 1.94	$ -	$ -	$ -	$ -	$ 56.04	$ 48.68	$ 63.42
2011	$ 50.02	$42.95	$ 57.11	$ 8.17	$ 7.58	$ 8.75	$ -	$ -	$ -	$ (0.11)	$ -	$ 58.08	$ 50.42	$ 65.75
2012	$ 50.02	$42.95	$ 57.11	$12.25	$ 11.37	$ 13.13	$ -	$ -	$ -	$ 1.18	$ -	$ 63.45	$ 55.51	$ 71.42
2013	$ 40.08	$34.10	$ 46.07	$16.33	$ 15.16	$ 17.50	$ -	$ -	$ -	$ 2.47	$ -	$ 58.88	$ 51.73	$ 66.04
2014	$ 33.03	$27.75	$ 38.33	$19.45	$ 18.06	$ 20.86	$ -	$ -	$ -	$ 2.47	$ -	$ 54.96	$ 48.28	$ 61.66
2015	$ 13.83	$11.45	$ 16.22	$21.98	$ 20.39	$ 23.57	$ -	$ -	$ -	$ 2.47	$ -	$ 38.28	$ 34.31	$ 42.26
2016	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2017	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2018	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2019	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2020	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2021	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2022	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2023	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2024	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2025	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2026	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2027	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2028	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2029	$ -	$ -	$ -	$23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2aq Projections of Stage 2 DBPR PWS Costs

(All Systems)

Preferred Alternative

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluations	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.06	$ -	$ -	$ -	$ -	$ 1.06	$ 1.06	$ 1.06
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.09	$10.70	$ -	$ -	$ -	$ 15.80	$ 15.80	$ 15.80
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$24.07	$ 0.30	$ -	$ -	$ 24.36	$ 24.36	$ 24.36
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.93	$22.67	$ 0.85	$ -	$ -	$ 24.45	$ 24.45	$ 24.45
2009	$ 168.80	$ 107.65	$ 224.24	$ -	$ -	$ -	$ 2.68	$ -	$ 2.70	$ -	$ -	$ 174.17	$ 113.03	$ 229.61
2010	$ 168.80	$ 107.65	$ 224.24	$ 10.95	$ 8.00	$ 14.64	$ 2.55	$ -	$ -	$ -	$ -	$ 182.29	$ 118.20	$ 241.42
2011	$ 168.80	$ 107.65	$ 224.24	$ 21.90	$ 16.00	$ 29.27	$ -	$ -	$ -	$ 0.32	$ -	$ 191.02	$ 123.97	$ 253.82
2012	$ 168.80	$ 107.65	$ 224.24	$ 32.85	$ 23.99	$ 43.91	$ -	$ -	$ -	$ 0.43	$ 0.06	$ 202.15	$ 132.14	$ 268.64
2013	$ 83.76	$ 58.26	$ 108.13	$ 43.81	$ 31.99	$ 58.54	$ -	$ -	$ -	$ 0.43	$ 0.15	$ 128.14	$ 90.83	$ 167.25
2014	$ 58.89	$ 42.02	$ 75.66	$ 50.15	$ 36.78	$ 66.54	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 109.68	$ 79.44	$ 142.84
2015	$ 21.58	$ 15.72	$ 27.71	$ 54.95	$ 40.42	$ 72.55	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 77.18	$ 56.78	$ 100.90
2016	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2017	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2018	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2019	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2020	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2021	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2022	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2023	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2024	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2025	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2026	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2027	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2028	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57
2029	$ -	$ -	$ -	$ 56.85	$ 41.85	$ 74.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 57.50	$ 42.49	$ 75.57

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1a and Exhibits D.1 through D.6.

Exhibit J.2ar Projections of Stage 2 DBPR Primacy Agency Costs

Preferred Alternative

Year	Implementation Costs	IDSE Costs	Monitoring Plan Costs	Compliance Monitoring Costs	Operational Evaluations
2005	$ 3.88	$ -	$ -	$ -	$ -
2006	$ 3.88	$ 0.05	$ -	$ -	$ -
2007	$ -	$ 0.14	$ 0.02	$ -	$ -
2008	$ -	$ 2.03	$ 0.06	$ -	$ -
2009	$ -	$ -	$ 0.84	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 1.59	$ 0.11
2012	$ -	$ -	$ -	$ 1.59	$ 0.11
2013	$ -	$ -	$ -	$ 1.59	$ 0.11
2014	$ -	$ -	$ -	$ 1.59	$ 0.11
2015	$ -	$ -	$ -	$ 1.59	$ 0.11
2016	$ -	$ -	$ -	$ 1.59	$ 0.11
2017	$ -	$ -	$ -	$ 1.59	$ 0.11
2018	$ -	$ -	$ -	$ 1.59	$ 0.11
2019	$ -	$ -	$ -	$ 1.59	$ 0.11
2020	$ -	$ -	$ -	$ 1.59	$ 0.11
2021	$ -	$ -	$ -	$ 1.59	$ 0.11
2022	$ -	$ -	$ -	$ 1.59	$ 0.11
2023	$ -	$ -	$ -	$ 1.59	$ 0.11
2024	$ -	$ -	$ -	$ 1.59	$ 0.11
2025	$ -	$ -	$ -	$ 1.59	$ 0.11
2026	$ -	$ -	$ -	$ 1.59	$ 0.11
2027	$ -	$ -	$ -	$ 1.59	$ 0.11
2028	$ -	$ -	$ -	$ 1.59	$ 0.11
2029	$ -	$ -	$ -	$ 1.59	$ 0.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1h and D.7.

Exhibit J.2as Present Value of Annual Cost Projections at 3% Discount Rate

(All Systems and Primacy Agencies)

Preferred Alternative

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.7	$ 4.7	$ 4.7	$ 4.7
2006	$ 10.8	$ 10.8	$ 10.8	$ 0.1	$ 0.1	$ 0.1	$ 3.1	$ 3.1	$ 3.1	$ 0.5	$ 0.5	$ 0.5	$ 3.6	$ 18.1	$ 18.1	$ 18.1
2007	$ 20.6	$ 20.6	$ 20.6	$ 0.0	$ 0.0	$ 0.0	$ 1.0	$ 1.0	$ 1.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 21.8	$ 21.8	$ 21.8
2008	$ 15.0	$ 15.0	$ 15.0	$ 0.0	$ 0.0	$ 0.0	$ 6.0	$ 6.0	$ 6.0	$ 0.0	$ 0.0	$ 0.0	$ 1.8	$ 22.9	$ 22.9	$ 22.9
2009	$ 99.7	$ 54.8	$ 139.8	$ 1.0	$ 0.6	$ 1.4	$ 43.1	$ 37.4	$ 48.8	$ 2.1	$ 1.8	$ 2.3	$ 0.7	$ 146.6	$ 95.4	$ 193.0
2010	$ 101.6	$ 55.9	$ 143.2	$ 1.1	$ 0.6	$ 1.6	$ 43.6	$ 37.8	$ 49.3	$ 2.0	$ 1.7	$ 2.3	$ -	$ 148.2	$ 96.1	$ 196.3
2011	$ 103.8	$ 57.4	$ 146.8	$ 1.1	$ 0.6	$ 1.7	$ 44.0	$ 38.2	$ 49.7	$ 1.9	$ 1.6	$ 2.2	$ 1.3	$ 152.1	$ 99.2	$ 201.7
2012	$ 105.1	$ 58.0	$ 149.3	$ 1.2	$ 0.7	$ 1.8	$ 46.4	$ 40.6	$ 52.2	$ 2.3	$ 2.0	$ 2.5	$ 1.3	$ 156.2	$ 102.6	$ 207.2
2013	$ 50.3	$ 28.4	$ 73.5	$ 1.3	$ 0.7	$ 1.8	$ 41.2	$ 36.2	$ 46.3	$ 2.6	$ 2.3	$ 2.9	$ 1.3	$ 96.6	$ 68.9	$ 125.7
2014	$ 38.2	$ 21.8	$ 56.8	$ 1.3	$ 0.7	$ 1.9	$ 37.1	$ 32.5	$ 41.6	$ 2.7	$ 2.4	$ 2.9	$ 1.2	$ 80.5	$ 58.6	$ 104.4
2015	$ 26.3	$ 15.2	$ 39.7	$ 1.0	$ 0.6	$ 1.5	$ 24.8	$ 22.2	$ 27.4	$ 2.0	$ 1.8	$ 2.2	$ 1.2	$ 55.3	$ 41.0	$ 72.0
2016	$ 21.1	$ 12.3	$ 32.0	$ 0.7	$ 0.4	$ 1.0	$ 16.0	$ 14.9	$ 17.1	$ 1.4	$ 1.3	$ 1.4	$ 1.2	$ 40.3	$ 30.1	$ 52.6
2017	$ 20.5	$ 12.0	$ 31.0	$ 0.7	$ 0.4	$ 1.0	$ 15.5	$ 14.5	$ 16.6	$ 1.3	$ 1.3	$ 1.4	$ 1.1	$ 39.1	$ 29.2	$ 51.1
2018	$ 19.9	$ 11.6	$ 30.1	$ 0.7	$ 0.4	$ 1.0	$ 15.1	$ 14.1	$ 16.1	$ 1.3	$ 1.2	$ 1.3	$ 1.1	$ 38.0	$ 28.4	$ 49.6
2019	$ 19.3	$ 11.3	$ 29.2	$ 0.6	$ 0.4	$ 0.9	$ 14.6	$ 13.7	$ 15.6	$ 1.2	$ 1.2	$ 1.3	$ 1.1	$ 36.9	$ 27.5	$ 48.2
2020	$ 18.7	$ 10.9	$ 28.4	$ 0.6	$ 0.4	$ 0.9	$ 14.2	$ 13.3	$ 15.2	$ 1.2	$ 1.1	$ 1.3	$ 1.0	$ 35.8	$ 26.7	$ 46.8
2021	$ 18.2	$ 10.6	$ 27.6	$ 0.6	$ 0.3	$ 0.9	$ 13.8	$ 12.9	$ 14.7	$ 1.2	$ 1.1	$ 1.2	$ 1.0	$ 34.8	$ 26.0	$ 45.4
2022	$ 17.7	$ 10.3	$ 26.8	$ 0.6	$ 0.3	$ 0.8	$ 13.4	$ 12.5	$ 14.3	$ 1.1	$ 1.1	$ 1.2	$ 1.0	$ 33.8	$ 25.2	$ 44.1
2023	$ 17.2	$ 10.0	$ 26.0	$ 0.6	$ 0.3	$ 0.8	$ 13.0	$ 12.1	$ 13.9	$ 1.1	$ 1.0	$ 1.2	$ 0.9	$ 32.8	$ 24.5	$ 42.8
2024	$ 16.7	$ 9.7	$ 25.2	$ 0.6	$ 0.3	$ 0.8	$ 12.6	$ 11.8	$ 13.5	$ 1.1	$ 1.0	$ 1.1	$ 0.9	$ 31.8	$ 23.8	$ 41.5
2025	$ 16.2	$ 9.4	$ 24.5	$ 0.5	$ 0.3	$ 0.8	$ 12.3	$ 11.4	$ 13.1	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 30.9	$ 23.1	$ 40.3
2026	$ 15.7	$ 9.2	$ 23.8	$ 0.5	$ 0.3	$ 0.8	$ 11.9	$ 11.1	$ 12.7	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 30.0	$ 22.4	$ 39.2
2027	$ 15.2	$ 8.9	$ 23.1	$ 0.5	$ 0.3	$ 0.7	$ 11.6	$ 10.8	$ 12.3	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 29.1	$ 21.7	$ 38.0
2028	$ 14.8	$ 8.6	$ 22.4	$ 0.5	$ 0.3	$ 0.7	$ 11.2	$ 10.5	$ 12.0	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 28.3	$ 21.1	$ 36.9
2029	$ 14.4	$ 8.4	$ 21.8	$ 0.5	$ 0.3	$ 0.7	$ 10.9	$ 10.2	$ 11.6	$ 0.9	$ 0.9	$ 1.0	$ 0.8	$ 27.5	$ 20.5	$ 35.8
Total	**$ 817.6**	**$ 482.2**	**$ 1,167.9**	**$ 16.3**	**$ 9.3**	**$ 23.6**	**$ 476.5**	**$ 428.8**	**$ 524.2**	**$ 31.8**	**$ 29.2**	**$ 34.4**	**$ 29.8**	**$ 1,372.1**	**$ 979.4**	**$ 1,780.0**
Ann.	**$ 47.0**	**$ 27.7**	**$ 67.1**	**$ 0.9**	**$ 0.5**	**$ 1.4**	**$ 27.4**	**$ 24.6**	**$ 30.1**	**$ 1.8**	**$ 1.7**	**$ 2.0**	**$ 1.7**	**$ 78.8**	**$ 56.2**	**$ 102.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source Derived from Exhibits J.2a through rr.

Exhibit J.2at Present Value of Annual Treatment Capital Cost Projections at 3% Discount Rate
(All Systems)

Preferred Alternative

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 98.5	$ 53.7	$ 138.6	$ 0.9	$ 0.5	$ 1.4	$ 40.2	$ 34.6	$ 45.9	$ 1.7	$ 1.4	$ 1.9	$ 141.4	$ 90.2	$ 187.8
2010	$ 95.7	$ 52.1	$ 134.5	$ 0.9	$ 0.5	$ 1.4	$ 39.1	$ 33.6	$ 44.6	$ 1.6	$ 1.4	$ 1.9	$ 137.2	$ 87.5	$ 182.3
2011	$ 92.9	$ 50.6	$ 130.6	$ 0.9	$ 0.5	$ 1.3	$ 37.9	$ 32.6	$ 43.3	$ 1.6	$ 1.3	$ 1.8	$ 133.2	$ 85.0	$ 177.0
2012	$ 90.2	$ 49.1	$ 126.8	$ 0.9	$ 0.5	$ 1.3	$ 36.8	$ 31.6	$ 42.0	$ 1.5	$ 1.3	$ 1.8	$ 129.4	$ 82.5	$ 171.9
2013	$ 31.7	$ 17.6	$ 45.0	$ 0.8	$ 0.4	$ 1.1	$ 28.3	$ 24.1	$ 32.6	$ 1.5	$ 1.2	$ 1.7	$ 62.3	$ 43.3	$ 80.5
2014	$ 18.0	$ 9.9	$ 25.9	$ 0.7	$ 0.4	$ 1.1	$ 22.4	$ 18.9	$ 26.0	$ 1.4	$ 1.2	$ 1.6	$ 42.5	$ 30.4	$ 54.7
2015	$ 5.1	$ 2.8	$ 7.6	$ 0.3	$ 0.2	$ 0.5	$ 9.0	$ 7.4	$ 10.6	$ 0.7	$ 0.6	$ 0.8	$ 15.1	$ 11.0	$ 19.4
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 432.0**	**$ 235.8**	**$ 609.1**	**$ 5.4**	**$ 3.0**	**$ 8.0**	**$ 213.8**	**$ 182.8**	**$ 244.9**	**$ 10.0**	**$ 8.4**	**$ 11.5**	**$ 661.2**	**$ 429.9**	**$ 873.5**
Ann.	**$ 24.8**	**$ 13.5**	**$ 35.0**	**$ 0.3**	**$ 0.2**	**$ 0.5**	**$ 12.3**	**$ 10.5**	**$ 14.1**	**$ 0.6**	**$ 0.5**	**$ 0.7**	**$ 38.0**	**$ 24.7**	**$ 50.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2au Present Value of Annual Treatment O&M Cost Projections at 3% Discount Rate
(All Systems)

Preferred Alternative

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 5.5	$ 3.4	$ 8.2	$ 0.1	$ 0.1	$ 0.2	$ 3.2	$ 2.9	$ 3.4	$ 0.2	$ 0.1	$ 0.2	$ 8.9	$ 6.5	$ 11.9
2011	$ 10.6	$ 6.5	$ 15.8	$ 0.2	$ 0.1	$ 0.4	$ 6.1	$ 5.7	$ 6.6	$ 0.3	$ 0.3	$ 0.3	$ 17.3	$ 12.6	$ 23.1
2012	$ 15.4	$ 9.5	$ 23.1	$ 0.4	$ 0.2	$ 0.5	$ 8.9	$ 8.3	$ 9.6	$ 0.5	$ 0.4	$ 0.5	$ 25.2	$ 18.4	$ 33.7
2013	$ 20.0	$ 12.3	$ 29.9	$ 0.5	$ 0.3	$ 0.7	$ 11.6	$ 10.7	$ 12.4	$ 0.6	$ 0.5	$ 0.6	$ 32.6	$ 23.8	$ 43.6
2014	$ 21.6	$ 13.2	$ 32.2	$ 0.6	$ 0.3	$ 0.8	$ 13.3	$ 12.4	$ 14.3	$ 0.7	$ 0.7	$ 0.8	$ 36.2	$ 26.6	$ 48.1
2015	$ 22.5	$ 13.7	$ 33.4	$ 0.7	$ 0.4	$ 0.9	$ 14.6	$ 13.5	$ 15.6	$ 0.8	$ 0.8	$ 0.9	$ 38.5	$ 28.3	$ 50.9
2016	$ 22.4	$ 13.6	$ 33.2	$ 0.7	$ 0.4	$ 1.0	$ 14.8	$ 13.7	$ 15.9	$ 0.9	$ 0.8	$ 0.9	$ 38.7	$ 28.5	$ 51.0
2017	$ 21.7	$ 13.2	$ 32.2	$ 0.7	$ 0.4	$ 1.0	$ 14.4	$ 13.3	$ 15.4	$ 0.8	$ 0.8	$ 0.9	$ 37.6	$ 27.7	$ 49.5
2018	$ 21.1	$ 12.8	$ 31.3	$ 0.6	$ 0.4	$ 0.9	$ 13.9	$ 12.9	$ 15.0	$ 0.8	$ 0.8	$ 0.9	$ 36.5	$ 26.9	$ 48.1
2019	$ 20.5	$ 12.4	$ 30.4	$ 0.6	$ 0.4	$ 0.9	$ 13.5	$ 12.6	$ 14.5	$ 0.8	$ 0.7	$ 0.9	$ 35.4	$ 26.1	$ 46.7
2020	$ 19.9	$ 12.1	$ 29.5	$ 0.6	$ 0.3	$ 0.9	$ 13.1	$ 12.2	$ 14.1	$ 0.8	$ 0.7	$ 0.8	$ 34.4	$ 25.3	$ 45.3
2021	$ 19.3	$ 11.7	$ 28.7	$ 0.6	$ 0.3	$ 0.9	$ 12.8	$ 11.8	$ 13.7	$ 0.8	$ 0.7	$ 0.8	$ 33.4	$ 24.6	$ 44.0
2022	$ 18.7	$ 11.4	$ 27.8	$ 0.6	$ 0.3	$ 0.8	$ 12.4	$ 11.5	$ 13.3	$ 0.7	$ 0.7	$ 0.8	$ 32.4	$ 23.9	$ 42.7
2023	$ 18.2	$ 11.0	$ 27.0	$ 0.6	$ 0.3	$ 0.8	$ 12.0	$ 11.2	$ 12.9	$ 0.7	$ 0.7	$ 0.8	$ 31.5	$ 23.2	$ 41.5
2024	$ 17.7	$ 10.7	$ 26.2	$ 0.5	$ 0.3	$ 0.8	$ 11.7	$ 10.8	$ 12.5	$ 0.7	$ 0.6	$ 0.7	$ 30.6	$ 22.5	$ 40.3
2025	$ 17.1	$ 10.4	$ 25.5	$ 0.5	$ 0.3	$ 0.8	$ 11.3	$ 10.5	$ 12.2	$ 0.7	$ 0.6	$ 0.7	$ 29.7	$ 21.8	$ 39.1
2026	$ 16.6	$ 10.1	$ 24.7	$ 0.5	$ 0.3	$ 0.7	$ 11.0	$ 10.2	$ 11.8	$ 0.7	$ 0.6	$ 0.7	$ 28.8	$ 21.2	$ 38.0
2027	$ 16.2	$ 9.8	$ 24.0	$ 0.5	$ 0.3	$ 0.7	$ 10.7	$ 9.9	$ 11.5	$ 0.6	$ 0.6	$ 0.7	$ 28.0	$ 20.6	$ 36.9
2028	$ 15.7	$ 9.5	$ 23.3	$ 0.5	$ 0.3	$ 0.7	$ 10.4	$ 9.6	$ 11.1	$ 0.6	$ 0.6	$ 0.7	$ 27.2	$ 20.0	$ 35.8
2029	$ 15.2	$ 9.3	$ 22.6	$ 0.5	$ 0.3	$ 0.7	$ 10.1	$ 9.3	$ 10.8	$ 0.6	$ 0.5	$ 0.6	$ 26.4	$ 19.4	$ 34.7
Total	**$ 355.7**	**$ 216.6**	**$ 529.0**	**$ 10.4**	**$ 5.8**	**$ 15.1**	**$ 229.8**	**$ 213.2**	**$ 246.5**	**$ 13.2**	**$ 12.2**	**$ 14.3**	**$ 609.2**	**$ 447.8**	**$ 804.8**
Ann.	**$ 20.4**	**$ 12.4**	**$ 30.4**	**$ 0.6**	**$ 0.3**	**$ 0.9**	**$ 13.2**	**$ 12.2**	**$ 14.2**	**$ 0.8**	**$ 0.7**	**$ 0.8**	**$ 35.0**	**$ 25.7**	**$ 46.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2av Present Value of Annual Non-Treatment Cost Projections at 3% Discount Rate
(All Systems)

Preferred Alternative

	Surface Water CWS					Surface Water NTNCWS				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 1.1	$ 9.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -
2007	$ -	$ 20.4	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -
2008	$ 0.7	$ 13.8	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -
2009	$ 0.6	$ -	$ 0.6	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.5	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.0	$ -
2012	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
2013	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2014	$ -	$ -	$ -	$ (1.5)	$ 0.2	$ -	$ -	$ -	$ 0.0	$ -
2015	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2016	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2017	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2018	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2019	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2020	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2021	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2022	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2023	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2024	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2025	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2026	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2027	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2028	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2029	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
Total	**$ 3.6**	**$ 43.9**	**$ 1.4**	**$ (21.1)**	**$ 2.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**
Ann.	**$ 0.2**	**$ 2.5**	**$ 0.1**	**$ (1.2)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**

	Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 3.0	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -
2007	$ -	$ 1.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -
2008	$ 0.1	$ 5.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -
2009	$ 1.4	$ -	$ 1.5	$ -	$ -	$ 0.2	$ -	$ 0.2	$ -	$ -
2010	$ 1.3	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -
2012	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -
2013	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -
2014	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -
2015	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -
2016	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -
2017	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -
2018	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.5	$ -
2019	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -
2020	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -
2021	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -
2022	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -
2023	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -
2024	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -
2025	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -
2026	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -
2027	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.3	$ -
2028	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -
2029	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -
Total	**$ 6.1**	**$ 6.8**	**$ 1.7**	**$ 18.3**	**$ -**	**$ 1.0**	**$ 0.0**	**$ 0.2**	**$ 7.5**	**$ -**
Ann.	**$ 0.3**	**$ 0.4**	**$ 0.1**	**$ 1.1**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.4**	**$ -**

	Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 1.0	$ -	$ -	$ -	$ -
2006	$ 4.7	$ 9.8	$ -	$ -	$ -
2007	$ -	$ 21.4	$ 0.3	$ -	$ -
2008	$ 0.8	$ 19.6	$ 0.7	$ -	$ -
2009	$ 2.2	$ -	$ 2.3	$ -	$ -
2010	$ 2.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.3	$ -
2012	$ -	$ -	$ -	$ 0.3	$ 0.0
2013	$ -	$ -	$ -	$ 0.3	$ 0.1
2014	$ -	$ -	$ -	$ 0.3	$ 0.2
2015	$ -	$ -	$ -	$ 0.3	$ 0.1
2016	$ -	$ -	$ -	$ 0.3	$ 0.1
2017	$ -	$ -	$ -	$ 0.3	$ 0.1
2018	$ -	$ -	$ -	$ 0.3	$ 0.1
2019	$ -	$ -	$ -	$ 0.3	$ 0.1
2020	$ -	$ -	$ -	$ 0.3	$ 0.1
2021	$ -	$ -	$ -	$ 0.3	$ 0.1
2022	$ -	$ -	$ -	$ 0.2	$ 0.1
2023	$ -	$ -	$ -	$ 0.2	$ 0.1
2024	$ -	$ -	$ -	$ 0.2	$ 0.1
2025	$ -	$ -	$ -	$ 0.2	$ 0.1
2026	$ -	$ -	$ -	$ 0.2	$ 0.1
2027	$ -	$ -	$ -	$ 0.2	$ 0.1
2028	$ -	$ -	$ -	$ 0.2	$ 0.1
2029	$ -	$ -	$ -	$ 0.2	$ 0.1
Total	**$ 10.8**	**$ 50.7**	**$ 3.3**	**$ 4.9**	**$ 2.1**
Ann.	**$ 0.6**	**$ 2.9**	**$ 0.2**	**$ 0.3**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2aw Present Value of Annual Cost Projections at 7% Discount Rate

(All Systems and Primacy Agencies)

Preferred Alternative

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.4	$ 4.3	$ 4.3	$ 4.3
2006	$ 9.6	$ 9.6	$ 9.6	$ 0.1	$ 0.1	$ 0.1	$ 2.8	$ 2.8	$ 2.8	$ 0.5	$ 0.5	$ 0.5	$ 3.2	$ 16.1	$ 16.1	$ 16.1
2007	$ 17.7	$ 17.7	$ 17.7	$ 0.0	$ 0.0	$ 0.0	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 18.7	$ 18.7	$ 18.7
2008	$ 12.4	$ 12.4	$ 12.4	$ 0.0	$ 0.0	$ 0.0	$ 5.0	$ 5.0	$ 5.0	$ 0.0	$ 0.0	$ 0.0	$ 1.5	$ 18.9	$ 18.9	$ 18.9
2009	$ 79.3	$ 43.6	$ 111.2	$ 0.8	$ 0.4	$ 1.1	$ 34.3	$ 29.8	$ 38.8	$ 1.7	$ 1.4	$ 1.9	$ 0.6	$ 116.6	$ 75.9	$ 153.6
2010	$ 77.8	$ 42.8	$ 109.6	$ 0.8	$ 0.5	$ 1.2	$ 33.4	$ 29.0	$ 37.8	$ 1.5	$ 1.3	$ 1.7	$ -	$ 113.5	$ 73.6	$ 150.3
2011	$ 76.5	$ 42.3	$ 108.2	$ 0.8	$ 0.5	$ 1.2	$ 32.4	$ 28.2	$ 36.7	$ 1.4	$ 1.2	$ 1.6	$ 1.0	$ 112.2	$ 73.1	$ 148.7
2012	$ 74.6	$ 41.2	$ 106.0	$ 0.9	$ 0.5	$ 1.3	$ 32.9	$ 28.8	$ 37.1	$ 1.6	$ 1.4	$ 1.8	$ 0.9	$ 110.9	$ 72.8	$ 147.0
2013	$ 34.4	$ 19.4	$ 50.2	$ 0.9	$ 0.5	$ 1.3	$ 28.2	$ 24.7	$ 31.6	$ 1.8	$ 1.6	$ 2.0	$ 0.9	$ 66.0	$ 47.0	$ 85.9
2014	$ 25.1	$ 14.3	$ 37.3	$ 0.8	$ 0.5	$ 1.2	$ 24.4	$ 21.4	$ 27.4	$ 1.7	$ 1.6	$ 1.9	$ 0.8	$ 52.9	$ 38.6	$ 68.7
2015	$ 16.6	$ 9.6	$ 25.1	$ 0.6	$ 0.4	$ 0.9	$ 15.7	$ 14.1	$ 17.4	$ 1.3	$ 1.2	$ 1.4	$ 0.8	$ 35.0	$ 26.0	$ 45.6
2016	$ 12.9	$ 7.5	$ 19.5	$ 0.4	$ 0.2	$ 0.6	$ 9.7	$ 9.1	$ 10.4	$ 0.8	$ 0.8	$ 0.9	$ 0.7	$ 24.6	$ 18.3	$ 32.1
2017	$ 12.0	$ 7.0	$ 18.2	$ 0.4	$ 0.2	$ 0.6	$ 9.1	$ 8.5	$ 9.7	$ 0.8	$ 0.7	$ 0.8	$ 0.7	$ 23.0	$ 17.1	$ 30.0
2018	$ 11.2	$ 6.6	$ 17.0	$ 0.4	$ 0.2	$ 0.5	$ 8.5	$ 7.9	$ 9.1	$ 0.7	$ 0.7	$ 0.8	$ 0.6	$ 21.5	$ 16.0	$ 28.0
2019	$ 10.5	$ 6.1	$ 15.9	$ 0.4	$ 0.2	$ 0.5	$ 8.0	$ 7.4	$ 8.5	$ 0.7	$ 0.6	$ 0.7	$ 0.6	$ 20.1	$ 15.0	$ 26.2
2020	$ 9.8	$ 5.7	$ 14.9	$ 0.3	$ 0.2	$ 0.5	$ 7.4	$ 6.9	$ 7.9	$ 0.6	$ 0.6	$ 0.7	$ 0.5	$ 18.7	$ 14.0	$ 24.5
2021	$ 9.2	$ 5.4	$ 13.9	$ 0.3	$ 0.2	$ 0.4	$ 6.9	$ 6.5	$ 7.4	$ 0.6	$ 0.6	$ 0.6	$ 0.5	$ 17.5	$ 13.1	$ 22.9
2022	$ 8.6	$ 5.0	$ 13.0	$ 0.3	$ 0.2	$ 0.4	$ 6.5	$ 6.1	$ 6.9	$ 0.6	$ 0.5	$ 0.6	$ 0.5	$ 16.4	$ 12.2	$ 21.4
2023	$ 8.0	$ 4.7	$ 12.1	$ 0.3	$ 0.2	$ 0.4	$ 6.1	$ 5.7	$ 6.5	$ 0.5	$ 0.5	$ 0.5	$ 0.4	$ 15.3	$ 11.4	$ 20.0
2024	$ 7.5	$ 4.4	$ 11.3	$ 0.2	$ 0.1	$ 0.4	$ 5.7	$ 5.3	$ 6.1	$ 0.5	$ 0.5	$ 0.5	$ 0.4	$ 14.3	$ 10.7	$ 18.7
2025	$ 7.0	$ 4.1	$ 10.6	$ 0.2	$ 0.1	$ 0.3	$ 5.3	$ 4.9	$ 5.7	$ 0.5	$ 0.4	$ 0.5	$ 0.4	$ 13.4	$ 10.0	$ 17.4
2026	$ 6.5	$ 3.8	$ 9.9	$ 0.2	$ 0.1	$ 0.3	$ 5.0	$ 4.6	$ 5.3	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 12.5	$ 9.3	$ 16.3
2027	$ 6.1	$ 3.6	$ 9.3	$ 0.2	$ 0.1	$ 0.3	$ 4.6	$ 4.3	$ 4.9	$ 0.4	$ 0.4	$ 0.4	$ 0.3	$ 11.7	$ 8.7	$ 15.2
2028	$ 5.7	$ 3.3	$ 8.6	$ 0.2	$ 0.1	$ 0.3	$ 4.3	$ 4.0	$ 4.6	$ 0.4	$ 0.3	$ 0.4	$ 0.3	$ 10.9	$ 8.1	$ 14.2
2029	$ 5.3	$ 3.1	$ 8.1	$ 0.2	$ 0.1	$ 0.3	$ 4.0	$ 3.8	$ 4.3	$ 0.3	$ 0.3	$ 0.4	$ 0.3	$ 10.2	$ 7.6	$ 13.3
Total	**$ 545.1**	**$ 324.1**	**$ 770.4**	**$ 9.8**	**$ 5.6**	**$ 14.2**	**$ 301.2**	**$ 269.7**	**$ 332.7**	**$ 19.2**	**$ 17.5**	**$ 20.9**	**$ 19.8**	**$ 895.1**	**$ 636.7**	**$ 1,157.9**
Ann.	**$ 46.8**	**$ 27.8**	**$ 66.1**	**$ 0.8**	**$ 0.5**	**$ 1.2**	**$ 25.8**	**$ 23.1**	**$ 28.6**	**$ 1.6**	**$ 1.5**	**$ 1.8**	**$ 1.7**	**$ 76.8**	**$ 54.6**	**$ 99.4**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2ax Present Value of Annual Treatment Capital Cost Projections at 7% Discount Rate
(All Systems)

Preferred Alternative

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 78.4	$ 42.7	$ 110.3	$ 0.8	$ 0.4	$ 1.1	$ 32.0	$ 27.5	$ 36.5	$ 1.3	$ 1.1	$ 1.5	$ 112.5	$ 71.7	$ 149.4
2010	$ 73.3	$ 39.9	$ 103.0	$ 0.7	$ 0.4	$ 1.0	$ 29.9	$ 25.7	$ 34.1	$ 1.2	$ 1.0	$ 1.4	$ 105.1	$ 67.0	$ 139.6
2011	$ 68.5	$ 37.3	$ 96.3	$ 0.7	$ 0.4	$ 1.0	$ 28.0	$ 24.0	$ 31.9	$ 1.2	$ 1.0	$ 1.3	$ 98.2	$ 62.7	$ 130.5
2012	$ 64.0	$ 34.9	$ 90.0	$ 0.6	$ 0.3	$ 0.9	$ 26.1	$ 22.4	$ 29.8	$ 1.1	$ 0.9	$ 1.3	$ 91.8	$ 58.6	$ 122.0
2013	$ 21.7	$ 12.0	$ 30.8	$ 0.5	$ 0.3	$ 0.8	$ 19.4	$ 16.5	$ 22.3	$ 1.0	$ 0.8	$ 1.2	$ 42.6	$ 29.6	$ 55.0
2014	$ 11.8	$ 6.5	$ 17.0	$ 0.5	$ 0.3	$ 0.7	$ 14.8	$ 12.4	$ 17.1	$ 0.9	$ 0.8	$ 1.1	$ 28.0	$ 20.0	$ 35.9
2015	$ 3.2	$ 1.8	$ 4.8	$ 0.2	$ 0.1	$ 0.3	$ 5.7	$ 4.7	$ 6.7	$ 0.4	$ 0.4	$ 0.5	$ 9.6	$ 7.0	$ 12.3
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 320.9**	**$ 175.1**	**$ 452.2**	**$ 3.9**	**$ 2.1**	**$ 5.8**	**$ 155.8**	**$ 133.3**	**$ 178.4**	**$ 7.2**	**$ 6.1**	**$ 8.3**	**$ 487.8**	**$ 316.5**	**$ 644.8**
Ann.	**$ 27.5**	**$ 15.0**	**$ 38.8**	**$ 0.3**	**$ 0.2**	**$ 0.5**	**$ 13.4**	**$ 11.4**	**$ 15.3**	**$ 0.6**	**$ 0.5**	**$ 0.7**	**$ 41.9**	**$ 27.2**	**$ 55.3**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2ay Present Value of Annual Treatment O&M Cost Projections at 7% Discount Rate
(All Systems)

Preferred Alternative

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 4.2	$ 2.6	$ 6.2	$ 0.1	$ 0.1	$ 0.1	$ 2.4	$ 2.2	$ 2.6	$ 0.1	$ 0.1	$ 0.1	$ 6.8	$ 5.0	$ 9.1
2011	$ 7.8	$ 4.8	$ 11.7	$ 0.2	$ 0.1	$ 0.3	$ 4.5	$ 4.2	$ 4.8	$ 0.2	$ 0.2	$ 0.2	$ 12.7	$ 9.3	$ 17.0
2012	$ 11.0	$ 6.7	$ 16.4	$ 0.3	$ 0.1	$ 0.4	$ 6.3	$ 5.9	$ 6.8	$ 0.3	$ 0.3	$ 0.3	$ 17.9	$ 13.1	$ 23.9
2013	$ 13.6	$ 8.4	$ 20.4	$ 0.3	$ 0.2	$ 0.5	$ 7.9	$ 7.3	$ 8.5	$ 0.4	$ 0.4	$ 0.4	$ 22.3	$ 16.3	$ 29.8
2014	$ 14.2	$ 8.7	$ 21.2	$ 0.4	$ 0.2	$ 0.5	$ 8.8	$ 8.1	$ 9.4	$ 0.5	$ 0.4	$ 0.5	$ 23.8	$ 17.5	$ 31.6
2015	$ 14.2	$ 8.7	$ 21.1	$ 0.4	$ 0.2	$ 0.6	$ 9.2	$ 8.6	$ 9.9	$ 0.5	$ 0.5	$ 0.6	$ 24.4	$ 17.9	$ 32.2
2016	$ 13.6	$ 8.3	$ 20.2	$ 0.4	$ 0.2	$ 0.6	$ 9.0	$ 8.4	$ 9.7	$ 0.5	$ 0.5	$ 0.6	$ 23.6	$ 17.4	$ 31.1
2017	$ 12.7	$ 7.7	$ 18.9	$ 0.4	$ 0.2	$ 0.6	$ 8.4	$ 7.8	$ 9.0	$ 0.5	$ 0.5	$ 0.5	$ 22.0	$ 16.2	$ 29.1
2018	$ 11.9	$ 7.2	$ 17.7	$ 0.4	$ 0.2	$ 0.5	$ 7.9	$ 7.3	$ 8.4	$ 0.5	$ 0.4	$ 0.5	$ 20.6	$ 15.2	$ 27.2
2019	$ 11.1	$ 6.8	$ 16.5	$ 0.3	$ 0.2	$ 0.5	$ 7.4	$ 6.8	$ 7.9	$ 0.4	$ 0.4	$ 0.5	$ 19.3	$ 14.2	$ 25.4
2020	$ 10.4	$ 6.3	$ 15.4	$ 0.3	$ 0.2	$ 0.5	$ 6.9	$ 6.4	$ 7.4	$ 0.4	$ 0.4	$ 0.4	$ 18.0	$ 13.2	$ 23.7
2021	$ 9.7	$ 5.9	$ 14.4	$ 0.3	$ 0.2	$ 0.4	$ 6.4	$ 6.0	$ 6.9	$ 0.4	$ 0.4	$ 0.4	$ 16.8	$ 12.4	$ 22.2
2022	$ 9.1	$ 5.5	$ 13.5	$ 0.3	$ 0.2	$ 0.4	$ 6.0	$ 5.6	$ 6.4	$ 0.4	$ 0.3	$ 0.4	$ 15.7	$ 11.6	$ 20.7
2023	$ 8.5	$ 5.2	$ 12.6	$ 0.3	$ 0.1	$ 0.4	$ 5.6	$ 5.2	$ 6.0	$ 0.3	$ 0.3	$ 0.4	$ 14.7	$ 10.8	$ 19.4
2024	$ 7.9	$ 4.8	$ 11.8	$ 0.2	$ 0.1	$ 0.4	$ 5.2	$ 4.9	$ 5.6	$ 0.3	$ 0.3	$ 0.3	$ 13.7	$ 10.1	$ 18.1
2025	$ 7.4	$ 4.5	$ 11.0	$ 0.2	$ 0.1	$ 0.3	$ 4.9	$ 4.5	$ 5.3	$ 0.3	$ 0.3	$ 0.3	$ 12.8	$ 9.4	$ 16.9
2026	$ 6.9	$ 4.2	$ 10.3	$ 0.2	$ 0.1	$ 0.3	$ 4.6	$ 4.3	$ 4.9	$ 0.3	$ 0.2	$ 0.3	$ 12.0	$ 8.8	$ 15.8
2027	$ 6.5	$ 3.9	$ 9.6	$ 0.2	$ 0.1	$ 0.3	$ 4.3	$ 4.0	$ 4.6	$ 0.3	$ 0.2	$ 0.3	$ 11.2	$ 8.3	$ 14.8
2028	$ 6.1	$ 3.7	$ 9.0	$ 0.2	$ 0.1	$ 0.3	$ 4.0	$ 3.7	$ 4.3	$ 0.2	$ 0.2	$ 0.3	$ 10.5	$ 7.7	$ 13.8
2029	$ 5.7	$ 3.4	$ 8.4	$ 0.2	$ 0.1	$ 0.3	$ 3.7	$ 3.5	$ 4.0	$ 0.2	$ 0.2	$ 0.2	$ 9.8	$ 7.2	$ 12.9
Total	**$ 192.5**	**$ 117.3**	**$ 286.4**	**$ 5.5**	**$ 3.1**	**$ 8.0**	**$ 123.6**	**$ 114.6**	**$ 132.5**	**$ 7.1**	**$ 6.5**	**$ 7.6**	**$ 328.7**	**$ 241.5**	**$ 434.6**
Ann.	**$ 16.5**	**$ 10.1**	**$ 24.6**	**$ 0.5**	**$ 0.3**	**$ 0.7**	**$ 10.6**	**$ 9.8**	**$ 11.4**	**$ 0.6**	**$ 0.6**	**$ 0.7**	**$ 28.2**	**$ 20.7**	**$ 37.3**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2az Present Value of Annual Cost Projections at 7% Discount Rate
(All Systems)

Preferred Alternative

	Surface Water NTNCWS					Surface Water NTNCWS					Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS					Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -
2006	$ 0.9	$ 8.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 2.7	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 4.2	$ 8.7	$ -	$ -	$ -
2007	$ -	$ 17.5	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.8	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 18.4	$ 0.2	$ -	$ -
2008	$ 0.6	$ 11.4	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.1	$ 4.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.7	$ 16.2	$ 0.6	$ -	$ -
2009	$ 0.4	$ -	$ 0.5	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 1.1	$ -	$ 1.2	$ -	$ -	$ 0.2	$ -	$ 0.1	$ -	$ -	$ 1.8	$ -	$ 1.8	$ -	$ -
2010	$ 0.4	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 1.6	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -
2012	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ 0.0
2013	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2014	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2015	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2016	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2017	$ -	$ -	$ -	$ (0.8)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2018	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2019	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2020	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2021	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2022	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2023	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2024	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2025	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2026	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2027	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2028	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2029	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
Total	**$ 3.1**	**$ 37.6**	**$ 1.2**	**$ (11.2)**	**$ 1.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.2**	**$ -**	**$ 5.1**	**$ 5.6**	**$ 1.3**	**$ 9.7**	**$ -**	**$ 0.8**	**$ 0.0**	**$ 0.1**	**$ 4.0**	**$ -**	**$ 9.1**	**$ 43.3**	**$ 2.6**	**$ 2.7**	**$ 1.1**
Ann.	**$ 0.3**	**$ 3.2**	**$ 0.1**	**$ (1.0)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.4**	**$ 0.5**	**$ 0.1**	**$ 0.8**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 0.8**	**$ 3.7**	**$ 0.2**	**$ 0.2**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2ba Present Value of Total Costs at 3% Discount Rate, by System Size

(Surface Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2006	$ 0.1	$ 0.1	$ 0.1	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.8	$ 0.8	$ 0.8	$ 1.0	$ 1.0	$ 1.0	$ 3.8	$ 3.8	$ 3.8	$ 1.2	$ 1.2	$ 1.2	$ 2.8	$ 2.8	$ 2.8	$ 0.3	$ 0.3	$ 0.3
2007	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.8	$ 0.8	$ 0.8	$ 1.3	$ 1.3	$ 1.3	$ 2.0	$ 2.0	$ 2.0	$ 8.6	$ 8.6	$ 8.6	$ 4.5	$ 4.5	$ 4.5	$ 2.8	$ 2.8	$ 2.8	$ 0.3	$ 0.3	$ 0.3
2008	$ 0.3	$ 0.3	$ 0.3	$ 0.6	$ 0.6	$ 0.6	$ 1.8	$ 1.8	$ 1.8	$ 3.1	$ 3.1	$ 3.1	$ 4.7	$ 4.7	$ 4.7	$ 4.3	$ 4.3	$ 4.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2009	$ 0.2	$ 0.2	$ 0.3	$ 0.6	$ 0.4	$ 0.8	$ 0.7	$ 0.4	$ 0.9	$ 3.4	$ 2.0	$ 4.9	$ 8.3	$ 4.7	$ 12.1	$ 17.5	$ 9.8	$ 24.2	$ 12.6	$ 7.0	$ 17.4	$ 38.5	$ 20.6	$ 54.0	$ 18.0	$ 9.9	$ 25.2
2010	$ 0.2	$ 0.1	$ 0.3	$ 0.6	$ 0.4	$ 0.8	$ 0.6	$ 0.4	$ 0.9	$ 3.6	$ 2.0	$ 5.2	$ 8.5	$ 4.8	$ 12.5	$ 17.7	$ 9.9	$ 24.6	$ 12.8	$ 7.1	$ 17.8	$ 39.1	$ 21.0	$ 54.9	$ 18.5	$ 10.2	$ 26.0
2011	$ 0.2	$ 0.1	$ 0.3	$ 0.6	$ 0.3	$ 0.9	$ 0.6	$ 0.3	$ 0.9	$ 3.8	$ 2.1	$ 5.6	$ 8.8	$ 4.9	$ 13.0	$ 18.0	$ 10.1	$ 25.0	$ 13.1	$ 7.4	$ 18.2	$ 39.8	$ 21.7	$ 56.0	$ 18.9	$ 10.6	$ 26.8
2012	$ 0.2	$ 0.1	$ 0.3	$ 0.6	$ 0.3	$ 1.0	$ 0.5	$ 0.2	$ 0.9	$ 3.8	$ 2.0	$ 5.7	$ 9.6	$ 5.5	$ 13.9	$ 17.3	$ 9.4	$ 24.6	$ 13.4	$ 7.6	$ 18.6	$ 40.2	$ 22.1	$ 56.8	$ 19.3	$ 10.9	$ 27.5
2013	$ 0.2	$ 0.1	$ 0.3	$ 0.7	$ 0.3	$ 1.0	$ 0.5	$ 0.1	$ 0.8	$ 3.9	$ 2.0	$ 5.9	$ 10.3	$ 6.0	$ 14.7	$ 16.8	$ 8.7	$ 24.1	$ 8.0	$ 4.7	$ 11.2	$ 6.3	$ 4.1	$ 9.5	$ 3.7	$ 2.3	$ 5.8
2014	$ 0.2	$ 0.1	$ 0.3	$ 0.7	$ 0.4	$ 1.1	$ 0.5	$ 0.2	$ 0.9	$ 4.2	$ 2.1	$ 6.3	$ 10.6	$ 6.2	$ 15.2	$ 9.7	$ 4.9	$ 14.3	$ 2.6	$ 1.7	$ 3.8	$ 6.1	$ 4.0	$ 9.3	$ 3.6	$ 2.3	$ 5.6
2015	$ 0.2	$ 0.1	$ 0.2	$ 0.6	$ 0.3	$ 1.0	$ 0.4	$ 0.1	$ 0.7	$ 3.1	$ 1.5	$ 4.7	$ 7.5	$ 4.5	$ 10.6	$ 2.6	$ 1.0	$ 4.4	$ 2.6	$ 1.7	$ 3.6	$ 6.0	$ 3.9	$ 9.0	$ 3.5	$ 2.2	$ 5.5
2016	$ 0.1	$ 0.0	$ 0.2	$ 0.5	$ 0.2	$ 0.7	$ 0.2	$ 0.0	$ 0.4	$ 1.9	$ 0.9	$ 2.9	$ 4.3	$ 2.7	$ 5.9	$ 2.5	$ 0.9	$ 4.3	$ 2.5	$ 1.6	$ 3.5	$ 5.8	$ 3.8	$ 8.7	$ 3.4	$ 2.1	$ 5.3
2017	$ 0.1	$ 0.0	$ 0.2	$ 0.5	$ 0.2	$ 0.7	$ 0.2	$ 0.0	$ 0.4	$ 1.8	$ 0.9	$ 2.8	$ 4.2	$ 2.6	$ 5.7	$ 2.4	$ 0.9	$ 4.2	$ 2.4	$ 1.6	$ 3.4	$ 5.6	$ 3.7	$ 8.5	$ 3.3	$ 2.1	$ 5.1
2018	$ 0.1	$ 0.0	$ 0.2	$ 0.5	$ 0.2	$ 0.7	$ 0.2	$ 0.0	$ 0.4	$ 1.8	$ 0.8	$ 2.7	$ 4.0	$ 2.5	$ 5.6	$ 2.4	$ 0.9	$ 4.0	$ 2.3	$ 1.5	$ 3.3	$ 5.4	$ 3.5	$ 8.2	$ 3.2	$ 2.0	$ 5.0
2019	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.7	$ 0.2	$ 0.0	$ 0.3	$ 1.7	$ 0.8	$ 2.7	$ 3.9	$ 2.5	$ 5.4	$ 2.3	$ 0.9	$ 3.9	$ 2.3	$ 1.5	$ 3.2	$ 5.3	$ 3.4	$ 8.0	$ 3.1	$ 2.0	$ 4.8
2020	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.7	$ 0.2	$ 0.0	$ 0.3	$ 1.7	$ 0.8	$ 2.6	$ 3.8	$ 2.4	$ 5.2	$ 2.2	$ 0.8	$ 3.8	$ 2.2	$ 1.4	$ 3.1	$ 5.1	$ 3.3	$ 7.8	$ 3.0	$ 1.9	$ 4.7
2021	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.2	$ 0.0	$ 0.3	$ 1.6	$ 0.8	$ 2.5	$ 3.7	$ 2.3	$ 5.1	$ 2.2	$ 0.8	$ 3.7	$ 2.2	$ 1.4	$ 3.1	$ 5.0	$ 3.2	$ 7.5	$ 2.9	$ 1.9	$ 4.6
2022	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.2	$ 0.0	$ 0.3	$ 1.6	$ 0.7	$ 2.4	$ 3.6	$ 2.3	$ 4.9	$ 2.1	$ 0.8	$ 3.6	$ 2.1	$ 1.4	$ 3.0	$ 4.8	$ 3.2	$ 7.3	$ 2.8	$ 1.8	$ 4.4
2023	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.2	$ 0.0	$ 0.3	$ 1.5	$ 0.7	$ 2.4	$ 3.5	$ 2.2	$ 4.8	$ 2.0	$ 0.8	$ 3.5	$ 2.0	$ 1.3	$ 2.9	$ 4.7	$ 3.1	$ 7.1	$ 2.7	$ 1.7	$ 4.3
2024	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.2	$ 0.0	$ 0.3	$ 1.5	$ 0.7	$ 2.3	$ 3.4	$ 2.1	$ 4.7	$ 2.0	$ 0.7	$ 3.4	$ 2.0	$ 1.3	$ 2.8	$ 4.6	$ 3.0	$ 6.9	$ 2.7	$ 1.7	$ 4.2
2025	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.1	$ 0.0	$ 0.3	$ 1.4	$ 0.7	$ 2.2	$ 3.3	$ 2.1	$ 4.5	$ 1.9	$ 0.7	$ 3.3	$ 1.9	$ 1.2	$ 2.7	$ 4.4	$ 2.9	$ 6.7	$ 2.6	$ 1.6	$ 4.1
2026	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.5	$ 0.1	$ 0.0	$ 0.3	$ 1.4	$ 0.7	$ 2.2	$ 3.2	$ 2.0	$ 4.4	$ 1.9	$ 0.7	$ 3.2	$ 1.9	$ 1.2	$ 2.6	$ 4.3	$ 2.8	$ 6.5	$ 2.5	$ 1.6	$ 3.9
2027	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.5	$ 0.1	$ 0.0	$ 0.3	$ 1.4	$ 0.6	$ 2.1	$ 3.1	$ 1.9	$ 4.3	$ 1.8	$ 0.7	$ 3.1	$ 1.8	$ 1.2	$ 2.6	$ 4.2	$ 2.7	$ 6.3	$ 2.4	$ 1.6	$ 3.8
2028	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.5	$ 0.1	$ 0.0	$ 0.3	$ 1.3	$ 0.6	$ 2.0	$ 3.0	$ 1.9	$ 4.1	$ 1.7	$ 0.7	$ 3.0	$ 1.7	$ 1.1	$ 2.5	$ 4.1	$ 2.6	$ 6.1	$ 2.4	$ 1.5	$ 3.7
2029	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.5	$ 0.1	$ 0.0	$ 0.3	$ 1.3	$ 0.6	$ 2.0	$ 2.9	$ 1.8	$ 4.0	$ 1.7	$ 0.6	$ 2.9	$ 1.7	$ 1.1	$ 2.4	$ 3.9	$ 2.6	$ 5.9	$ 2.3	$ 1.5	$ 3.6
Total	**$ 3.0**	**$ 1.7**	**$ 4.4**	**####**	**$ 6.3**	**$ 16.3**	**$ 9.0**	**$ 4.9**	**$ 13.4**	**$ 53.0**	**$ 29.3**	**$ 77.6**	**$ 121.2**	**$ 75.5**	**$ 168.6**	**$ 145.6**	**$ 81.5**	**$ 207.9**	**$ 100.1**	**$ 62.2**	**$ 137.9**	**$ 248.9**	**$ 146.8**	**$ 357.0**	**$ 125.5**	**$ 74.0**	**$ 184.8**
Ann.	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ 0.6**	**$ 0.4**	**$ 0.9**	**$ 0.5**	**$ 0.3**	**$ 0.8**	**$ 3.0**	**$ 1.7**	**$ 4.5**	**$ 7.0**	**$ 4.3**	**$ 9.7**	**$ 8.4**	**$ 4.7**	**$ 11.9**	**$ 5.7**	**$ 3.6**	**$ 7.9**	**$ 14.3**	**$ 8.4**	**$ 20.5**	**$ 7.2**	**$ 4.3**	**$ 10.6**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bb Present Value of Capital Costs at 3% Discount Rate, by System Size
(Surface Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.5	$ 0.3	$ 0.8	$ 3.1	$ 1.7	$ 4.6	$ 8.0	$ 4.4	$ 11.8	$ 17.2	$ 9.5	$ 23.9	$ 12.5	$ 7.0	$ 17.4	$ 38.5	$ 20.6	$ 54.0	$ 18.0	$ 9.9	$ 25.2
2010	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.5	$ 0.3	$ 0.7	$ 3.0	$ 1.7	$ 4.5	$ 7.8	$ 4.3	$ 11.5	$ 16.7	$ 9.3	$ 23.2	$ 12.2	$ 6.8	$ 16.9	$ 37.4	$ 20.0	$ 52.4	$ 17.5	$ 9.6	$ 24.5
2011	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.5	$ 0.3	$ 0.7	$ 3.0	$ 1.6	$ 4.4	$ 7.6	$ 4.2	$ 11.1	$ 16.2	$ 9.0	$ 22.5	$ 11.8	$ 6.6	$ 16.4	$ 36.3	$ 19.4	$ 50.9	$ 17.0	$ 9.3	$ 23.8
2012	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.5	$ 0.2	$ 0.7	$ 2.9	$ 1.6	$ 4.3	$ 7.3	$ 4.1	$ 10.8	$ 15.8	$ 8.7	$ 21.9	$ 11.5	$ 6.4	$ 15.9	$ 35.3	$ 18.8	$ 49.4	$ 16.5	$ 9.0	$ 23.1
2013	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.4	$ 0.2	$ 0.7	$ 2.8	$ 1.5	$ 4.1	$ 7.1	$ 3.9	$ 10.5	$ 15.3	$ 8.5	$ 21.2	$ 5.6	$ 3.1	$ 7.7	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.5	$ 0.4	$ 0.2	$ 0.7	$ 2.7	$ 1.5	$ 4.0	$ 6.9	$ 3.8	$ 10.2	$ 7.4	$ 4.1	$ 10.3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.3	$ 1.3	$ 0.7	$ 1.9	$ 3.4	$ 1.9	$ 5.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.8**	**$ 0.5**	**$ 1.3**	**$ 2.5**	**$ 1.4**	**$ 3.8**	**$ 3.0**	**$ 1.6**	**$ 4.6**	**$ 18.8**	**$ 10.3**	**$ 27.9**	**$ 48.1**	**$ 26.6**	**$ 70.9**	**$ 88.7**	**$ 49.2**	**$ 123.1**	**$ 53.6**	**$ 29.8**	**$ 74.4**	**$ 147.5**	**$ 78.7**	**$ 206.6**	**$ 69.0**	**$ 37.8**	**$ 96.5**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ 1.1**	**$ 0.6**	**$ 1.6**	**$ 2.8**	**$ 1.5**	**$ 4.1**	**$ 5.1**	**$ 2.8**	**$ 7.1**	**$ 3.1**	**$ 1.7**	**$ 4.3**	**$ 8.5**	**$ 4.5**	**$ 11.9**	**$ 4.0**	**$ 2.2**	**$ 5.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bc Present Value of O&M Costs at 3% Discount Rate, by System Size
(Surface Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.7	$ 0.4	$ 1.0	$ 0.9	$ 0.6	$ 1.3	$ 0.6	$ 0.4	$ 0.9	$ 1.7	$ 1.1	$ 2.5	$ 1.0	$ 0.6	$ 1.6
2011	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.8	$ 0.5	$ 1.2	$ 1.3	$ 0.7	$ 1.9	$ 1.7	$ 1.1	$ 2.5	$ 1.2	$ 0.7	$ 1.7	$ 3.2	$ 2.1	$ 4.9	$ 1.9	$ 1.2	$ 3.1
2012	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.2	$ 0.7	$ 1.7	$ 1.9	$ 1.1	$ 2.7	$ 2.5	$ 1.6	$ 3.6	$ 1.7	$ 1.1	$ 2.5	$ 4.7	$ 3.0	$ 7.2	$ 2.8	$ 1.8	$ 4.4
2013	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.2	$ 0.5	$ 0.3	$ 0.2	$ 0.4	$ 1.5	$ 0.9	$ 2.2	$ 2.4	$ 1.4	$ 3.5	$ 3.3	$ 2.0	$ 4.7	$ 2.3	$ 1.4	$ 3.3	$ 6.1	$ 3.9	$ 9.3	$ 3.7	$ 2.3	$ 5.8
2014	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.7	$ 0.3	$ 0.2	$ 0.5	$ 1.9	$ 1.0	$ 2.7	$ 3.0	$ 1.7	$ 4.3	$ 4.0	$ 2.5	$ 5.7	$ 2.5	$ 1.5	$ 3.6	$ 5.9	$ 3.8	$ 9.0	$ 3.6	$ 2.2	$ 5.6
2015	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.8	$ 0.4	$ 0.2	$ 0.6	$ 2.2	$ 1.2	$ 3.1	$ 3.4	$ 1.9	$ 5.0	$ 4.2	$ 2.6	$ 6.1	$ 2.4	$ 1.5	$ 3.5	$ 5.7	$ 3.7	$ 8.8	$ 3.4	$ 2.2	$ 5.4
2016	$ 0.1	$ 0.1	$ 0.2	$ 0.6	$ 0.3	$ 0.8	$ 0.4	$ 0.2	$ 0.6	$ 2.3	$ 1.3	$ 3.3	$ 3.6	$ 2.0	$ 5.2	$ 4.1	$ 2.5	$ 5.9	$ 2.3	$ 1.5	$ 3.4	$ 5.6	$ 3.5	$ 8.5	$ 3.3	$ 2.1	$ 5.3
2017	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.8	$ 0.4	$ 0.2	$ 0.6	$ 2.2	$ 1.2	$ 3.2	$ 3.5	$ 2.0	$ 5.1	$ 4.0	$ 2.5	$ 5.7	$ 2.3	$ 1.4	$ 3.3	$ 5.4	$ 3.4	$ 8.3	$ 3.2	$ 2.1	$ 5.1
2018	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.8	$ 0.4	$ 0.2	$ 0.6	$ 2.2	$ 1.2	$ 3.1	$ 3.4	$ 1.9	$ 4.9	$ 3.9	$ 2.4	$ 5.6	$ 2.2	$ 1.4	$ 3.2	$ 5.2	$ 3.3	$ 8.0	$ 3.2	$ 2.0	$ 5.0
2019	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.7	$ 0.4	$ 0.2	$ 0.6	$ 2.1	$ 1.2	$ 3.0	$ 3.3	$ 1.9	$ 4.8	$ 3.8	$ 2.3	$ 5.4	$ 2.1	$ 1.3	$ 3.1	$ 5.1	$ 3.2	$ 7.8	$ 3.1	$ 1.9	$ 4.8
2020	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.7	$ 0.4	$ 0.2	$ 0.5	$ 2.0	$ 1.1	$ 2.9	$ 3.2	$ 1.8	$ 4.7	$ 3.7	$ 2.3	$ 5.2	$ 2.1	$ 1.3	$ 3.0	$ 4.9	$ 3.2	$ 7.6	$ 3.0	$ 1.9	$ 4.7
2021	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.7	$ 0.4	$ 0.2	$ 0.5	$ 2.0	$ 1.1	$ 2.9	$ 3.1	$ 1.7	$ 4.5	$ 3.5	$ 2.2	$ 5.1	$ 2.0	$ 1.3	$ 2.9	$ 4.8	$ 3.1	$ 7.4	$ 2.9	$ 1.8	$ 4.5
2022	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.7	$ 0.3	$ 0.2	$ 0.5	$ 1.9	$ 1.1	$ 2.8	$ 3.0	$ 1.7	$ 4.4	$ 3.4	$ 2.1	$ 4.9	$ 1.9	$ 1.2	$ 2.8	$ 4.7	$ 3.0	$ 7.1	$ 2.8	$ 1.8	$ 4.4
2023	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.7	$ 0.3	$ 0.2	$ 0.5	$ 1.9	$ 1.0	$ 2.7	$ 2.9	$ 1.6	$ 4.3	$ 3.3	$ 2.1	$ 4.8	$ 1.9	$ 1.2	$ 2.7	$ 4.5	$ 2.9	$ 6.9	$ 2.7	$ 1.7	$ 4.3
2024	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.3	$ 0.2	$ 0.5	$ 1.8	$ 1.0	$ 2.6	$ 2.9	$ 1.6	$ 4.1	$ 3.2	$ 2.0	$ 4.7	$ 1.8	$ 1.1	$ 2.7	$ 4.4	$ 2.8	$ 6.7	$ 2.6	$ 1.7	$ 4.2
2025	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.3	$ 0.2	$ 0.5	$ 1.8	$ 1.0	$ 2.5	$ 2.8	$ 1.6	$ 4.0	$ 3.2	$ 2.0	$ 4.5	$ 1.8	$ 1.1	$ 2.6	$ 4.3	$ 2.7	$ 6.5	$ 2.6	$ 1.6	$ 4.0
2026	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.3	$ 0.2	$ 0.4	$ 1.7	$ 1.0	$ 2.5	$ 2.7	$ 1.5	$ 3.9	$ 3.1	$ 1.9	$ 4.4	$ 1.7	$ 1.1	$ 2.5	$ 4.1	$ 2.6	$ 6.3	$ 2.5	$ 1.6	$ 3.9
2027	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.3	$ 0.2	$ 0.4	$ 1.7	$ 0.9	$ 2.4	$ 2.6	$ 1.5	$ 3.8	$ 3.0	$ 1.8	$ 4.3	$ 1.7	$ 1.0	$ 2.4	$ 4.0	$ 2.6	$ 6.2	$ 2.4	$ 1.5	$ 3.8
2028	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.3	$ 0.2	$ 0.4	$ 1.6	$ 0.9	$ 2.3	$ 2.5	$ 1.4	$ 3.7	$ 2.9	$ 1.8	$ 4.1	$ 1.6	$ 1.0	$ 2.4	$ 3.9	$ 2.5	$ 6.0	$ 2.3	$ 1.5	$ 3.7
2029	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.2	$ 0.6	$ 0.3	$ 0.2	$ 0.4	$ 1.6	$ 0.9	$ 2.3	$ 2.5	$ 1.4	$ 3.6	$ 2.8	$ 1.7	$ 4.0	$ 1.6	$ 1.0	$ 2.3	$ 3.8	$ 2.4	$ 5.8	$ 2.3	$ 1.4	$ 3.6
Total	**$ 2.0**	**$ 1.1**	**$ 3.0**	**$ 8.4**	**$ 4.7**	**$ 12.3**	**$ 6.3**	**$ 3.5**	**$ 9.1**	**$ 34.6**	**$ 19.3**	**$ 50.1**	**$ 54.8**	**$ 30.6**	**$ 79.3**	**$ 64.5**	**$ 40.0**	**$ 92.5**	**$ 37.6**	**$ 23.5**	**$ 54.7**	**$ 92.0**	**$ 58.7**	**$ 141.0**	**$ 55.3**	**$ 35.1**	**$ 87.1**
Ann.	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.5**	**$ 0.3**	**$ 0.7**	**$ 0.4**	**$ 0.2**	**$ 0.5**	**$ 2.0**	**$ 1.1**	**$ 2.9**	**$ 3.1**	**$ 1.8**	**$ 4.6**	**$ 3.7**	**$ 2.3**	**$ 5.3**	**$ 2.2**	**$ 1.4**	**$ 3.1**	**$ 5.3**	**$ 3.4**	**$ 8.1**	**$ 3.2**	**$ 2.0**	**$ 5.0**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.
Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bd Present Value of Non-Treatment Costs at 3% Discount Rate, by System Size
(Surface Water CWSs)

Year	<100 Implementation	<100 IDSE	<100 Monitoring Plans	<100 Monitoring	<100 Operational Evaluation	100-499 Implementation	100-499 IDSE	100-499 Monitoring Plans	100-499 Monitoring	100-499 Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2006	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.1	$ -	$ -	$ -
2007	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -
2008	$ 0.0	$ 0.2	$ 0.0	$ -	$ -	$ 0.1	$ 0.5	$ 0.0	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.1	$ -	$ 0.1	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2013	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2014	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2015	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2016	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2017	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2018	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2019	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2020	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2021	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2022	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2023	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2024	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2025	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2026	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2027	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2028	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2029	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0
Total	**$ 0.2**	**$ 0.4**	**$ 0.1**	**$ (0.5)**	**$ 0.0**	**$ 0.4**	**$ 0.8**	**$ 0.1**	**$ (1.1)**	**$ 0.0**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.0)**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.1)**	**$ 0.0**

Year	500-999 Implementation	500-999 IDSE	500-999 Monitoring Plans	500-999 Monitoring	500-999 Operational Evaluation	1,000-3,300 Implementation	1,000-3,300 IDSE	1,000-3,300 Monitoring Plans	1,000-3,300 Monitoring	1,000-3,300 Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2006	$ 0.1	$ 0.3	$ -	$ -	$ -	$ 0.2	$ 0.6	$ -	$ -	$ -
2007	$ -	$ 0.7	$ 0.0	$ -	$ -	$ -	$ 1.3	$ 0.0	$ -	$ -
2008	$ 0.0	$ 1.7	$ 0.0	$ -	$ -	$ 0.1	$ 3.0	$ 0.1	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.1	$ -	$ 0.2	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.2)	$ -
2013	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2014	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2015	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2016	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2017	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2018	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2019	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2020	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.4)	$ 0.0
2021	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2022	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2023	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2024	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2025	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2026	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2027	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2028	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
2029	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ (0.3)	$ 0.0
Total	**$ 0.3**	**$ 2.7**	**$ 0.2**	**$ (3.5)**	**$ 0.0**	**$ 0.6**	**$ 4.8**	**$ 0.3**	**$ (6.1)**	**$ 0.1**
Ann.	**$ 0.0**	**$ 0.2**	**$ 0.0**	**$ (0.2)**	**$ 0.0**	**$ 0.0**	**$ 0.3**	**$ 0.0**	**$ (0.4)**	**$ 0.0**

Year	3,301-9,999 Implementation	3,301-9,999 IDSE	3,301-9,999 Monitoring Plans	3,301-9,999 Monitoring	3,301-9,999 Operational Evaluation
2005	$ 0.1	$ -	$ -	$ -	$ -
2006	$ 0.2	$ 0.8	$ -	$ -	$ -
2007	$ -	$ 2.0	$ 0.0	$ -	$ -
2008	$ 0.1	$ 4.5	$ 0.1	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.4	$ -
2013	$ -	$ -	$ -	$ 0.7	$ 0.0
2014	$ -	$ -	$ -	$ 0.7	$ 0.0
2015	$ -	$ -	$ -	$ 0.7	$ 0.0
2016	$ -	$ -	$ -	$ 0.6	$ 0.0
2017	$ -	$ -	$ -	$ 0.6	$ 0.0
2018	$ -	$ -	$ -	$ 0.6	$ 0.0
2019	$ -	$ -	$ -	$ 0.6	$ 0.0
2020	$ -	$ -	$ -	$ 0.6	$ 0.0
2021	$ -	$ -	$ -	$ 0.6	$ 0.0
2022	$ -	$ -	$ -	$ 0.5	$ 0.0
2023	$ -	$ -	$ -	$ 0.5	$ 0.0
2024	$ -	$ -	$ -	$ 0.5	$ 0.0
2025	$ -	$ -	$ -	$ 0.5	$ 0.0
2026	$ -	$ -	$ -	$ 0.5	$ 0.0
2027	$ -	$ -	$ -	$ 0.5	$ 0.0
2028	$ -	$ -	$ -	$ 0.5	$ 0.0
2029	$ -	$ -	$ -	$ 0.4	$ 0.0
Total	**$ 0.5**	**$ 7.3**	**$ 0.2**	**$ 10.0**	**$ 0.2**
Ann.	**$ 0.0**	**$ 0.4**	**$ 0.0**	**$ 0.6**	**$ 0.0**

Year	10,000-49,999 Implementation	10,000-49,999 IDSE	10,000-49,999 Monitoring Plans	10,000-49,999 Monitoring	10,000-49,999 Operation Evaluation	50,000-99,999 Implementation	50,000-99,999 IDSE	50,000-99,999 Monitoring Plans	50,000-99,999 Monitoring	50,000-99,999 Operation Evaluation
2005	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2006	$ 0.3	$ 3.5	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -
2007	$ -	$ 8.5	$ 0.1	$ -	$ -	$ -	$ 4.5	$ 0.0	$ -	$ -
2008	$ 0.2	$ 3.8	$ 0.2	$ -	$ -	$ 0.1	$ -	$ 0.1	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.1	$ -
2012	$ -	$ -	$ -	$ (0.9)	$ -	$ -	$ -	$ -	$ 0.2	$ 0.0
2013	$ -	$ -	$ -	$ (1.8)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2014	$ -	$ -	$ -	$ (1.8)	$ 0.1	$ -	$ -	$ -	$ 0.2	$ 0.0
2015	$ -	$ -	$ -	$ (1.7)	$ 0.1	$ -	$ -	$ -	$ 0.2	$ 0.0
2016	$ -	$ -	$ -	$ (1.7)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2017	$ -	$ -	$ -	$ (1.6)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2018	$ -	$ -	$ -	$ (1.6)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2019	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2020	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2021	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2022	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2023	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2024	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2025	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2026	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0
2027	$ -	$ -	$ -	$ (1.2)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2028	$ -	$ -	$ -	$ (1.2)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2029	$ -	$ -	$ -	$ (1.1)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
Total	**$ 1.1**	**$ 15.8**	**$ 0.4**	**$ (26.0)**	**$ 1.0**	**$ 0.2**	**$ 5.7**	**$ 0.1**	**$ 2.4**	**$ 0.4**
Ann.	**$ 0.1**	**$ 0.9**	**$ 0.0**	**$ (1.5)**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ 0.0**	**$ 0.1**	**$ 0.0**

Year	100,000-999,999 Implementation	100,000-999,999 IDSE	100,000-999,999 Monitoring Plans	100,000-999,999 Monitoring	100,000-999,999 Operation Evaluation	1,000,000+ Implementation	1,000,000+ IDSE	1,000,000+ Monitoring Plans	1,000,000+ Monitoring	1,000,000+ Operation Evaluation
2005	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ -	$ 2.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -
2007	$ -	$ 2.7	$ 0.0	$ -	$ -	$ -	$ 0.3	$ 0.0	$ -	$ -
2008	$ 0.1	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -
2012	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2013	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2014	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2015	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2016	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2017	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2018	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2019	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2020	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2021	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2022	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2023	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2024	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2025	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2026	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2027	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2028	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
2029	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
Total	**$ 0.2**	**$ 5.5**	**$ 0.1**	**$ 3.2**	**$ 0.4**	**$ 0.0**	**$ 0.7**	**$ 0.0**	**$ 0.4**	**$ 0.1**
Ann.	**$ 0.0**	**$ 0.3**	**$ 0.0**	**$ 0.2**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2be Present Value of Total Costs at 3% Discount Rate, by System Size

(Surface Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2006	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2008	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2009	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.1	$ 0.4	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2010	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2011	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.1	$ 0.1	$ -	$ -	$ -
2012	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.5	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.1	$ 0.1	$ -	$ -	$ -
2013	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.5	$ 0.2	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.5	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.5	$ 0.2	$ 0.1	$ 0.3	$ 0.4	$ 0.2	$ 0.5	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 1.8**	**$ 1.0**	**$ 2.6**	**$ 4.5**	**$ 2.5**	**$ 6.6**	**$ 2.1**	**$ 1.1**	**$ 3.0**	**$ 4.2**	**$ 2.3**	**$ 6.1**	**$ 2.4**	**$ 1.4**	**$ 3.3**	**$ 0.8**	**$ 0.5**	**$ 1.1**	**$ -**	**$ -**	**$ -**	**$ 0.6**	**$ 0.4**	**$ 0.8**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.3**	**$ 0.1**	**$ 0.4**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.2**	**$ 0.1**	**$ 0.4**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bf Present Value of Capital Costs at 3% Discount Rate, by System Size
(Surface Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.4	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2010	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2011	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2012	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2013	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.5**	**$ 0.3**	**$ 0.8**	**$ 1.0**	**$ 0.6**	**$ 1.5**	**$ 0.7**	**$ 0.4**	**$ 1.0**	**$ 1.5**	**$ 0.8**	**$ 2.2**	**$ 1.0**	**$ 0.6**	**$ 1.5**	**$ 0.4**	**$ 0.2**	**$ 0.6**	**$ -**	**$ -**	**$ -**	**$ 0.3**	**$ 0.2**	**$ 0.5**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bg Present Value of O&M Costs at 3% Discount Rate, by System Size
(Surface Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 1.2**	**$ 0.7**	**$ 1.8**	**$ 3.4**	**$ 1.9**	**$ 5.0**	**$ 1.4**	**$ 0.8**	**$ 2.0**	**$ 2.7**	**$ 1.5**	**$ 3.9**	**$ 1.1**	**$ 0.6**	**$ 1.6**	**$ 0.3**	**$ 0.2**	**$ 0.4**	**$ -**	**$ -**	**$ -**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.
Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bh Present Value of Non-Treatment Costs at 3% Discount Rate, by System Size
(Surface Water NTNCWSs)

Year	<100					100-499					500-999					1,000-3,300					3,301-9,999				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -
Total	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.1**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.3**	**$ -**
Ann.	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**

Year	10,000-49,999					50,000-99,999					100,000-999,999					1,000,000+				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ 0.0	0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bi Present Value of Total Costs at 3% Discount Rate, by System Size

(Ground Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
2006	$ 0.7	$ 0.7	$ 0.7	$ 0.9	$ 0.9	$ 0.9	$ 0.4	$ 0.4	$ 0.4	$ 0.5	$ 0.5	$ 0.5	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ -	$ -	$ -	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.7	$ 0.7	$ 0.7	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2008	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 1.7	$ 1.7	$ 1.7	$ 2.0	$ 2.0	$ 2.0	$ 0.9	$ 0.9	$ 0.9	$ 0.9	$ 0.9	$ 0.9	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
2009	$ 1.5	$ 1.3	$ 1.6	$ 4.8	$ 4.1	$ 5.4	$ 3.2	$ 2.8	$ 3.6	$ 5.8	$ 4.9	$ 6.7	$ 8.8	$ 7.2	$ 10.4	$ 9.3	$ 8.4	$ 10.1	$ 2.8	$ 2.5	$ 3.1	$ 6.2	$ 5.5	$ 6.9	$ 0.7	$ 0.6	$ 0.8
2010	$ 1.5	$ 1.3	$ 1.6	$ 5.0	$ 4.3	$ 5.7	$ 2.9	$ 2.5	$ 3.4	$ 5.5	$ 4.6	$ 6.4	$ 8.7	$ 7.1	$ 10.2	$ 9.6	$ 8.7	$ 10.5	$ 2.9	$ 2.6	$ 3.2	$ 6.6	$ 5.9	$ 7.3	$ 0.8	$ 0.7	$ 0.9
2011	$ 1.3	$ 1.1	$ 1.4	$ 4.9	$ 4.2	$ 5.6	$ 2.9	$ 2.5	$ 3.3	$ 5.5	$ 4.6	$ 6.4	$ 8.6	$ 7.1	$ 10.2	$ 9.9	$ 9.0	$ 10.8	$ 3.1	$ 2.8	$ 3.4	$ 6.9	$ 6.2	$ 7.6	$ 0.8	$ 0.7	$ 0.9
2012	$ 1.4	$ 1.2	$ 1.5	$ 5.3	$ 4.5	$ 6.0	$ 3.3	$ 2.9	$ 3.7	$ 6.0	$ 5.0	$ 6.9	$ 8.8	$ 7.3	$ 10.3	$ 10.4	$ 9.5	$ 11.3	$ 3.2	$ 2.9	$ 3.5	$ 7.2	$ 6.5	$ 8.0	$ 0.9	$ 0.8	$ 1.0
2013	$ 1.5	$ 1.3	$ 1.6	$ 5.6	$ 4.8	$ 6.3	$ 3.6	$ 3.2	$ 4.1	$ 6.4	$ 5.5	$ 7.3	$ 8.9	$ 7.4	$ 10.5	$ 10.8	$ 9.9	$ 11.7	$ 2.1	$ 1.9	$ 2.3	$ 2.0	$ 1.9	$ 2.2	$ 0.3	$ 0.3	$ 0.3
2014	$ 1.5	$ 1.4	$ 1.7	$ 5.8	$ 5.1	$ 6.6	$ 3.7	$ 3.3	$ 4.2	$ 6.5	$ 5.6	$ 7.5	$ 9.0	$ 7.5	$ 10.5	$ 7.3	$ 6.7	$ 7.8	$ 0.9	$ 0.9	$ 1.0	$ 2.0	$ 1.8	$ 2.1	$ 0.3	$ 0.3	$ 0.3
2015	$ 1.2	$ 1.0	$ 1.3	$ 4.3	$ 3.8	$ 4.7	$ 2.7	$ 2.5	$ 3.0	$ 4.5	$ 4.0	$ 5.1	$ 5.4	$ 4.6	$ 6.2	$ 3.6	$ 3.4	$ 3.8	$ 0.9	$ 0.8	$ 1.0	$ 1.9	$ 1.8	$ 2.1	$ 0.3	$ 0.3	$ 0.3
2016	$ 0.7	$ 0.7	$ 0.8	$ 2.6	$ 2.4	$ 2.8	$ 1.7	$ 1.6	$ 1.8	$ 2.5	$ 2.3	$ 2.7	$ 1.9	$ 1.8	$ 2.1	$ 3.5	$ 3.3	$ 3.7	$ 0.9	$ 0.8	$ 0.9	$ 1.9	$ 1.7	$ 2.0	$ 0.3	$ 0.3	$ 0.3
2017	$ 0.7	$ 0.7	$ 0.8	$ 2.5	$ 2.3	$ 2.7	$ 1.7	$ 1.6	$ 1.8	$ 2.4	$ 2.2	$ 2.6	$ 1.9	$ 1.7	$ 2.0	$ 3.4	$ 3.2	$ 3.6	$ 0.9	$ 0.8	$ 0.9	$ 1.8	$ 1.7	$ 1.9	$ 0.3	$ 0.2	$ 0.3
2018	$ 0.7	$ 0.6	$ 0.7	$ 2.4	$ 2.2	$ 2.6	$ 1.6	$ 1.5	$ 1.7	$ 2.4	$ 2.2	$ 2.5	$ 1.8	$ 1.7	$ 2.0	$ 3.3	$ 3.1	$ 3.5	$ 0.8	$ 0.8	$ 0.9	$ 1.8	$ 1.6	$ 1.9	$ 0.3	$ 0.2	$ 0.3
2019	$ 0.7	$ 0.6	$ 0.7	$ 2.4	$ 2.2	$ 2.6	$ 1.6	$ 1.5	$ 1.7	$ 2.3	$ 2.1	$ 2.4	$ 1.8	$ 1.6	$ 1.9	$ 3.2	$ 3.0	$ 3.4	$ 0.8	$ 0.8	$ 0.9	$ 1.7	$ 1.6	$ 1.8	$ 0.3	$ 0.2	$ 0.3
2020	$ 0.7	$ 0.6	$ 0.7	$ 2.3	$ 2.1	$ 2.5	$ 1.5	$ 1.4	$ 1.6	$ 2.2	$ 2.1	$ 2.4	$ 1.7	$ 1.6	$ 1.9	$ 3.1	$ 3.0	$ 3.3	$ 0.8	$ 0.7	$ 0.8	$ 1.7	$ 1.5	$ 1.8	$ 0.2	$ 0.2	$ 0.3
2021	$ 0.6	$ 0.6	$ 0.7	$ 2.2	$ 2.1	$ 2.4	$ 1.5	$ 1.4	$ 1.6	$ 2.2	$ 2.0	$ 2.3	$ 1.7	$ 1.5	$ 1.8	$ 3.0	$ 2.9	$ 3.2	$ 0.8	$ 0.7	$ 0.8	$ 1.6	$ 1.5	$ 1.7	$ 0.2	$ 0.2	$ 0.3
2022	$ 0.6	$ 0.6	$ 0.7	$ 2.2	$ 2.0	$ 2.3	$ 1.4	$ 1.3	$ 1.5	$ 2.1	$ 1.9	$ 2.2	$ 1.6	$ 1.5	$ 1.7	$ 2.9	$ 2.8	$ 3.1	$ 0.7	$ 0.7	$ 0.8	$ 1.6	$ 1.5	$ 1.7	$ 0.2	$ 0.2	$ 0.3
2023	$ 0.6	$ 0.6	$ 0.6	$ 2.1	$ 1.9	$ 2.3	$ 1.4	$ 1.3	$ 1.5	$ 2.0	$ 1.9	$ 2.2	$ 1.6	$ 1.5	$ 1.7	$ 2.9	$ 2.7	$ 3.0	$ 0.7	$ 0.7	$ 0.8	$ 1.5	$ 1.4	$ 1.6	$ 0.2	$ 0.2	$ 0.2
2024	$ 0.6	$ 0.5	$ 0.6	$ 2.0	$ 1.9	$ 2.2	$ 1.4	$ 1.3	$ 1.4	$ 2.0	$ 1.8	$ 2.1	$ 1.5	$ 1.4	$ 1.6	$ 2.8	$ 2.6	$ 2.9	$ 0.7	$ 0.7	$ 0.7	$ 1.5	$ 1.4	$ 1.6	$ 0.2	$ 0.2	$ 0.2
2025	$ 0.6	$ 0.5	$ 0.6	$ 2.0	$ 1.8	$ 2.1	$ 1.3	$ 1.2	$ 1.4	$ 1.9	$ 1.8	$ 2.1	$ 1.5	$ 1.4	$ 1.6	$ 2.7	$ 2.5	$ 2.8	$ 0.7	$ 0.6	$ 0.7	$ 1.4	$ 1.3	$ 1.5	$ 0.2	$ 0.2	$ 0.2
2026	$ 0.5	$ 0.5	$ 0.6	$ 1.9	$ 1.8	$ 2.1	$ 1.3	$ 1.2	$ 1.4	$ 1.9	$ 1.7	$ 2.0	$ 1.4	$ 1.3	$ 1.6	$ 2.6	$ 2.5	$ 2.7	$ 0.7	$ 0.6	$ 0.7	$ 1.4	$ 1.3	$ 1.5	$ 0.2	$ 0.2	$ 0.2
2027	$ 0.5	$ 0.5	$ 0.6	$ 1.9	$ 1.7	$ 2.0	$ 1.2	$ 1.2	$ 1.3	$ 1.8	$ 1.7	$ 1.9	$ 1.4	$ 1.3	$ 1.5	$ 2.5	$ 2.4	$ 2.7	$ 0.6	$ 0.6	$ 0.7	$ 1.3	$ 1.3	$ 1.4	$ 0.2	$ 0.2	$ 0.2
2028	$ 0.5	$ 0.5	$ 0.5	$ 1.8	$ 1.7	$ 2.0	$ 1.2	$ 1.1	$ 1.3	$ 1.8	$ 1.6	$ 1.9	$ 1.4	$ 1.3	$ 1.5	$ 2.5	$ 2.3	$ 2.6	$ 0.6	$ 0.6	$ 0.7	$ 1.3	$ 1.2	$ 1.4	$ 0.2	$ 0.2	$ 0.2
2029	$ 0.5	$ 0.5	$ 0.5	$ 1.8	$ 1.6	$ 1.9	$ 1.2	$ 1.1	$ 1.2	$ 1.7	$ 1.6	$ 1.8	$ 1.3	$ 1.2	$ 1.4	$ 2.4	$ 2.3	$ 2.5	$ 0.6	$ 0.6	$ 0.6	$ 1.3	$ 1.2	$ 1.4	$ 0.2	$ 0.2	$ 0.2
Total	**$ 19.2**	**$ 17.6**	**$ 20.9**	**$ 66.8**	**$ 59.8**	**$ 73.9**	**$ 44.5**	**$ 40.4**	**$ 48.5**	**$ 71.8**	**$ 63.7**	**$ 80.0**	**$ 81.9**	**$ 70.2**	**$ 93.7**	**$ 103.7**	**$ 96.3**	**$ 111.0**	**$ 26.4**	**$ 24.3**	**$ 28.6**	**$ 54.8**	**$ 50.0**	**$ 59.6**	**$ 7.3**	**$ 6.6**	**$ 8.0**
Ann.	**$ 1.1**	**$ 1.0**	**$ 1.2**	**$ 3.8**	**$ 3.4**	**$ 4.2**	**$ 2.6**	**$ 2.3**	**$ 2.8**	**$ 4.1**	**$ 3.7**	**$ 4.6**	**$ 4.7**	**$ 4.0**	**$ 5.4**	**$ 6.0**	**$ 5.5**	**$ 6.4**	**$ 1.5**	**$ 1.4**	**$ 1.6**	**$ 3.1**	**$ 2.9**	**$ 3.4**	**$ 0.4**	**$ 0.4**	**$ 0.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bj Present Value of Capital Costs at 3% Discount Rate, by System Size
(Ground Water CWSs)

Year	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 1.1	$ 0.9	$ 1.2	$ 4.3	$ 3.6	$ 4.9	$ 2.6	$ 2.2	$ 3.0	$ 5.1	$ 4.2	$ 6.0	$ 8.5	$ 6.9	$ 10.1	$ 9.0	$ 8.1	$ 9.9	$ 2.8	$ 2.5	$ 3.1	$ 6.2	$ 5.5	$ 6.9	$ 0.7	$ 0.6	$ 0.8
2010	$ 1.0	$ 0.9	$ 1.2	$ 4.2	$ 3.5	$ 4.8	$ 2.5	$ 2.1	$ 2.9	$ 4.9	$ 4.0	$ 5.8	$ 8.2	$ 6.7	$ 9.8	$ 8.7	$ 7.9	$ 9.6	$ 2.7	$ 2.4	$ 3.0	$ 6.0	$ 5.4	$ 6.7	$ 0.7	$ 0.6	$ 0.8
2011	$ 1.0	$ 0.9	$ 1.2	$ 4.0	$ 3.4	$ 4.7	$ 2.5	$ 2.1	$ 2.8	$ 4.8	$ 3.9	$ 5.7	$ 8.0	$ 6.5	$ 9.5	$ 8.5	$ 7.7	$ 9.3	$ 2.6	$ 2.3	$ 2.9	$ 5.9	$ 5.2	$ 6.5	$ 0.7	$ 0.6	$ 0.7
2012	$ 1.0	$ 0.8	$ 1.1	$ 3.9	$ 3.3	$ 4.5	$ 2.4	$ 2.0	$ 2.8	$ 4.6	$ 3.8	$ 5.5	$ 7.8	$ 6.3	$ 9.2	$ 8.2	$ 7.4	$ 9.0	$ 2.5	$ 2.3	$ 2.8	$ 5.7	$ 5.1	$ 6.3	$ 0.6	$ 0.6	$ 0.7
2013	$ 1.0	$ 0.8	$ 1.1	$ 3.8	$ 3.2	$ 4.4	$ 2.3	$ 1.9	$ 2.7	$ 4.5	$ 3.7	$ 5.3	$ 7.5	$ 6.1	$ 9.0	$ 8.0	$ 7.2	$ 8.8	$ 1.2	$ 1.1	$ 1.4	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.9	$ 0.8	$ 1.1	$ 3.7	$ 3.1	$ 4.3	$ 2.2	$ 1.9	$ 2.6	$ 4.4	$ 3.6	$ 5.2	$ 7.3	$ 5.9	$ 8.7	$ 3.9	$ 3.5	$ 4.3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.5	$ 0.4	$ 0.5	$ 1.8	$ 1.5	$ 2.1	$ 1.1	$ 0.9	$ 1.3	$ 2.1	$ 1.7	$ 2.5	$ 3.6	$ 2.9	$ 4.2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 6.4**	**$ 5.6**	**$ 7.4**	**$ 25.6**	**$ 21.7**	**$ 29.7**	**$ 15.6**	**$ 13.1**	**$ 18.0**	**$ 30.5**	**$ 25.0**	**$ 36.0**	**$ 50.9**	**$ 41.4**	**$ 60.5**	**$ 46.3**	**$ 41.8**	**$ 50.8**	**$ 11.9**	**$ 10.6**	**$ 13.1**	**$ 23.8**	**$ 21.2**	**$ 26.4**	**$ 2.7**	**$ 2.4**	**$ 3.0**
Ann.	**$ 0.4**	**$ 0.3**	**$ 0.4**	**$ 1.5**	**$ 1.2**	**$ 1.7**	**$ 0.9**	**$ 0.8**	**$ 1.0**	**$ 1.7**	**$ 1.4**	**$ 2.1**	**$ 2.9**	**$ 2.4**	**$ 3.5**	**$ 2.7**	**$ 2.4**	**$ 2.9**	**$ 0.7**	**$ 0.6**	**$ 0.8**	**$ 1.4**	**$ 1.2**	**$ 1.5**	**$ 0.2**	**$ 0.1**	**$ 0.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bk Present Value of O&M Costs at 3% Discount Rate, by System Size
(Ground Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.1	$ 0.1	$ 0.1	$ 0.5	$ 0.4	$ 0.5	$ 0.2	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.3	$ 0.3	$ 0.3	$ 0.7	$ 0.7	$ 0.8	$ 0.2	$ 0.2	$ 0.2	$ 0.6	$ 0.5	$ 0.6	$ 0.1	$ 0.1	$ 0.1
2011	$ 0.2	$ 0.2	$ 0.3	$ 0.9	$ 0.8	$ 1.0	$ 0.5	$ 0.4	$ 0.5	$ 0.7	$ 0.7	$ 0.8	$ 0.6	$ 0.6	$ 0.7	$ 1.4	$ 1.4	$ 1.5	$ 0.4	$ 0.4	$ 0.5	$ 1.1	$ 1.0	$ 1.2	$ 0.2	$ 0.2	$ 0.2
2012	$ 0.3	$ 0.3	$ 0.4	$ 1.3	$ 1.2	$ 1.4	$ 0.7	$ 0.6	$ 0.7	$ 1.1	$ 1.0	$ 1.2	$ 0.9	$ 0.8	$ 1.0	$ 2.1	$ 2.0	$ 2.2	$ 0.7	$ 0.6	$ 0.7	$ 1.6	$ 1.5	$ 1.7	$ 0.2	$ 0.2	$ 0.3
2013	$ 0.4	$ 0.4	$ 0.5	$ 1.7	$ 1.5	$ 1.8	$ 0.9	$ 0.8	$ 1.0	$ 1.4	$ 1.3	$ 1.5	$ 1.2	$ 1.1	$ 1.3	$ 2.7	$ 2.6	$ 2.9	$ 0.8	$ 0.8	$ 0.9	$ 2.1	$ 2.0	$ 2.3	$ 0.3	$ 0.3	$ 0.3
2014	$ 0.5	$ 0.5	$ 0.6	$ 2.0	$ 1.9	$ 2.2	$ 1.1	$ 1.0	$ 1.2	$ 1.7	$ 1.5	$ 1.8	$ 1.4	$ 1.3	$ 1.5	$ 3.3	$ 3.1	$ 3.5	$ 0.9	$ 0.9	$ 1.0	$ 2.0	$ 1.9	$ 2.2	$ 0.3	$ 0.3	$ 0.3
2015	$ 0.6	$ 0.6	$ 0.7	$ 2.4	$ 2.2	$ 2.6	$ 1.3	$ 1.2	$ 1.4	$ 1.9	$ 1.8	$ 2.1	$ 1.6	$ 1.5	$ 1.8	$ 3.5	$ 3.3	$ 3.7	$ 0.9	$ 0.8	$ 1.0	$ 2.0	$ 1.8	$ 2.1	$ 0.3	$ 0.3	$ 0.3
2016	$ 0.7	$ 0.6	$ 0.7	$ 2.5	$ 2.3	$ 2.7	$ 1.3	$ 1.2	$ 1.4	$ 2.0	$ 1.9	$ 2.2	$ 1.7	$ 1.6	$ 1.9	$ 3.4	$ 3.2	$ 3.6	$ 0.9	$ 0.8	$ 0.9	$ 1.9	$ 1.8	$ 2.1	$ 0.3	$ 0.3	$ 0.3
2017	$ 0.6	$ 0.6	$ 0.7	$ 2.4	$ 2.2	$ 2.6	$ 1.3	$ 1.2	$ 1.4	$ 2.0	$ 1.8	$ 2.2	$ 1.7	$ 1.5	$ 1.8	$ 3.3	$ 3.1	$ 3.5	$ 0.8	$ 0.8	$ 0.9	$ 1.9	$ 1.7	$ 2.0	$ 0.3	$ 0.3	$ 0.3
2018	$ 0.6	$ 0.6	$ 0.7	$ 2.4	$ 2.2	$ 2.6	$ 1.3	$ 1.2	$ 1.4	$ 1.9	$ 1.8	$ 2.1	$ 1.6	$ 1.5	$ 1.8	$ 3.2	$ 3.1	$ 3.4	$ 0.8	$ 0.8	$ 0.9	$ 1.8	$ 1.7	$ 1.9	$ 0.3	$ 0.3	$ 0.3
2019	$ 0.6	$ 0.6	$ 0.7	$ 2.3	$ 2.1	$ 2.5	$ 1.2	$ 1.1	$ 1.3	$ 1.9	$ 1.7	$ 2.0	$ 1.6	$ 1.5	$ 1.7	$ 3.1	$ 3.0	$ 3.3	$ 0.8	$ 0.7	$ 0.8	$ 1.8	$ 1.6	$ 1.9	$ 0.3	$ 0.2	$ 0.3
2020	$ 0.6	$ 0.5	$ 0.6	$ 2.2	$ 2.0	$ 2.4	$ 1.2	$ 1.1	$ 1.3	$ 1.8	$ 1.7	$ 2.0	$ 1.5	$ 1.4	$ 1.7	$ 3.0	$ 2.9	$ 3.2	$ 0.8	$ 0.7	$ 0.8	$ 1.7	$ 1.6	$ 1.8	$ 0.3	$ 0.2	$ 0.3
2021	$ 0.6	$ 0.5	$ 0.6	$ 2.2	$ 2.0	$ 2.3	$ 1.2	$ 1.1	$ 1.2	$ 1.8	$ 1.6	$ 1.9	$ 1.5	$ 1.4	$ 1.6	$ 3.0	$ 2.8	$ 3.1	$ 0.8	$ 0.7	$ 0.8	$ 1.7	$ 1.5	$ 1.8	$ 0.3	$ 0.2	$ 0.3
2022	$ 0.6	$ 0.5	$ 0.6	$ 2.1	$ 1.9	$ 2.3	$ 1.1	$ 1.0	$ 1.2	$ 1.7	$ 1.6	$ 1.9	$ 1.5	$ 1.3	$ 1.6	$ 2.9	$ 2.7	$ 3.0	$ 0.7	$ 0.7	$ 0.8	$ 1.6	$ 1.5	$ 1.7	$ 0.2	$ 0.2	$ 0.3
2023	$ 0.5	$ 0.5	$ 0.6	$ 2.0	$ 1.9	$ 2.2	$ 1.1	$ 1.0	$ 1.2	$ 1.7	$ 1.5	$ 1.8	$ 1.4	$ 1.3	$ 1.5	$ 2.8	$ 2.6	$ 2.9	$ 0.7	$ 0.7	$ 0.8	$ 1.6	$ 1.5	$ 1.7	$ 0.2	$ 0.2	$ 0.3
2024	$ 0.5	$ 0.5	$ 0.6	$ 2.0	$ 1.8	$ 2.1	$ 1.1	$ 1.0	$ 1.1	$ 1.6	$ 1.5	$ 1.8	$ 1.4	$ 1.3	$ 1.5	$ 2.7	$ 2.6	$ 2.8	$ 0.7	$ 0.6	$ 0.7	$ 1.5	$ 1.4	$ 1.6	$ 0.2	$ 0.2	$ 0.2
2025	$ 0.5	$ 0.5	$ 0.5	$ 1.9	$ 1.8	$ 2.1	$ 1.0	$ 0.9	$ 1.1	$ 1.6	$ 1.4	$ 1.7	$ 1.3	$ 1.2	$ 1.4	$ 2.6	$ 2.5	$ 2.8	$ 0.7	$ 0.6	$ 0.7	$ 1.5	$ 1.4	$ 1.6	$ 0.2	$ 0.2	$ 0.2
2026	$ 0.5	$ 0.5	$ 0.5	$ 1.9	$ 1.7	$ 2.0	$ 1.0	$ 0.9	$ 1.1	$ 1.5	$ 1.4	$ 1.7	$ 1.3	$ 1.2	$ 1.4	$ 2.5	$ 2.4	$ 2.7	$ 0.6	$ 0.6	$ 0.7	$ 1.4	$ 1.3	$ 1.5	$ 0.2	$ 0.2	$ 0.2
2027	$ 0.5	$ 0.4	$ 0.5	$ 1.8	$ 1.7	$ 2.0	$ 1.0	$ 0.9	$ 1.0	$ 1.5	$ 1.3	$ 1.6	$ 1.3	$ 1.1	$ 1.4	$ 2.5	$ 2.3	$ 2.6	$ 0.6	$ 0.6	$ 0.7	$ 1.4	$ 1.3	$ 1.5	$ 0.2	$ 0.2	$ 0.2
2028	$ 0.5	$ 0.4	$ 0.5	$ 1.8	$ 1.6	$ 1.9	$ 0.9	$ 0.9	$ 1.0	$ 1.4	$ 1.3	$ 1.6	$ 1.2	$ 1.1	$ 1.3	$ 2.4	$ 2.3	$ 2.5	$ 0.6	$ 0.6	$ 0.6	$ 1.4	$ 1.3	$ 1.4	$ 0.2	$ 0.2	$ 0.2
2029	$ 0.5	$ 0.4	$ 0.5	$ 1.7	$ 1.6	$ 1.8	$ 0.9	$ 0.8	$ 1.0	$ 1.4	$ 1.3	$ 1.5	$ 1.2	$ 1.1	$ 1.3	$ 2.3	$ 2.2	$ 2.5	$ 0.6	$ 0.6	$ 0.6	$ 1.3	$ 1.2	$ 1.4	$ 0.2	$ 0.2	$ 0.2
Total	**$ 10.1**	**$ 9.4**	**$ 10.8**	**$ 37.9**	**$ 34.9**	**$ 41.0**	**$ 20.2**	**$ 18.6**	**$ 21.8**	**$ 30.9**	**$ 28.1**	**$ 33.6**	**$ 26.2**	**$ 24.0**	**$ 28.4**	**$ 53.7**	**$ 50.8**	**$ 56.6**	**$ 14.1**	**$ 13.2**	**$ 15.0**	**$ 31.9**	**$ 29.7**	**$ 34.1**	**$ 4.9**	**$ 4.5**	**$ 5.2**
Ann.	**$ 0.6**	**$ 0.5**	**$ 0.6**	**$ 2.2**	**$ 2.0**	**$ 2.4**	**$ 1.2**	**$ 1.1**	**$ 1.3**	**$ 1.8**	**$ 1.6**	**$ 1.9**	**$ 1.5**	**$ 1.4**	**$ 1.6**	**$ 3.1**	**$ 2.9**	**$ 3.3**	**$ 0.8**	**$ 0.8**	**$ 0.9**	**$ 1.8**	**$ 1.7**	**$ 2.0**	**$ 0.3**	**$ 0.3**	**$ 0.3**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bl Present Value of Non-Treatment Costs at 3% Discount Rate, by System Size
(Ground Water CWSs)

	<100					100-499					500-999					1,000-3,300					3,301-9,999				
Year	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.7	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 1.7	$ -	$ -	$ -	$ 0.0	$ 2.0	$ -	$ -	$ -	$ 0.0	$ 0.9	$ -	$ -	$ -
2009	$ 0.3	$ -	$ 0.1	$ -	$ -	$ 0.4	$ -	$ 0.1	$ -	$ -	$ 0.2	$ -	$ 0.4	$ -	$ -	$ 0.2	$ -	$ 0.5	$ -	$ -	$ 0.1	$ -	$ 0.2	$ -	$ -
2010	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2013	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2014	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2015	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2016	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2017	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2018	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2019	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2020	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2021	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2022	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2023	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2024	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2025	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
Total	**$ 1.4**	**$ 0.2**	**$ 0.1**	**$ 1.0**	**$ -**	**$ 1.7**	**$ 0.2**	**$ 0.1**	**$ 1.3**	**$ -**	**$ 0.8**	**$ 1.7**	**$ 0.4**	**$ 5.8**	**$ -**	**$ 0.9**	**$ 2.0**	**$ 0.5**	**$ 7.0**	**$ -**	**$ 0.4**	**$ 0.9**	**$ 0.2**	**$ 3.2**	**$ -**
Ann.	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.4**	**$ -**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.2**	**$ -**

	10,000-49,999					50,000-99,999					100,000-999,999					1,000,000+				
Year	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -
2007	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -
2008	$ 0.0	$ 0.7	$ 0.1	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2009	$ 0.2	$ -	$ 0.1	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2013	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2014	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2015	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2016	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2017	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2018	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2019	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2020	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2021	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2022	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2023	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2024	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2025	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2026	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2027	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2028	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2029	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
Total	**$ 0.7**	**$ 1.4**	**$ 0.3**	**$ 1.2**	**$ -**	**$ 0.1**	**$ 0.2**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.2**	**$ 0.0**	**$ (1.1)**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.3)**	**$ -**
Ann.	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.1)**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.0)**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bm Present Value of Total Costs at 3% Discount Rate, by System Size

(Ground Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2006	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$-	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2008	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2009	$ 0.6	$ 0.5	$ 0.6	$ 0.8	$ 0.7	$ 0.9	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2010	$ 0.5	$ 0.5	$ 0.6	$ 0.8	$ 0.7	$ 0.9	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.5	$ 0.4	$ 0.5	$ 0.7	$ 0.6	$ 0.9	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.6	$ 0.5	$ 0.6	$ 0.8	$ 0.7	$ 1.0	$ 0.5	$ 0.4	$ 0.5	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.7	$ 0.6	$ 0.7	$ 0.9	$ 0.8	$ 1.1	$ 0.6	$ 0.5	$ 0.6	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.7	$ 0.6	$ 0.8	$ 1.0	$ 0.9	$ 1.1	$ 0.6	$ 0.5	$ 0.6	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.5	$ 0.5	$ 0.6	$ 0.7	$ 0.7	$ 0.8	$ 0.5	$ 0.4	$ 0.5	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.4	$ 0.4	$ 0.4	$ 0.5	$ 0.4	$ 0.5	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.4	$ 0.3	$ 0.4	$ 0.5	$ 0.4	$ 0.5	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.4	$ 0.3	$ 0.4	$ 0.5	$ 0.4	$ 0.5	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.5	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.5	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.3	$ 0.3	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.3	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.3	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 8.6**	**$ 8.0**	**$ 9.3**	**$ 11.6**	**$ 10.5**	**$ 12.6**	**$ 7.1**	**$ 6.6**	**$ 7.6**	**$ 3.5**	**$ 3.2**	**$ 3.8**	**$ 0.6**	**$ 0.5**	**$ 0.7**	**$ 0.3**	**$ 0.3**	**$ 0.3**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.5**	**$ 0.5**	**$ 0.5**	**$ 0.7**	**$ 0.6**	**$ 0.7**	**$ 0.4**	**$ 0.4**	**$ 0.4**	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bn Present Value of Capital Costs at 3% Discount Rate, by System Size
(Ground Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.4	$ 0.4	$ 0.5	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2010	$ 0.4	$ 0.3	$ 0.5	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.4	$ 0.3	$ 0.4	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.3	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.4	$ 0.3	$ 0.4	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.4	$ 0.3	$ 0.4	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.4	$ 0.3	$ 0.4	$ 0.6	$ 0.5	$ 0.6	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.2	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 2.5**	**$ 2.1**	**$ 2.8**	**$ 3.9**	**$ 3.3**	**$ 4.5**	**$ 1.9**	**$ 1.6**	**$ 2.2**	**$ 1.2**	**$ 1.0**	**$ 1.5**	**$ 0.4**	**$ 0.3**	**$ 0.4**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.3**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.
Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bo Present Value of O&M Costs at 3% Discount Rate, by System Size
(Ground Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.2	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.3	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.2	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.2	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.4	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.4	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 3.8**	**$ 3.6**	**$ 4.1**	**$ 5.7**	**$ 5.2**	**$ 6.2**	**$ 2.4**	**$ 2.2**	**$ 2.6**	**$ 1.1**	**$ 1.0**	**$ 1.1**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.3**	**$ 0.3**	**$ 0.4**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bp Present Value of Non-Treatment Costs at 3% Discount Rate, by System Size
(Ground Water NTNCWSs)

	<100					100-499					500-999					1,000-3,300					3,301-9,999				
Year	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2013	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2014	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2015	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2016	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2017	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2018	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2019	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2020	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2021	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2022	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2023	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2024	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2025	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2026	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2027	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2028	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2029	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
Total	**$ 0.4**	**$ -**	**$ 0.1**	**$ 1.8**	**$ -**	**$ 0.4**	**$ -**	**$ 0.1**	**$ 1.6**	**$ -**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 2.7**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 1.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**
Ann.	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.2**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**

	10,000-49,999					50,000-99,999					100,000-999,999					1,000,000+				
Year	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation
2005	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ 0.0	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bq Present Value of Total Costs at 7% Discount Rate, by System Size

(Surface Water CWSs)

Year	<100			100-499			500-999			1,000-3,300		
	Mean Value	90 Percent Confidence Bound		Mean Value	Operational Evaluation		Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1
2006	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.4	$ 0.4	$ 0.4	$ 0.7	$ 0.7	$ 0.7
2007	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.6	$ 0.6	$ 0.6	$ 1.1	$ 1.1	$ 1.1
2008	$ 0.2	$ 0.2	$ 0.2	$ 0.5	$ 0.5	$ 0.5	$ 1.5	$ 1.5	$ 1.5	$ 2.6	$ 2.6	$ 2.6
2009	$ 0.2	$ 0.1	$ 0.2	$ 0.5	$ 0.3	$ 0.6	$ 0.5	$ 0.3	$ 0.7	$ 2.7	$ 1.6	$ 3.9
2010	$ 0.2	$ 0.1	$ 0.2	$ 0.4	$ 0.3	$ 0.6	$ 0.5	$ 0.3	$ 0.7	$ 2.7	$ 1.5	$ 4.0
2011	$ 0.1	$ 0.1	$ 0.2	$ 0.4	$ 0.2	$ 0.7	$ 0.5	$ 0.2	$ 0.7	$ 2.8	$ 1.5	$ 4.1
2012	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.2	$ 0.7	$ 0.4	$ 0.2	$ 0.6	$ 2.7	$ 1.4	$ 4.1
2013	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.2	$ 0.7	$ 0.3	$ 0.1	$ 0.6	$ 2.7	$ 1.3	$ 4.0
2014	$ 0.1	$ 0.1	$ 0.2	$ 0.5	$ 0.2	$ 0.7	$ 0.3	$ 0.1	$ 0.6	$ 2.7	$ 1.4	$ 4.1
2015	$ 0.1	$ 0.0	$ 0.2	$ 0.4	$ 0.2	$ 0.6	$ 0.2	$ 0.1	$ 0.4	$ 2.0	$ 1.0	$ 3.0
2016	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.1	$ 0.0	$ 0.2	$ 1.2	$ 0.5	$ 1.8
2017	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.1	$ 0.0	$ 0.2	$ 1.1	$ 0.5	$ 1.7
2018	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.1	$ 0.0	$ 0.2	$ 1.0	$ 0.5	$ 1.6
2019	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.4	$ 0.1	$ 0.0	$ 0.2	$ 0.9	$ 0.4	$ 1.5
2020	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.2	$ 0.9	$ 0.4	$ 1.4
2021	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.2	$ 0.8	$ 0.4	$ 1.3
2022	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.2	$ 0.8	$ 0.4	$ 1.2
2023	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.7	$ 0.3	$ 1.1
2024	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.7	$ 0.3	$ 1.0
2025	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.6	$ 0.3	$ 1.0
2026	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.6	$ 0.3	$ 0.9
2027	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.5	$ 0.3	$ 0.8
2028	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.5	$ 0.2	$ 0.8
2029	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.5	$ 0.2	$ 0.7
Total	**$ 2.0**	**$ 1.2**	**$ 2.8**	**$ 6.9**	**$ 4.1**	**$ 9.9**	**$ 6.4**	**$ 3.9**	**$ 9.0**	**$ 33.6**	**$ 19.3**	**$ 48.4**
Ann.	**$ 0.2**	**$ 0.1**	**$ 0.2**	**$ 0.6**	**$ 0.3**	**$ 0.8**	**$ 0.5**	**$ 0.3**	**$ 0.8**	**$ 2.9**	**$ 1.7**	**$ 4.1**

Year	3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Mean Value	Operational Evaluation		Mean Value	90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.1	$ 0.1	$ 0.1	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2006	$ 0.9	$ 0.9	$ 0.9	$ 3.4	$ 3.4	$ 3.4	$ 1.1	$ 1.1	$ 1.1	$ 2.5	$ 2.5	$ 2.5	$ 0.3	$ 0.3	$ 0.3
2007	$ 1.7	$ 1.7	$ 1.7	$ 7.4	$ 7.4	$ 7.4	$ 3.9	$ 3.9	$ 3.9	$ 2.4	$ 2.4	$ 2.4	$ 0.3	$ 0.3	$ 0.3
2008	$ 3.9	$ 3.9	$ 3.9	$ 3.5	$ 3.5	$ 3.5	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2009	$ 6.6	$ 3.7	$ 9.6	$ 13.9	$ 7.8	$ 19.2	$ 10.0	$ 5.6	$ 13.9	$ 30.6	$ 16.4	$ 42.9	$ 14.3	$ 7.9	$ 20.1
2010	$ 6.5	$ 3.7	$ 9.6	$ 13.6	$ 7.6	$ 18.9	$ 9.8	$ 5.5	$ 13.6	$ 29.9	$ 16.1	$ 42.1	$ 14.2	$ 7.8	$ 19.9
2011	$ 6.5	$ 3.6	$ 9.6	$ 13.3	$ 7.4	$ 18.5	$ 9.7	$ 5.5	$ 13.4	$ 29.3	$ 16.0	$ 41.3	$ 14.0	$ 7.8	$ 19.8
2012	$ 6.8	$ 3.9	$ 9.9	$ 12.3	$ 6.6	$ 17.4	$ 9.5	$ 5.4	$ 13.2	$ 28.5	$ 15.7	$ 40.3	$ 13.7	$ 7.7	$ 19.6
2013	$ 7.0	$ 4.1	$ 10.1	$ 11.5	$ 5.9	$ 16.5	$ 5.5	$ 3.2	$ 7.6	$ 4.3	$ 2.8	$ 6.5	$ 2.5	$ 1.6	$ 4.0
2014	$ 7.0	$ 4.1	$ 10.0	$ 6.4	$ 3.2	$ 9.4	$ 1.7	$ 1.1	$ 2.5	$ 4.0	$ 2.6	$ 6.1	$ 2.4	$ 1.5	$ 3.7
2015	$ 4.7	$ 2.8	$ 6.7	$ 1.6	$ 0.6	$ 2.8	$ 1.6	$ 1.1	$ 2.3	$ 3.8	$ 2.5	$ 5.7	$ 2.2	$ 1.4	$ 3.5
2016	$ 2.6	$ 1.6	$ 3.6	$ 1.5	$ 0.6	$ 2.6	$ 1.5	$ 1.0	$ 2.2	$ 3.5	$ 2.3	$ 5.3	$ 2.1	$ 1.3	$ 3.2
2017	$ 2.4	$ 1.5	$ 3.4	$ 1.4	$ 0.5	$ 2.4	$ 1.4	$ 0.9	$ 2.0	$ 3.3	$ 2.1	$ 5.0	$ 1.9	$ 1.2	$ 3.0
2018	$ 2.3	$ 1.4	$ 3.1	$ 1.3	$ 0.5	$ 2.3	$ 1.3	$ 0.9	$ 1.9	$ 3.1	$ 2.0	$ 4.7	$ 1.8	$ 1.1	$ 2.8
2019	$ 2.1	$ 1.3	$ 2.9	$ 1.2	$ 0.5	$ 2.1	$ 1.2	$ 0.8	$ 1.8	$ 2.9	$ 1.9	$ 4.3	$ 1.7	$ 1.1	$ 2.6
2020	$ 2.0	$ 1.3	$ 2.7	$ 1.2	$ 0.4	$ 2.0	$ 1.2	$ 0.8	$ 1.6	$ 2.7	$ 1.7	$ 4.1	$ 1.6	$ 1.0	$ 2.5
2021	$ 1.9	$ 1.2	$ 2.6	$ 1.1	$ 0.4	$ 1.9	$ 1.1	$ 0.7	$ 1.5	$ 2.5	$ 1.6	$ 3.8	$ 1.5	$ 0.9	$ 2.3
2022	$ 1.7	$ 1.1	$ 2.4	$ 1.0	$ 0.4	$ 1.7	$ 1.0	$ 0.7	$ 1.4	$ 2.3	$ 1.5	$ 3.5	$ 1.4	$ 0.9	$ 2.1
2023	$ 1.6	$ 1.0	$ 2.2	$ 0.9	$ 0.4	$ 1.6	$ 0.9	$ 0.6	$ 1.3	$ 2.2	$ 1.4	$ 3.3	$ 1.3	$ 0.8	$ 2.0
2024	$ 1.5	$ 1.0	$ 2.1	$ 0.9	$ 0.3	$ 1.5	$ 0.9	$ 0.6	$ 1.3	$ 2.0	$ 1.3	$ 3.1	$ 1.2	$ 0.8	$ 1.9
2025	$ 1.4	$ 0.9	$ 2.0	$ 0.8	$ 0.3	$ 1.4	$ 0.8	$ 0.5	$ 1.2	$ 1.9	$ 1.2	$ 2.9	$ 1.1	$ 0.7	$ 1.8
2026	$ 1.3	$ 0.8	$ 1.8	$ 0.8	$ 0.3	$ 1.3	$ 0.8	$ 0.5	$ 1.1	$ 1.8	$ 1.2	$ 2.7	$ 1.0	$ 0.7	$ 1.6
2027	$ 1.2	$ 0.8	$ 1.7	$ 0.7	$ 0.3	$ 1.2	$ 0.7	$ 0.5	$ 1.0	$ 1.7	$ 1.1	$ 2.5	$ 1.0	$ 0.6	$ 1.5
2028	$ 1.2	$ 0.7	$ 1.6	$ 0.7	$ 0.3	$ 1.2	$ 0.7	$ 0.4	$ 1.0	$ 1.6	$ 1.0	$ 2.4	$ 0.9	$ 0.6	$ 1.4
2029	$ 1.1	$ 0.7	$ 1.5	$ 0.6	$ 0.2	$ 1.1	$ 0.6	$ 0.4	$ 0.9	$ 1.5	$ 1.0	$ 2.2	$ 0.9	$ 0.5	$ 1.3
Total	**$ 76.1**	**$ 47.8**	**$ 105.7**	**$ 101.3**	**$ 59.1**	**$ 141.6**	**$ 67.2**	**$ 41.8**	**$ 92.0**	**$ 168.5**	**$ 98.5**	**$ 239.8**	**$ 83.1**	**$ 48.5**	**$ 121.2**
Ann.	**$ 6.5**	**$ 4.1**	**$ 9.1**	**$ 8.7**	**$ 5.1**	**$ 12.1**	**$ 5.8**	**$ 3.6**	**$ 7.9**	**$ 14.5**	**$ 8.5**	**$ 20.6**	**$ 7.1**	**$ 4.2**	**$ 10.4**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2br Present Value of Capital Costs at 7% Discount Rate, by System Size
(Surface Water CWSs)

Year	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.5	$ 0.4	$ 0.2	$ 0.6	$ 2.5	$ 1.4	$ 3.7	$ 6.4	$ 3.5	$ 9.4	$ 13.7	$ 7.6	$ 19.0	$ 10.0	$ 5.5	$ 13.8	$ 30.6	$ 16.4	$ 42.9	$ 14.3	$ 7.9	$ 20.1
2010	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.5	$ 0.4	$ 0.2	$ 0.6	$ 2.3	$ 1.3	$ 3.5	$ 6.0	$ 3.3	$ 8.8	$ 12.8	$ 7.1	$ 17.8	$ 9.3	$ 5.2	$ 12.9	$ 28.6	$ 15.3	$ 40.1	$ 13.4	$ 7.3	$ 18.7
2011	$ 0.1	$ 0.1	$ 0.2	$ 0.3	$ 0.2	$ 0.4	$ 0.3	$ 0.2	$ 0.5	$ 2.2	$ 1.2	$ 3.2	$ 5.6	$ 3.1	$ 8.2	$ 12.0	$ 6.6	$ 16.6	$ 8.7	$ 4.8	$ 12.1	$ 26.8	$ 14.3	$ 37.5	$ 12.5	$ 6.9	$ 17.5
2012	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.3	$ 0.2	$ 0.5	$ 2.0	$ 1.1	$ 3.0	$ 5.2	$ 2.9	$ 7.7	$ 11.2	$ 6.2	$ 15.5	$ 8.1	$ 4.5	$ 11.3	$ 25.0	$ 13.4	$ 35.0	$ 11.7	$ 6.4	$ 16.4
2013	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.3	$ 0.2	$ 0.5	$ 1.9	$ 1.0	$ 2.8	$ 4.9	$ 2.7	$ 7.2	$ 10.5	$ 5.8	$ 14.5	$ 3.8	$ 2.1	$ 5.3	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.4	$ 0.3	$ 0.2	$ 0.4	$ 1.8	$ 1.0	$ 2.6	$ 4.5	$ 2.5	$ 6.7	$ 4.9	$ 2.7	$ 6.8	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.8	$ 0.5	$ 1.2	$ 2.1	$ 1.2	$ 3.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.6**	**$ 0.3**	**$ 0.9**	**$ 1.8**	**$ 1.0**	**$ 2.8**	**$ 2.1**	**$ 1.2**	**$ 3.3**	**$ 13.6**	**$ 7.4**	**$ 20.1**	**$ 34.6**	**$ 19.2**	**$ 51.1**	**$ 65.1**	**$ 36.0**	**$ 90.2**	**$ 40.0**	**$ 22.2**	**$ 55.5**	**$ 111.1**	**$ 59.3**	**$ 155.6**	**$ 51.9**	**$ 28.5**	**$ 72.7**
Ann.	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.2**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ 1.2**	**$ 0.6**	**$ 1.7**	**$ 3.0**	**$ 1.6**	**$ 4.4**	**$ 5.6**	**$ 3.1**	**$ 7.7**	**$ 3.4**	**$ 1.9**	**$ 4.8**	**$ 9.5**	**$ 5.1**	**$ 13.4**	**$ 4.5**	**$ 2.4**	**$ 6.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bs Present Value of O&M Costs at 7% Discount Rate, by System Size
(Surface Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.5	$ 0.5	$ 0.3	$ 0.7	$ 0.7	$ 0.4	$ 1.0	$ 0.5	$ 0.3	$ 0.7	$ 1.3	$ 0.8	$ 1.9	$ 0.8	$ 0.5	$ 1.2
2011	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.6	$ 0.3	$ 0.9	$ 1.0	$ 0.5	$ 1.4	$ 1.3	$ 0.8	$ 1.8	$ 0.9	$ 0.6	$ 1.3	$ 2.4	$ 1.5	$ 3.6	$ 1.4	$ 0.9	$ 2.2
2012	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.8	$ 0.5	$ 1.2	$ 1.3	$ 0.7	$ 1.9	$ 1.8	$ 1.1	$ 2.6	$ 1.2	$ 0.8	$ 1.8	$ 3.3	$ 2.1	$ 5.1	$ 2.0	$ 1.3	$ 3.2
2013	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.0	$ 0.6	$ 1.5	$ 1.7	$ 0.9	$ 2.4	$ 2.2	$ 1.4	$ 3.2	$ 1.5	$ 1.0	$ 2.2	$ 4.2	$ 2.6	$ 6.4	$ 2.5	$ 1.6	$ 3.9
2014	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.2	$ 0.7	$ 1.8	$ 1.9	$ 1.1	$ 2.8	$ 2.6	$ 1.6	$ 3.7	$ 1.6	$ 1.0	$ 2.4	$ 3.9	$ 2.5	$ 5.9	$ 2.3	$ 1.5	$ 3.7
2015	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.5	$ 0.3	$ 0.1	$ 0.4	$ 1.4	$ 0.8	$ 2.0	$ 2.2	$ 1.2	$ 3.2	$ 2.7	$ 1.7	$ 3.8	$ 1.5	$ 0.9	$ 2.2	$ 3.6	$ 2.3	$ 5.6	$ 2.2	$ 1.4	$ 3.4
2016	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.5	$ 0.3	$ 0.1	$ 0.4	$ 1.4	$ 0.8	$ 2.0	$ 2.2	$ 1.2	$ 3.2	$ 2.5	$ 1.6	$ 3.6	$ 1.4	$ 0.9	$ 2.1	$ 3.4	$ 2.2	$ 5.2	$ 2.0	$ 1.3	$ 3.2
2017	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.5	$ 0.2	$ 0.1	$ 0.3	$ 1.3	$ 0.7	$ 1.9	$ 2.1	$ 1.2	$ 3.0	$ 2.3	$ 1.5	$ 3.4	$ 1.3	$ 0.8	$ 1.9	$ 3.2	$ 2.0	$ 4.9	$ 1.9	$ 1.2	$ 3.0
2018	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.2	$ 0.7	$ 1.8	$ 1.9	$ 1.1	$ 2.8	$ 2.2	$ 1.4	$ 3.1	$ 1.2	$ 0.8	$ 1.8	$ 3.0	$ 1.9	$ 4.5	$ 1.8	$ 1.1	$ 2.8
2019	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.2	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.1	$ 0.6	$ 1.6	$ 1.8	$ 1.0	$ 2.6	$ 2.0	$ 1.3	$ 2.9	$ 1.2	$ 0.7	$ 1.7	$ 2.8	$ 1.8	$ 4.2	$ 1.7	$ 1.1	$ 2.6
2020	$ 0.1	$ 0.0	$ 0.1	$ 0.3	$ 0.1	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.1	$ 0.6	$ 1.5	$ 1.7	$ 0.9	$ 2.4	$ 1.9	$ 1.2	$ 2.7	$ 1.1	$ 0.7	$ 1.6	$ 2.6	$ 1.6	$ 4.0	$ 1.6	$ 1.0	$ 2.4
2021	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.4	$ 0.2	$ 0.1	$ 0.3	$ 1.0	$ 0.6	$ 1.4	$ 1.6	$ 0.9	$ 2.3	$ 1.8	$ 1.1	$ 2.6	$ 1.0	$ 0.6	$ 1.5	$ 2.4	$ 1.5	$ 3.7	$ 1.5	$ 0.9	$ 2.3
2022	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.9	$ 0.5	$ 1.3	$ 1.5	$ 0.8	$ 2.1	$ 1.7	$ 1.0	$ 2.4	$ 0.9	$ 0.6	$ 1.4	$ 2.3	$ 1.4	$ 3.5	$ 1.4	$ 0.9	$ 2.1
2023	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.9	$ 0.5	$ 1.3	$ 1.4	$ 0.8	$ 2.0	$ 1.6	$ 1.0	$ 2.2	$ 0.9	$ 0.6	$ 1.3	$ 2.1	$ 1.3	$ 3.2	$ 1.3	$ 0.8	$ 2.0
2024	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.8	$ 0.5	$ 1.2	$ 1.3	$ 0.7	$ 1.9	$ 1.5	$ 0.9	$ 2.1	$ 0.8	$ 0.5	$ 1.2	$ 2.0	$ 1.3	$ 3.0	$ 1.2	$ 0.8	$ 1.9
2025	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.8	$ 0.4	$ 1.1	$ 1.2	$ 0.7	$ 1.7	$ 1.4	$ 0.8	$ 2.0	$ 0.8	$ 0.5	$ 1.1	$ 1.8	$ 1.2	$ 2.8	$ 1.1	$ 0.7	$ 1.7
2026	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.7	$ 0.4	$ 1.0	$ 1.1	$ 0.6	$ 1.6	$ 1.3	$ 0.8	$ 1.8	$ 0.7	$ 0.4	$ 1.0	$ 1.7	$ 1.1	$ 2.6	$ 1.0	$ 0.7	$ 1.6
2027	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.7	$ 0.4	$ 1.0	$ 1.0	$ 0.6	$ 1.5	$ 1.2	$ 0.7	$ 1.7	$ 0.7	$ 0.4	$ 1.0	$ 1.6	$ 1.0	$ 2.5	$ 1.0	$ 0.6	$ 1.5
2028	$ 0.0	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.6	$ 0.3	$ 0.9	$ 1.0	$ 0.5	$ 1.4	$ 1.1	$ 0.7	$ 1.6	$ 0.6	$ 0.4	$ 0.9	$ 1.5	$ 1.0	$ 2.3	$ 0.9	$ 0.6	$ 1.4
2029	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.6	$ 0.3	$ 0.8	$ 0.9	$ 0.5	$ 1.3	$ 1.0	$ 0.6	$ 1.5	$ 0.6	$ 0.4	$ 0.9	$ 1.4	$ 0.9	$ 2.2	$ 0.8	$ 0.5	$ 1.3
Total	**$ 1.1**	**$ 0.6**	**$ 1.6**	**$ 4.5**	**$ 2.5**	**$ 6.5**	**$ 3.4**	**$ 1.9**	**$ 4.9**	**$ 18.4**	**$ 10.3**	**$ 26.7**	**$ 29.2**	**$ 16.3**	**$ 42.3**	**$ 34.7**	**$ 21.5**	**$ 49.8**	**$ 20.5**	**$ 12.8**	**$ 29.8**	**$ 50.4**	**$ 32.1**	**$ 77.2**	**$ 30.3**	**$ 19.2**	**$ 47.7**
Ann.	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.4**	**$ 0.2**	**$ 0.6**	**$ 0.3**	**$ 0.2**	**$ 0.4**	**$ 1.6**	**$ 0.9**	**$ 2.3**	**$ 2.5**	**$ 1.4**	**$ 3.6**	**$ 3.0**	**$ 1.8**	**$ 4.3**	**$ 1.8**	**$ 1.1**	**$ 2.6**	**$ 4.3**	**$ 2.8**	**$ 6.6**	**$ 2.6**	**$ 1.6**	**$ 4.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bt Present Value of Non-Treatment Costs at 7% Discount Rate, by System Size
(Surface Water CWSs)

Year	<100 Implementation	<100 IDSE	<100 Monitoring Plans	<100 Monitoring	<100 Operational Evaluation	100-499 Implementation	100-499 IDSE	100-499 Monitoring Plans	100-499 Monitoring	100-499 Operational Evaluation	500-999 Implementation	500-999 IDSE	500-999 Monitoring Plans	500-999 Monitoring	500-999 Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.3	$ -	$ -	$ -
2007	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0	$ -	$ -	$ -	$ 0.6	$ 0.0	$ -	$ -
2008	$ 0.0	$ 0.2	$ 0.0	$ -	$ -	$ 0.0	$ 0.4	$ 0.0	$ -	$ -	$ 0.0	$ 1.4	$ 0.0	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.0	$ -	$ 0.1	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.1)	$ -
2013	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ (0.2)	$ 0.0
2014	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ (0.2)	$ 0.0
2015	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2016	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2017	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2018	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2019	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2020	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2021	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2022	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2023	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2024	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2025	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2026	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2027	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2028	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
2029	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ -	$ -	$ -	$ (0.1)	$ 0.0
Total	**$ 0.2**	**$ 0.3**	**$ 0.1**	**$ (0.3)**	**$ 0.0**	**$ 0.4**	**$ 0.7**	**$ 0.1**	**$ (0.6)**	**$ 0.0**	**$ 0.3**	**$ 2.3**	**$ 0.1**	**$ (1.9)**	**$ 0.0**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.0)**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ (0.1)**	**$ 0.0**	**$ 0.0**	**$ 0.2**	**$ 0.0**	**$ (0.2)**	**$ 0.0**

Year	1,000-3,300 Implementation	1,000-3,300 IDSE	1,000-3,300 Monitoring Plans	1,000-3,300 Monitoring	1,000-3,300 Operational Evaluation	3,301-9,999 Implementation	3,301-9,999 IDSE	3,301-9,999 Monitoring Plans	3,301-9,999 Monitoring	3,301-9,999 Operational Evaluation
2005	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2006	$ 0.2	$ 0.5	$ -	$ -	$ -	$ 0.2	$ 0.7	$ -	$ -	$ -
2007	$ -	$ 1.1	$ 0.0	$ -	$ -	$ -	$ 1.7	$ 0.0	$ -	$ -
2008	$ 0.1	$ 2.5	$ 0.1	$ -	$ -	$ 0.1	$ 3.7	$ 0.0	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.1	$ -	$ 0.1	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ (0.2)	$ -	$ -	$ -	$ 0.3	$ -
2013	$ -	$ -	$ -	$ -	$ (0.3)	$ 0.0	$ -	$ -	$ -	$ 0.5	$ 0.0
2014	$ -	$ -	$ -	$ -	$ (0.3)	$ 0.0	$ -	$ -	$ -	$ 0.5	$ 0.0
2015	$ -	$ -	$ -	$ -	$ (0.3)	$ 0.0	$ -	$ -	$ -	$ 0.4	$ 0.0
2016	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.4	$ 0.0
2017	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.4	$ 0.0
2018	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.3	$ 0.0
2019	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.3	$ 0.0
2020	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.3	$ 0.0
2021	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.3	$ 0.0
2022	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.3	$ 0.0
2023	$ -	$ -	$ -	$ -	$ (0.2)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2024	$ -	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2025	$ -	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2026	$ -	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2027	$ -	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2028	$ -	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2029	$ -	$ -	$ -	$ -	$ (0.1)	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
Total	**$ 0.5**	**$ 4.1**	**$ 0.2**	**$ (3.3)**	**$ 0.0**	**$ 0.5**	**$ 6.2**	**$ 0.2**	**$ 5.3**	**$ 0.1**
Ann.	**$ 0.0**	**$ 0.3**	**$ 0.0**	**$ (0.3)**	**$ 0.0**	**$ 0.0**	**$ 0.5**	**$ 0.0**	**$ 0.5**	**$ 0.0**

Year	10,000-49,999 Implementation	10,000-49,999 IDSE	10,000-49,999 Monitoring Plans	10,000-49,999 Monitoring	10,000-49,999 Operation Evaluation	50,000-99,999 Implementation	50,000-99,999 IDSE	50,000-99,999 Monitoring Plans	50,000-99,999 Monitoring	50,000-99,999 Operation Evaluation	100,000-999,999 Implementation	100,000-999,999 IDSE	100,000-999,999 Monitoring Plans	100,000-999,999 Monitoring	100,000-999,999 Operation Evaluation
2005	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2006	$ 0.2	$ 3.1	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 2.5	$ -	$ -	$ -
2007	$ -	$ 7.3	$ 0.1	$ -	$ -	$ -	$ 3.9	$ 0.0	$ -	$ -	$ -	$ 2.3	$ 0.0	$ -	$ -
2008	$ 0.2	$ 3.2	$ 0.2	$ -	$ -	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.1	$ -	$ 0.0	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -
2012	$ -	$ -	$ -	$ (0.7)	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.2	$ 0.0
2013	$ -	$ -	$ -	$ (1.3)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2014	$ -	$ -	$ -	$ (1.2)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2015	$ -	$ -	$ -	$ (1.1)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2016	$ -	$ -	$ -	$ (1.0)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2017	$ -	$ -	$ -	$ (1.0)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2018	$ -	$ -	$ -	$ (0.9)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2019	$ -	$ -	$ -	$ (0.8)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2020	$ -	$ -	$ -	$ (0.8)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2021	$ -	$ -	$ -	$ (0.7)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2022	$ -	$ -	$ -	$ (0.7)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2023	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2024	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2025	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2026	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2027	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2028	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.1	$ 0.0
2029	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0
Total	**$ 0.9**	**$ 13.6**	**$ 0.3**	**$ (13.8)**	**$ 0.5**	**$ 0.2**	**$ 5.0**	**$ 0.1**	**$ 1.3**	**$ 0.2**	**$ 0.2**	**$ 4.8**	**$ 0.1**	**$ 1.8**	**$ 0.2**
Ann.	**$ 0.1**	**$ 1.2**	**$ 0.0**	**$ (1.2)**	**$ 0.0**	**$ 0.0**	**$ 0.4**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.4**	**$ 0.0**	**$ 0.2**	**$ 0.0**

Year	1,000,000+ Implementation	1,000,000+ IDSE	1,000,000+ Monitoring Plans	1,000,000+ Monitoring	1,000,000+ Operation Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -
2006	$ -	$ 0.3	$ -	$ -	$ -
2007	$ -	$ 0.3	$ 0.0	$ -	$ -
2008	$ 0.0	$ -	$ 0.0	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.0	$ -
2012	$ -	$ -	$ -	$ 0.0	$ 0.0
2013	$ -	$ -	$ -	$ 0.0	$ 0.0
2014	$ -	$ -	$ -	$ 0.0	$ 0.0
2015	$ -	$ -	$ -	$ 0.0	$ 0.0
2016	$ -	$ -	$ -	$ 0.0	$ 0.0
2017	$ -	$ -	$ -	$ 0.0	$ 0.0
2018	$ -	$ -	$ -	$ 0.0	$ 0.0
2019	$ -	$ -	$ -	$ 0.0	$ 0.0
2020	$ -	$ -	$ -	$ 0.0	$ 0.0
2021	$ -	$ -	$ -	$ 0.0	$ 0.0
2022	$ -	$ -	$ -	$ 0.0	$ 0.0
2023	$ -	$ -	$ -	$ 0.0	$ 0.0
2024	$ -	$ -	$ -	$ 0.0	$ 0.0
2025	$ -	$ -	$ -	$ 0.0	$ 0.0
2026	$ -	$ -	$ -	$ 0.0	$ 0.0
2027	$ -	$ -	$ -	$ 0.0	$ 0.0
2028	$ -	$ -	$ -	$ 0.0	$ 0.0
2029	$ -	$ -	$ -	$ 0.0	$ 0.0
Total	**$ 0.0**	**$ 0.6**	**$ 0.0**	**$ 0.2**	**$ 0.0**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bu Present Value of Total Costs at 7% Discount Rate, by System Size

(Surface Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2006	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2008	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2009	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2010	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2011	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2012	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2013	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 1.1**	**$ 0.6**	**$ 1.6**	**$ 2.6**	**$ 1.5**	**$ 3.8**	**$ 1.2**	**$ 0.7**	**$ 1.8**	**$ 2.5**	**$ 1.4**	**$ 3.7**	**$ 1.5**	**$ 0.9**	**$ 2.1**	**$ 0.5**	**$ 0.3**	**$ 0.7**	**$ -**	**$ -**	**$ -**	**$ 0.4**	**$ 0.3**	**$ 0.6**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bv Present Value of Capital Costs at 7% Discount Rate, by System Size
(Surface Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2010	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2011	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2012	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -
2013	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.4**	**$ 0.2**	**$ 0.6**	**$ 0.7**	**$ 0.4**	**$ 1.1**	**$ 0.5**	**$ 0.3**	**$ 0.7**	**$ 1.1**	**$ 0.6**	**$ 1.6**	**$ 0.7**	**$ 0.4**	**$ 1.1**	**$ 0.3**	**$ 0.2**	**$ 0.4**	**$ -**	**$ -**	**$ -**	**$ 0.2**	**$ 0.1**	**$ 0.3**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bw Present Value of O&M Costs at 7% Discount Rate, by System Size
(Surface Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 0.7**	**$ 0.4**	**$ 1.0**	**$ 1.8**	**$ 1.0**	**$ 2.7**	**$ 0.7**	**$ 0.4**	**$ 1.1**	**$ 1.4**	**$ 0.8**	**$ 2.1**	**$ 0.6**	**$ 0.3**	**$ 0.9**	**$ 0.2**	**$ 0.1**	**$ 0.2**	**$ -**	**$ -**	**$ -**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.2**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.
Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bx Present Value of Non-Treatment Costs at 7% Discount Rate, by System Size
(Surface Water NTNCWSs)

Year	<100 Implementation	<100 IDSE	<100 Monitoring Plans	<100 Monitoring	<100 Operational Evaluation	100-499 Implementation	100-499 IDSE	100-499 Monitoring Plans	100-499 Monitoring	100-499 Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**

Year	500-999 Implementation	500-999 IDSE	500-999 Monitoring Plans	500-999 Monitoring	500-999 Operational Evaluation	1,000-3,300 Implementation	1,000-3,300 IDSE	1,000-3,300 Monitoring Plans	1,000-3,300 Monitoring	1,000-3,300 Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ -**

Year	3,301-9,999 Implementation	3,301-9,999 IDSE	3,301-9,999 Monitoring Plans	3,301-9,999 Monitoring	3,301-9,999 Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -
2013	$ -	$ -	$ -	$ 0.0	$ -
2014	$ -	$ -	$ -	$ 0.0	$ -
2015	$ -	$ -	$ -	$ 0.0	$ -
2016	$ -	$ -	$ -	$ 0.0	$ -
2017	$ -	$ -	$ -	$ 0.0	$ -
2018	$ -	$ -	$ -	$ 0.0	$ -
2019	$ -	$ -	$ -	$ 0.0	$ -
2020	$ -	$ -	$ -	$ 0.0	$ -
2021	$ -	$ -	$ -	$ 0.0	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -
Total	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**
Ann.	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**

Year	10,000-49,999 Implementation	10,000-49,999 IDSE	10,000-49,999 Monitoring Plans	10,000-49,999 Monitoring	10,000-49,999 Operation Evaluation	50,000-99,999 Implementation	50,000-99,999 IDSE	50,000-99,999 Monitoring Plans	50,000-99,999 Monitoring	50,000-99,999 Operation Evaluation
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Year	100,000-999,999 Implementation	100,000-999,999 IDSE	100,000-999,999 Monitoring Plans	100,000-999,999 Monitoring	100,000-999,999 Operation Evaluation	1,000,000+ Implementation	1,000,000+ IDSE	1,000,000+ Monitoring Plans	1,000,000+ Monitoring	1,000,000+ Operation Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2by Present Value of Total Costs at 7% Discount Rate, by System Size

(Ground Water CWSs)

Year	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
2006	$ 0.6	$ 0.6	$ 0.6	$ 0.8	$ 0.8	$ 0.8	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ -	$ -	$ -	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.6	$ 0.6	$ 0.6	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0
2008	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 1.4	$ 1.4	$ 1.4	$ 1.7	$ 1.7	$ 1.7	$ 0.8	$ 0.8	$ 0.8	$ 0.7	$ 0.7	$ 0.7	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
2009	$ 1.2	$ 1.1	$ 1.3	$ 3.8	$ 3.3	$ 4.3	$ 2.6	$ 2.2	$ 2.9	$ 4.6	$ 3.9	$ 5.4	$ 7.0	$ 5.8	$ 8.3	$ 7.4	$ 6.7	$ 8.1	$ 2.2	$ 2.0	$ 2.5	$ 4.9	$ 4.4	$ 5.5	$ 0.6	$ 0.5	$ 0.6
2010	$ 1.1	$ 1.0	$ 1.3	$ 3.8	$ 3.3	$ 4.4	$ 2.3	$ 1.9	$ 2.6	$ 4.2	$ 3.5	$ 4.9	$ 6.6	$ 5.4	$ 7.8	$ 7.4	$ 6.7	$ 8.0	$ 2.2	$ 2.0	$ 2.5	$ 5.1	$ 4.5	$ 5.6	$ 0.6	$ 0.5	$ 0.7
2011	$ 0.9	$ 0.8	$ 1.0	$ 3.6	$ 3.1	$ 4.1	$ 2.2	$ 1.8	$ 2.5	$ 4.1	$ 3.4	$ 4.7	$ 6.4	$ 5.2	$ 7.5	$ 7.3	$ 6.7	$ 8.0	$ 2.3	$ 2.0	$ 2.5	$ 5.1	$ 4.6	$ 5.6	$ 0.6	$ 0.5	$ 0.7
2012	$ 1.0	$ 0.9	$ 1.1	$ 3.7	$ 3.2	$ 4.2	$ 2.3	$ 2.0	$ 2.6	$ 4.2	$ 3.6	$ 4.9	$ 6.2	$ 5.1	$ 7.3	$ 7.4	$ 6.7	$ 8.0	$ 2.3	$ 2.1	$ 2.5	$ 5.1	$ 4.6	$ 5.7	$ 0.6	$ 0.6	$ 0.7
2013	$ 1.0	$ 0.9	$ 1.1	$ 3.8	$ 3.3	$ 4.3	$ 2.5	$ 2.2	$ 2.8	$ 4.4	$ 3.7	$ 5.0	$ 6.1	$ 5.1	$ 7.1	$ 7.4	$ 6.8	$ 8.0	$ 1.4	$ 1.3	$ 1.6	$ 1.4	$ 1.3	$ 1.5	$ 0.2	$ 0.2	$ 0.2
2014	$ 1.0	$ 0.9	$ 1.1	$ 3.8	$ 3.3	$ 4.3	$ 2.5	$ 2.2	$ 2.7	$ 4.3	$ 3.7	$ 4.9	$ 5.9	$ 4.9	$ 6.9	$ 4.8	$ 4.4	$ 5.1	$ 0.6	$ 0.6	$ 0.7	$ 1.3	$ 1.2	$ 1.4	$ 0.2	$ 0.2	$ 0.2
2015	$ 0.7	$ 0.7	$ 0.8	$ 2.7	$ 2.4	$ 3.0	$ 1.7	$ 1.6	$ 1.9	$ 2.9	$ 2.5	$ 3.2	$ 3.4	$ 2.9	$ 3.9	$ 2.3	$ 2.2	$ 2.4	$ 0.6	$ 0.5	$ 0.6	$ 1.2	$ 1.1	$ 1.3	$ 0.2	$ 0.2	$ 0.2
2016	$ 0.4	$ 0.4	$ 0.5	$ 1.6	$ 1.5	$ 1.7	$ 1.0	$ 1.0	$ 1.1	$ 1.5	$ 1.4	$ 1.6	$ 1.2	$ 1.1	$ 1.3	$ 2.1	$ 2.0	$ 2.2	$ 0.5	$ 0.5	$ 0.6	$ 1.1	$ 1.1	$ 1.2	$ 0.2	$ 0.2	$ 0.2
2017	$ 0.4	$ 0.4	$ 0.4	$ 1.5	$ 1.4	$ 1.6	$ 1.0	$ 0.9	$ 1.0	$ 1.4	$ 1.3	$ 1.5	$ 1.1	$ 1.0	$ 1.2	$ 2.0	$ 1.9	$ 2.1	$ 0.5	$ 0.5	$ 0.5	$ 1.1	$ 1.0	$ 1.1	$ 0.2	$ 0.1	$ 0.2
2018	$ 0.4	$ 0.4	$ 0.4	$ 1.4	$ 1.3	$ 1.5	$ 0.9	$ 0.9	$ 1.0	$ 1.3	$ 1.2	$ 1.4	$ 1.0	$ 1.0	$ 1.1	$ 1.9	$ 1.8	$ 2.0	$ 0.5	$ 0.4	$ 0.5	$ 1.0	$ 0.9	$ 1.1	$ 0.1	$ 0.1	$ 0.2
2019	$ 0.4	$ 0.3	$ 0.4	$ 1.3	$ 1.2	$ 1.4	$ 0.9	$ 0.8	$ 0.9	$ 1.2	$ 1.2	$ 1.3	$ 1.0	$ 0.9	$ 1.0	$ 1.7	$ 1.7	$ 1.8	$ 0.4	$ 0.4	$ 0.5	$ 0.9	$ 0.9	$ 1.0	$ 0.1	$ 0.1	$ 0.1
2020	$ 0.3	$ 0.3	$ 0.4	$ 1.2	$ 1.1	$ 1.3	$ 0.8	$ 0.7	$ 0.8	$ 1.2	$ 1.1	$ 1.2	$ 0.9	$ 0.8	$ 1.0	$ 1.6	$ 1.5	$ 1.7	$ 0.4	$ 0.4	$ 0.4	$ 0.9	$ 0.8	$ 0.9	$ 0.1	$ 0.1	$ 0.1
2021	$ 0.3	$ 0.3	$ 0.3	$ 1.1	$ 1.0	$ 1.2	$ 0.7	$ 0.7	$ 0.8	$ 1.1	$ 1.0	$ 1.2	$ 0.8	$ 0.8	$ 0.9	$ 1.5	$ 1.4	$ 1.6	$ 0.4	$ 0.4	$ 0.4	$ 0.8	$ 0.8	$ 0.9	$ 0.1	$ 0.1	$ 0.1
2022	$ 0.3	$ 0.3	$ 0.3	$ 1.0	$ 1.0	$ 1.1	$ 0.7	$ 0.7	$ 0.7	$ 1.0	$ 0.9	$ 1.1	$ 0.8	$ 0.7	$ 0.8	$ 1.4	$ 1.3	$ 1.5	$ 0.4	$ 0.3	$ 0.4	$ 0.8	$ 0.7	$ 0.8	$ 0.1	$ 0.1	$ 0.1
2023	$ 0.3	$ 0.3	$ 0.3	$ 1.0	$ 0.9	$ 1.1	$ 0.6	$ 0.6	$ 0.7	$ 0.9	$ 0.9	$ 1.0	$ 0.7	$ 0.7	$ 0.8	$ 1.3	$ 1.3	$ 1.4	$ 0.3	$ 0.3	$ 0.4	$ 0.7	$ 0.7	$ 0.8	$ 0.1	$ 0.1	$ 0.1
2024	$ 0.3	$ 0.2	$ 0.3	$ 0.9	$ 0.8	$ 1.0	$ 0.6	$ 0.6	$ 0.6	$ 0.9	$ 0.8	$ 0.9	$ 0.7	$ 0.6	$ 0.7	$ 1.2	$ 1.2	$ 1.3	$ 0.3	$ 0.3	$ 0.3	$ 0.7	$ 0.6	$ 0.7	$ 0.1	$ 0.1	$ 0.1
2025	$ 0.2	$ 0.2	$ 0.3	$ 0.9	$ 0.8	$ 0.9	$ 0.6	$ 0.5	$ 0.6	$ 0.8	$ 0.8	$ 0.9	$ 0.6	$ 0.6	$ 0.7	$ 1.2	$ 1.1	$ 1.2	$ 0.3	$ 0.3	$ 0.3	$ 0.6	$ 0.6	$ 0.7	$ 0.1	$ 0.1	$ 0.1
2026	$ 0.2	$ 0.2	$ 0.2	$ 0.8	$ 0.7	$ 0.9	$ 0.5	$ 0.5	$ 0.6	$ 0.8	$ 0.7	$ 0.8	$ 0.6	$ 0.6	$ 0.6	$ 1.1	$ 1.0	$ 1.1	$ 0.3	$ 0.3	$ 0.3	$ 0.6	$ 0.5	$ 0.6	$ 0.1	$ 0.1	$ 0.1
2027	$ 0.2	$ 0.2	$ 0.2	$ 0.7	$ 0.7	$ 0.8	$ 0.5	$ 0.5	$ 0.5	$ 0.7	$ 0.7	$ 0.8	$ 0.6	$ 0.5	$ 0.6	$ 1.0	$ 1.0	$ 1.1	$ 0.3	$ 0.2	$ 0.3	$ 0.5	$ 0.5	$ 0.6	$ 0.1	$ 0.1	$ 0.1
2028	$ 0.2	$ 0.2	$ 0.2	$ 0.7	$ 0.6	$ 0.8	$ 0.5	$ 0.4	$ 0.5	$ 0.7	$ 0.6	$ 0.7	$ 0.5	$ 0.5	$ 0.6	$ 0.9	$ 0.9	$ 1.0	$ 0.2	$ 0.2	$ 0.3	$ 0.5	$ 0.5	$ 0.5	$ 0.1	$ 0.1	$ 0.1
2029	$ 0.2	$ 0.2	$ 0.2	$ 0.7	$ 0.6	$ 0.7	$ 0.4	$ 0.4	$ 0.5	$ 0.6	$ 0.6	$ 0.7	$ 0.5	$ 0.5	$ 0.5	$ 0.9	$ 0.8	$ 0.9	$ 0.2	$ 0.2	$ 0.2	$ 0.5	$ 0.4	$ 0.5	$ 0.1	$ 0.1	$ 0.1
Total	**$ 12.0**	**$ 10.9**	**$ 13.0**	**$ 41.1**	**$ 36.6**	**$ 45.6**	**$ 27.5**	**$ 24.8**	**$ 30.1**	**$ 45.0**	**$ 39.7**	**$ 50.4**	**$ 53.7**	**$ 45.6**	**$ 61.8**	**$ 65.6**	**$ 60.7**	**$ 70.4**	**$ 16.9**	**$ 15.5**	**$ 18.3**	**$ 35.0**	**$ 31.8**	**$ 38.1**	**$ 4.5**	**$ 4.1**	**$ 5.0**
Ann.	**$ 1.0**	**$ 0.9**	**$ 1.1**	**$ 3.5**	**$ 3.1**	**$ 3.9**	**$ 2.4**	**$ 2.1**	**$ 2.6**	**$ 3.9**	**$ 3.4**	**$ 4.3**	**$ 4.6**	**$ 3.9**	**$ 5.3**	**$ 5.6**	**$ 5.2**	**$ 6.0**	**$ 1.4**	**$ 1.3**	**$ 1.6**	**$ 3.0**	**$ 2.7**	**$ 3.3**	**$ 0.4**	**$ 0.4**	**$ 0.4**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2bz Present Value of Capital Costs at 7% Discount Rate, by System Size
(Ground Water CWSs)

Year	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.9	$ 0.7	$ 1.0	$ 3.4	$ 2.9	$ 3.9	$ 2.1	$ 1.7	$ 2.4	$ 4.0	$ 3.3	$ 4.8	$ 6.8	$ 5.5	$ 8.0	$ 7.2	$ 6.5	$ 7.8	$ 2.2	$ 2.0	$ 2.4	$ 4.9	$ 4.4	$ 5.5	$ 0.6	$ 0.5	$ 0.6
2010	$ 0.8	$ 0.7	$ 0.9	$ 3.2	$ 2.7	$ 3.7	$ 1.9	$ 1.6	$ 2.2	$ 3.8	$ 3.1	$ 4.5	$ 6.3	$ 5.1	$ 7.5	$ 6.7	$ 6.0	$ 7.3	$ 2.1	$ 1.9	$ 2.3	$ 4.6	$ 4.1	$ 5.1	$ 0.5	$ 0.5	$ 0.6
2011	$ 0.7	$ 0.6	$ 0.9	$ 3.0	$ 2.5	$ 3.4	$ 1.8	$ 1.5	$ 2.1	$ 3.5	$ 2.9	$ 4.2	$ 5.9	$ 4.8	$ 7.0	$ 6.3	$ 5.6	$ 6.9	$ 1.9	$ 1.7	$ 2.1	$ 4.3	$ 3.8	$ 4.8	$ 0.5	$ 0.4	$ 0.6
2012	$ 0.7	$ 0.6	$ 0.8	$ 2.8	$ 2.3	$ 3.2	$ 1.7	$ 1.4	$ 2.0	$ 3.3	$ 2.7	$ 3.9	$ 5.5	$ 4.5	$ 6.6	$ 5.8	$ 5.3	$ 6.4	$ 1.8	$ 1.6	$ 2.0	$ 4.0	$ 3.6	$ 4.5	$ 0.5	$ 0.4	$ 0.5
2013	$ 0.7	$ 0.6	$ 0.7	$ 2.6	$ 2.2	$ 3.0	$ 1.6	$ 1.3	$ 1.8	$ 3.1	$ 2.5	$ 3.6	$ 5.2	$ 4.2	$ 6.1	$ 5.5	$ 4.9	$ 6.0	$ 0.8	$ 0.8	$ 0.9	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.6	$ 0.5	$ 0.7	$ 2.4	$ 2.0	$ 2.8	$ 1.5	$ 1.2	$ 1.7	$ 2.9	$ 2.4	$ 3.4	$ 4.8	$ 3.9	$ 5.7	$ 2.6	$ 2.3	$ 2.8	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.3	$ 0.2	$ 0.3	$ 1.1	$ 1.0	$ 1.3	$ 0.7	$ 0.6	$ 0.8	$ 1.3	$ 1.1	$ 1.6	$ 2.3	$ 1.8	$ 2.7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 4.6**	**$ 4.0**	**$ 5.3**	**$ 18.5**	**$ 15.6**	**$ 21.4**	**$ 11.2**	**$ 9.5**	**$ 13.0**	**$ 22.0**	**$ 18.0**	**$ 25.9**	**$ 36.7**	**$ 29.8**	**$ 43.6**	**$ 34.0**	**$ 30.7**	**$ 37.2**	**$ 8.9**	**$ 7.9**	**$ 9.8**	**$ 17.9**	**$ 16.0**	**$ 19.9**	**$ 2.0**	**$ 1.8**	**$ 2.3**
Ann.	**$ 0.4**	**$ 0.3**	**$ 0.5**	**$ 1.6**	**$ 1.3**	**$ 1.8**	**$ 1.0**	**$ 0.8**	**$ 1.1**	**$ 1.9**	**$ 1.5**	**$ 2.2**	**$ 3.1**	**$ 2.6**	**$ 3.7**	**$ 2.9**	**$ 2.6**	**$ 3.2**	**$ 0.8**	**$ 0.7**	**$ 0.8**	**$ 1.5**	**$ 1.4**	**$ 1.7**	**$ 0.2**	**$ 0.2**	**$ 0.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2ca Present Value of O&M Costs at 7% Discount Rate, by System Size
(Ground Water CWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.1	$ 0.1	$ 0.1	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.2	$ 0.2	$ 0.3	$ 0.6	$ 0.5	$ 0.6	$ 0.2	$ 0.2	$ 0.2	$ 0.4	$ 0.4	$ 0.5	$ 0.1	$ 0.1	$ 0.1
2011	$ 0.2	$ 0.2	$ 0.2	$ 0.7	$ 0.6	$ 0.7	$ 0.4	$ 0.3	$ 0.4	$ 0.5	$ 0.5	$ 0.6	$ 0.5	$ 0.4	$ 0.5	$ 1.1	$ 1.0	$ 1.1	$ 0.3	$ 0.3	$ 0.4	$ 0.8	$ 0.8	$ 0.9	$ 0.1	$ 0.1	$ 0.1
2012	$ 0.2	$ 0.2	$ 0.3	$ 0.9	$ 0.8	$ 1.0	$ 0.5	$ 0.5	$ 0.5	$ 0.8	$ 0.7	$ 0.8	$ 0.6	$ 0.6	$ 0.7	$ 1.5	$ 1.4	$ 1.6	$ 0.5	$ 0.4	$ 0.5	$ 1.2	$ 1.1	$ 1.2	$ 0.2	$ 0.2	$ 0.2
2013	$ 0.3	$ 0.3	$ 0.3	$ 1.2	$ 1.1	$ 1.2	$ 0.6	$ 0.6	$ 0.7	$ 0.9	$ 0.9	$ 1.0	$ 0.8	$ 0.7	$ 0.9	$ 1.9	$ 1.8	$ 2.0	$ 0.6	$ 0.5	$ 0.6	$ 1.4	$ 1.3	$ 1.5	$ 0.2	$ 0.2	$ 0.2
2014	$ 0.4	$ 0.3	$ 0.4	$ 1.3	$ 1.2	$ 1.5	$ 0.7	$ 0.7	$ 0.8	$ 1.1	$ 1.0	$ 1.2	$ 0.9	$ 0.9	$ 1.0	$ 2.2	$ 2.1	$ 2.3	$ 0.6	$ 0.6	$ 0.6	$ 1.3	$ 1.3	$ 1.4	$ 0.2	$ 0.2	$ 0.2
2015	$ 0.4	$ 0.4	$ 0.4	$ 1.5	$ 1.4	$ 1.6	$ 0.8	$ 0.7	$ 0.9	$ 1.2	$ 1.1	$ 1.3	$ 1.0	$ 1.0	$ 1.1	$ 2.2	$ 2.1	$ 2.4	$ 0.6	$ 0.5	$ 0.6	$ 1.3	$ 1.2	$ 1.3	$ 0.2	$ 0.2	$ 0.2
2016	$ 0.4	$ 0.4	$ 0.4	$ 1.5	$ 1.4	$ 1.6	$ 0.8	$ 0.7	$ 0.9	$ 1.2	$ 1.1	$ 1.4	$ 1.1	$ 1.0	$ 1.1	$ 2.1	$ 2.0	$ 2.2	$ 0.5	$ 0.5	$ 0.6	$ 1.2	$ 1.1	$ 1.3	$ 0.2	$ 0.2	$ 0.2
2017	$ 0.4	$ 0.4	$ 0.4	$ 1.4	$ 1.3	$ 1.5	$ 0.8	$ 0.7	$ 0.8	$ 1.2	$ 1.1	$ 1.3	$ 1.0	$ 0.9	$ 1.1	$ 2.0	$ 1.8	$ 2.1	$ 0.5	$ 0.5	$ 0.5	$ 1.1	$ 1.0	$ 1.2	$ 0.2	$ 0.2	$ 0.2
2018	$ 0.4	$ 0.3	$ 0.4	$ 1.3	$ 1.2	$ 1.4	$ 0.7	$ 0.7	$ 0.8	$ 1.1	$ 1.0	$ 1.2	$ 0.9	$ 0.8	$ 1.0	$ 1.8	$ 1.7	$ 1.9	$ 0.5	$ 0.4	$ 0.5	$ 1.0	$ 1.0	$ 1.1	$ 0.2	$ 0.1	$ 0.2
2019	$ 0.3	$ 0.3	$ 0.4	$ 1.2	$ 1.1	$ 1.3	$ 0.7	$ 0.6	$ 0.7	$ 1.0	$ 0.9	$ 1.1	$ 0.9	$ 0.8	$ 0.9	$ 1.7	$ 1.6	$ 1.8	$ 0.4	$ 0.4	$ 0.5	$ 1.0	$ 0.9	$ 1.0	$ 0.1	$ 0.1	$ 0.2
2020	$ 0.3	$ 0.3	$ 0.3	$ 1.2	$ 1.1	$ 1.3	$ 0.6	$ 0.6	$ 0.7	$ 0.9	$ 0.9	$ 1.0	$ 0.8	$ 0.7	$ 0.9	$ 1.6	$ 1.5	$ 1.7	$ 0.4	$ 0.4	$ 0.4	$ 0.9	$ 0.8	$ 1.0	$ 0.1	$ 0.1	$ 0.1
2021	$ 0.3	$ 0.3	$ 0.3	$ 1.1	$ 1.0	$ 1.2	$ 0.6	$ 0.5	$ 0.6	$ 0.9	$ 0.8	$ 1.0	$ 0.8	$ 0.7	$ 0.8	$ 1.5	$ 1.4	$ 1.6	$ 0.4	$ 0.4	$ 0.4	$ 0.8	$ 0.8	$ 0.9	$ 0.1	$ 0.1	$ 0.1
2022	$ 0.3	$ 0.3	$ 0.3	$ 1.0	$ 0.9	$ 1.1	$ 0.5	$ 0.5	$ 0.6	$ 0.8	$ 0.8	$ 0.9	$ 0.7	$ 0.6	$ 0.8	$ 1.4	$ 1.3	$ 1.5	$ 0.4	$ 0.3	$ 0.4	$ 0.8	$ 0.7	$ 0.8	$ 0.1	$ 0.1	$ 0.1
2023	$ 0.3	$ 0.2	$ 0.3	$ 1.0	$ 0.9	$ 1.0	$ 0.5	$ 0.5	$ 0.5	$ 0.8	$ 0.7	$ 0.8	$ 0.7	$ 0.6	$ 0.7	$ 1.3	$ 1.2	$ 1.4	$ 0.3	$ 0.3	$ 0.4	$ 0.7	$ 0.7	$ 0.8	$ 0.1	$ 0.1	$ 0.1
2024	$ 0.2	$ 0.2	$ 0.3	$ 0.9	$ 0.8	$ 1.0	$ 0.5	$ 0.4	$ 0.5	$ 0.7	$ 0.7	$ 0.8	$ 0.6	$ 0.6	$ 0.7	$ 1.2	$ 1.1	$ 1.3	$ 0.3	$ 0.3	$ 0.3	$ 0.7	$ 0.6	$ 0.7	$ 0.1	$ 0.1	$ 0.1
2025	$ 0.2	$ 0.2	$ 0.2	$ 0.8	$ 0.8	$ 0.9	$ 0.4	$ 0.4	$ 0.5	$ 0.7	$ 0.6	$ 0.7	$ 0.6	$ 0.5	$ 0.6	$ 1.1	$ 1.1	$ 1.2	$ 0.3	$ 0.3	$ 0.3	$ 0.6	$ 0.6	$ 0.7	$ 0.1	$ 0.1	$ 0.1
2026	$ 0.2	$ 0.2	$ 0.2	$ 0.8	$ 0.7	$ 0.8	$ 0.4	$ 0.4	$ 0.4	$ 0.6	$ 0.6	$ 0.7	$ 0.5	$ 0.5	$ 0.6	$ 1.1	$ 1.0	$ 1.1	$ 0.3	$ 0.3	$ 0.3	$ 0.6	$ 0.6	$ 0.6	$ 0.1	$ 0.1	$ 0.1
2027	$ 0.2	$ 0.2	$ 0.2	$ 0.7	$ 0.7	$ 0.8	$ 0.4	$ 0.4	$ 0.4	$ 0.6	$ 0.5	$ 0.6	$ 0.5	$ 0.5	$ 0.5	$ 1.0	$ 0.9	$ 1.0	$ 0.3	$ 0.2	$ 0.3	$ 0.6	$ 0.5	$ 0.6	$ 0.1	$ 0.1	$ 0.1
2028	$ 0.2	$ 0.2	$ 0.2	$ 0.7	$ 0.6	$ 0.7	$ 0.4	$ 0.3	$ 0.4	$ 0.6	$ 0.5	$ 0.6	$ 0.5	$ 0.4	$ 0.5	$ 0.9	$ 0.9	$ 1.0	$ 0.2	$ 0.2	$ 0.3	$ 0.5	$ 0.5	$ 0.6	$ 0.1	$ 0.1	$ 0.1
2029	$ 0.2	$ 0.2	$ 0.2	$ 0.6	$ 0.6	$ 0.7	$ 0.3	$ 0.3	$ 0.4	$ 0.5	$ 0.5	$ 0.6	$ 0.4	$ 0.4	$ 0.5	$ 0.9	$ 0.8	$ 0.9	$ 0.2	$ 0.2	$ 0.2	$ 0.5	$ 0.5	$ 0.5	$ 0.1	$ 0.1	$ 0.1
Total	**$ 5.4**	**$ 5.0**	**$ 5.8**	**$ 20.2**	**$ 18.6**	**$ 21.8**	**$ 10.8**	**$ 9.9**	**$ 11.6**	**$ 16.5**	**$ 15.0**	**$ 17.9**	**$ 14.0**	**$ 12.8**	**$ 15.2**	**$ 28.9**	**$ 27.4**	**$ 30.5**	**$ 7.7**	**$ 7.2**	**$ 8.2**	**$ 17.4**	**$ 16.2**	**$ 18.6**	**$ 2.7**	**$ 2.5**	**$ 2.9**
Ann.	**$ 0.5**	**$ 0.4**	**$ 0.5**	**$ 1.7**	**$ 1.6**	**$ 1.9**	**$ 0.9**	**$ 0.9**	**$ 1.0**	**$ 1.4**	**$ 1.3**	**$ 1.5**	**$ 1.2**	**$ 1.1**	**$ 1.3**	**$ 2.5**	**$ 2.3**	**$ 2.6**	**$ 0.7**	**$ 0.6**	**$ 0.7**	**$ 1.5**	**$ 1.4**	**$ 1.6**	**$ 0.2**	**$ 0.2**	**$ 0.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2cb Present Value of Non-Treatment Costs at 7% Discount Rate, by System Size
(Ground Water CWSs)

	<100					100-499					500-999					1,000-3,300					3,301-9,999				
Year	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.6	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 1.4	$ -	$ -	$ -	$ 0.0	$ 1.7	$ -	$ -	$ -	$ 0.0	$ 0.8	$ -	$ -	$ -
2009	$ 0.3	$ -	$ 0.1	$ -	$ -	$ 0.3	$ -	$ 0.1	$ -	$ -	$ 0.1	$ -	$ 0.3	$ -	$ -	$ 0.2	$ -	$ 0.4	$ -	$ -	$ 0.1	$ -	$ 0.2	$ -	$ -
2010	$ 0.2	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2013	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ -
2014	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2015	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2016	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2017	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2018	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2019	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2020	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2021	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -
Total	**$ 1.2**	**$ 0.2**	**$ 0.1**	**$ 0.5**	**$ -**	**$ 1.4**	**$ 0.2**	**$ 0.1**	**$ 0.7**	**$ -**	**$ 0.7**	**$ 1.4**	**$ 0.3**	**$ 3.1**	**$ -**	**$ 0.8**	**$ 1.7**	**$ 0.4**	**$ 3.8**	**$ -**	**$ 0.4**	**$ 0.8**	**$ 0.2**	**$ 1.7**	**$ -**
Ann.	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ -**

	10,000-49,999					50,000-99,999					100,000-999,999					1,000,000+				
Year	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -
2007	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -
2008	$ 0.0	$ 0.6	$ 0.1	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2009	$ 0.1	$ -	$ 0.1	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2013	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2014	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2015	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2016	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2017	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2018	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2019	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2020	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2021	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.0)	$ -	$ -	$ -	$ -	$ (0.0)	$ -
Total	**$ 0.6**	**$ 1.2**	**$ 0.2**	**$ 0.7**	**$ -**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ (0.6)**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.2)**	**$ -**
Ann.	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.1)**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ (0.0)**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2cc Present Value of Total Costs at 7% Discount Rate, by System Size

(Ground Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2006	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2008	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2009	$ 0.5	$ 0.4	$ 0.5	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2010	$ 0.4	$ 0.4	$ 0.5	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.4	$ 0.3	$ 0.4	$ 0.5	$ 0.5	$ 0.6	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.4	$ 0.4	$ 0.5	$ 0.6	$ 0.5	$ 0.7	$ 0.3	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.5	$ 0.4	$ 0.5	$ 0.6	$ 0.6	$ 0.7	$ 0.4	$ 0.4	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.5	$ 0.4	$ 0.5	$ 0.6	$ 0.6	$ 0.7	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.3	$ 0.3	$ 0.4	$ 0.5	$ 0.4	$ 0.5	$ 0.3	$ 0.3	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.3	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.2	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 5.2**	**$ 4.8**	**$ 5.6**	**$ 7.0**	**$ 6.3**	**$ 7.7**	**$ 4.2**	**$ 3.9**	**$ 4.5**	**$ 2.1**	**$ 1.9**	**$ 2.3**	**$ 0.4**	**$ 0.3**	**$ 0.4**	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.4**	**$ 0.4**	**$ 0.5**	**$ 0.6**	**$ 0.5**	**$ 0.7**	**$ 0.4**	**$ 0.3**	**$ 0.4**	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Exhibit J.2cd Present Value of Capital Costs at 7% Discount Rate, by System Size
(Ground Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound		Operational Evaluation	90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.3	$ 0.3	$ 0.4	$ 0.5	$ 0.4	$ 0.6	$ 0.3	$ 0.2	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2010	$ 0.3	$ 0.3	$ 0.3	$ 0.5	$ 0.4	$ 0.6	$ 0.2	$ 0.2	$ 0.3	$ 0.2	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.3	$ 0.2	$ 0.3	$ 0.5	$ 0.4	$ 0.5	$ 0.2	$ 0.2	$ 0.3	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.3	$ 0.2	$ 0.3	$ 0.4	$ 0.4	$ 0.5	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.2	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.5	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ 0.2	$ 0.2	$ 0.3	$ 0.4	$ 0.3	$ 0.4	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 1.8**	**$ 1.5**	**$ 2.0**	**$ 2.8**	**$ 2.4**	**$ 3.2**	**$ 1.4**	**$ 1.2**	**$ 1.6**	**$ 0.9**	**$ 0.7**	**$ 1.1**	**$ 0.3**	**$ 0.2**	**$ 0.3**	**$ 0.1**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.2**	**$ 0.1**	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.3**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.
Source: Derived from Exhibits J.2a through rr.

Exhibit J.2ce Present Value of O&M Costs at 7% Discount Rate, by System Size
(Ground Water NTNCWSs)

	<100			100-499			500-999			1,000-3,300			3,301-9,999			10,000-49,999			50,000-99,999			100,000-999,999			1,000,000+		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Operational Evaluation	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2011	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2012	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2013	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2014	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2015	$ 0.2	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2016	$ 0.2	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2017	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2018	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2019	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2020	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2021	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.2	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2022	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2023	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.2	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2024	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2025	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2026	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2027	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2028	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
2029	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ -
Total	**$ 2.0**	**$ 1.9**	**$ 2.2**	**$ 3.0**	**$ 2.8**	**$ 3.3**	**$ 1.3**	**$ 1.2**	**$ 1.4**	**$ 0.6**	**$ 0.5**	**$ 0.6**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.2**	**$ 0.2**	**$ 0.2**	**$ 0.3**	**$ 0.2**	**$ 0.3**	**$ 0.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.
Source: Derived from Exhibits J.2a through rr.

Exhibit J.2cf Present Value of Non-Treatment Costs at 7% Discount Rate, by System Size
(Ground Water NTNCWSs)

Year	<100					100-499					500-999					1,000-3,300					3,301-9,999				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2009	$ 0.1	$ -	$ 0.0	$ -	$ -	$ 0.1	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2013	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2014	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -
2015	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2016	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2017	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2018	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2019	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2020	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2021	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -
Total	**$ 0.4**	**$ -**	**$ 0.0**	**$ 1.0**	**$ -**	**$ 0.3**	**$ -**	**$ 0.0**	**$ 0.8**	**$ -**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 1.4**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.6**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**
Ann.	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**

Year	10,000-49,999					50,000-99,999					100,000-999,999					1,000,000+				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ 0.0	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2013	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2014	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.1**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Ann.	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.0**	**$ -**	**$ 0.0**	**$ 0.0**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.2a through rr.

Section J.3
Cost Projections (Alternative 1)

Exhibit J.3a Projections of Stage 2 DBPR PWS Costs

(All Surface Water CWSs)

Alternative 1

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.87	$ -	$ -	$ -	$ -	$ 0.87	$ 0.87	$ 0.87
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.15	$10.60	$ -	$ -	$ -	$ 11.76	$ 11.76	$ 11.76
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$22.94	$ 0.28	$ -	$ -	$ 23.22	$ 23.22	$ 23.22
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	$15.99	$ 0.64	$ -	$ -	$ 17.40	$ 17.40	$ 17.40
2009	$ 429.81	$245.90	$ 630.48	$ -	$ -	$ -	$ 0.67	$ -	$ 0.74	$ -	$ -	$ 431.22	$ 247.31	$ 631.89
2010	$ 429.81	$245.90	$ 630.48	$ 37.45	$ 21.68	$ 53.56	$ 0.58	$ -	$ -	$ -	$ -	$ 467.84	$ 268.15	$ 684.62
2011	$ 429.81	$245.90	$ 630.48	$ 74.91	$ 43.36	$ 107.12	$ -	$ -	$ -	$ 0.42	$ -	$ 505.14	$ 289.67	$ 738.02
2012	$ 429.81	$245.90	$ 630.48	$112.36	$ 65.03	$ 160.68	$ -	$ -	$ -	$ (0.77)	$ 0.06	$ 541.47	$ 310.22	$ 790.45
2013	$ 116.46	$ 66.68	$ 170.03	$149.82	$ 86.71	$ 214.23	$ -	$ -	$ -	$ (2.07)	$ 0.15	$ 264.35	$ 151.48	$ 382.34
2014	$ 60.11	$ 34.47	$ 87.58	$158.67	$ 91.85	$ 226.87	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 216.92	$ 124.46	$ 312.60
2015	$ 14.34	$ 8.25	$ 20.78	$163.35	$ 94.56	$ 233.55	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 175.84	$ 100.95	$ 252.48
2016	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2017	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2018	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2019	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2020	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2021	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2022	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2023	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2024	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2025	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2026	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2027	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2028	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41
2029	$ -	$ -	$ -	$164.56	$ 95.26	$ 235.27	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 162.70	$ 93.40	$ 233.41

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3b Projections of Stage 2 DBPR PWS Costs

(All Surface Water NTNCWSs)

Alternative 1

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.01	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.00	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2009	$ 2.82	$ 1.61	$ 4.11	$ -	$ -	$ -	$ 0.04	$ -	$ 0.01	$ -	$ -	$ 2.86	$ 1.66	$ 4.16
2010	$ 2.82	$ 1.61	$ 4.11	$ 0.26	$ 0.15	$ 0.36	$ 0.04	$ -	$ -	$ -	$ -	$ 3.11	$ 1.80	$ 4.51
2011	$ 2.82	$ 1.61	$ 4.11	$ 0.51	$ 0.30	$ 0.73	$ -	$ -	$ -	$ 0.00	$ -	$ 3.33	$ 1.91	$ 4.84
2012	$ 2.82	$ 1.61	$ 4.11	$ 0.77	$ 0.44	$ 1.09	$ -	$ -	$ -	$ 0.02	$ -	$ 3.60	$ 2.08	$ 5.22
2013	$ 2.38	$ 1.37	$ 3.47	$ 1.02	$ 0.59	$ 1.46	$ -	$ -	$ -	$ 0.03	$ -	$ 3.43	$ 1.99	$ 4.95
2014	$ 2.22	$ 1.27	$ 3.23	$ 1.24	$ 0.72	$ 1.77	$ -	$ -	$ -	$ 0.03	$ -	$ 3.49	$ 2.02	$ 5.03
2015	$ 1.03	$ 0.59	$ 1.49	$ 1.45	$ 0.84	$ 2.06	$ -	$ -	$ -	$ 0.03	$ -	$ 2.50	$ 1.46	$ 3.59
2016	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2017	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2018	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2019	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2020	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2021	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2022	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2023	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2024	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2025	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2026	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2027	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2028	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23
2029	$ -	$ -	$ -	$ 1.55	$ 0.90	$ 2.20	$ -	$ -	$ -	$ 0.03	$ -	$ 1.58	$ 0.93	$ 2.23

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3c Projections of Stage 2 DBPR PWS Costs

(All Surface Water Systems)

Alternative 1

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ -	$ -	$ -	$ -	$ 0.88	$ 0.88	$ 0.88
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.22	$ 10.62	$ -	$ -	$ -	$ 11.84	$ 11.84	$ 11.84
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.98	$ 0.28	$ -	$ -	$ 23.26	$ 23.26	$ 23.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.79	$ 16.01	$ 0.64	$ -	$ -	$ 17.44	$ 17.44	$ 17.44
2009	$ 432.63	$ 247.51	$ 634.59	$ -	$ -	$ -	$ 0.71	$ -	$ 0.75	$ -	$ -	$ 434.09	$ 248.97	$ 636.05
2010	$ 432.63	$ 247.51	$ 634.59	$ 37.71	$ 21.83	$ 53.92	$ 0.61	$ -	$ -	$ -	$ -	$ 470.95	$ 269.95	$ 689.12
2011	$ 432.63	$ 247.51	$ 634.59	$ 75.42	$ 43.65	$ 107.85	$ -	$ -	$ -	$ 0.42	$ -	$ 508.47	$ 291.59	$ 742.86
2012	$ 432.63	$ 247.51	$ 634.59	$ 113.13	$ 65.48	$ 161.77	$ -	$ -	$ -	$ (0.75)	$ 0.06	$ 545.07	$ 312.30	$ 795.67
2013	$ 118.84	$ 68.05	$ 173.50	$ 150.84	$ 87.30	$ 215.69	$ -	$ -	$ -	$ (2.04)	$ 0.15	$ 267.78	$ 153.46	$ 387.30
2014	$ 62.32	$ 35.74	$ 90.81	$ 159.91	$ 92.57	$ 228.64	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 220.41	$ 126.48	$ 317.63
2015	$ 15.37	$ 8.84	$ 22.28	$ 164.80	$ 95.40	$ 235.62	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 178.35	$ 102.41	$ 256.07
2016	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2017	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2018	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2019	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2020	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2021	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2022	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2023	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2024	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2025	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2026	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2027	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2028	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64
2029	$ -	$ -	$ -	$ 166.10	$ 96.15	$ 237.47	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 164.27	$ 94.33	$ 235.64

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3d Projections of Stage 2 DBPR PWS Costs

(All Ground Water CWSs)

Alternative 1

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.31	$ 0.09	$ -	$ -	$ -	$ 3.40	$ 3.40	$ 3.40
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 97.73	$ 83.85	$ 111.64	$ -	$ -	$ -	$ 1.69	$ -	$ 1.74	$ -	$ -	$ 101.15	$ 87.28	$ 115.07
2010	$ 97.73	$ 83.85	$ 111.64	$ 8.99	$ 8.33	$ 9.65	$ 1.66	$ -	$ -	$ -	$ -	$ 108.38	$ 93.84	$ 122.95
2011	$ 97.73	$ 83.85	$ 111.64	$ 17.98	$ 16.66	$ 19.31	$ -	$ -	$ -	$ (0.11)	$ -	$ 115.60	$ 100.41	$ 130.84
2012	$ 97.73	$ 83.85	$ 111.64	$ 26.98	$ 25.00	$ 28.96	$ -	$ -	$ -	$ 0.83	$ -	$ 125.53	$ 109.68	$ 141.43
2013	$ 69.24	$ 59.20	$ 79.33	$ 35.97	$ 33.33	$ 38.61	$ -	$ -	$ -	$ 1.76	$ -	$ 106.97	$ 94.28	$ 119.71
2014	$ 51.85	$ 44.06	$ 59.68	$ 41.89	$ 38.83	$ 44.95	$ -	$ -	$ -	$ 1.76	$ -	$ 95.50	$ 84.64	$ 106.39
2015	$ 19.52	$ 16.44	$ 22.61	$ 46.13	$ 42.77	$ 49.50	$ -	$ -	$ -	$ 1.76	$ -	$ 67.41	$ 60.97	$ 73.86
2016	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2017	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2018	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2019	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2020	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2021	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2022	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2023	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2024	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2025	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2026	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2027	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2028	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87
2029	$ -	$ -	$ -	$ 47.64	$ 44.17	$ 51.11	$ -	$ -	$ -	$ 1.76	$ -	$ 49.40	$ 45.93	$ 52.87

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3e Projections of Stage 2 DBPR PWS Costs

(All Ground Water NTNCWSs)

Alternative 1

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ -	$ 0.56	$ 0.56	$ 0.56
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 2.65	$ 2.25	$ 3.04	$ -	$ -	$ -	$ 0.28	$ -	$ 0.21	$ -	$ -	$ 3.14	$ 2.75	$ 3.53
2010	$ 2.65	$ 2.25	$ 3.04	$ 0.27	$ 0.25	$ 0.29	$ 0.28	$ -	$ -	$ -	$ -	$ 3.19	$ 2.78	$ 3.61
2011	$ 2.65	$ 2.25	$ 3.04	$ 0.54	$ 0.50	$ 0.58	$ -	$ -	$ -	$ 0.00	$ -	$ 3.19	$ 2.75	$ 3.62
2012	$ 2.65	$ 2.25	$ 3.04	$ 0.80	$ 0.75	$ 0.86	$ -	$ -	$ -	$ 0.36	$ -	$ 3.81	$ 3.36	$ 4.26
2013	$ 2.62	$ 2.23	$ 3.01	$ 1.07	$ 0.99	$ 1.15	$ -	$ -	$ -	$ 0.71	$ -	$ 4.40	$ 3.93	$ 4.87
2014	$ 2.58	$ 2.20	$ 2.97	$ 1.34	$ 1.24	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 4.63	$ 4.15	$ 5.12
2015	$ 1.28	$ 1.09	$ 1.47	$ 1.60	$ 1.48	$ 1.72	$ -	$ -	$ -	$ 0.71	$ -	$ 3.59	$ 3.28	$ 3.90
2016	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2017	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2018	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2019	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2020	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2021	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2022	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2023	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2024	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2025	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2026	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2027	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2028	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57
2029	$ -	$ -	$ -	$ 1.73	$ 1.60	$ 1.86	$ -	$ -	$ -	$ 0.71	$ -	$ 2.44	$ 2.31	$ 2.57

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3f Projections of Stage 2 DBPR PWS Costs

(All Ground Water Systems)

Alternative 1

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound					Monitoring	erational Evalua		90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans			Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.87	$ 0.09	$ -	$ -	$ -	$ 3.96	$ 3.96	$ 3.96
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 100.38	$ 86.11	$ 114.69	$ -	$ -	$ -	$ 1.97	$ -	$ 1.95	$ -	$ -	$ 104.29	$ 90.03	$ 118.61
2010	$ 100.38	$ 86.11	$ 114.69	$ 9.26	$ 8.58	$ 9.94	$ 1.94	$ -	$ -	$ -	$ -	$ 111.57	$ 96.62	$ 126.56
2011	$ 100.38	$ 86.11	$ 114.69	$ 18.52	$ 17.16	$ 19.88	$ -	$ -	$ -	$ (0.11)	$ -	$ 118.79	$ 103.16	$ 134.46
2012	$ 100.38	$ 86.11	$ 114.69	$ 27.78	$ 25.74	$ 29.82	$ -	$ -	$ -	$ 1.18	$ -	$ 129.34	$ 113.03	$ 145.70
2013	$ 71.86	$ 61.42	$ 82.34	$ 37.04	$ 34.32	$ 39.77	$ -	$ -	$ -	$ 2.47	$ -	$ 111.37	$ 98.21	$ 124.58
2014	$ 54.44	$ 46.25	$ 62.65	$ 43.22	$ 40.07	$ 46.39	$ -	$ -	$ -	$ 2.47	$ -	$ 100.13	$ 88.79	$ 111.51
2015	$ 20.80	$ 17.53	$ 24.08	$ 47.73	$ 44.26	$ 51.21	$ -	$ -	$ -	$ 2.47	$ -	$ 71.00	$ 64.26	$ 77.76
2016	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2017	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2018	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2019	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2020	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2021	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2022	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2023	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2024	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2025	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2026	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2027	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2028	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43
2029	$ -	$ -	$ -	$ 49.37	$ 45.78	$ 52.96	$ -	$ -	$ -	$ 2.47	$ -	$ 51.84	$ 48.25	$ 55.43

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3g Projections of Stage 2 DBPR PWS Costs

(All Systems)

Alternative 1

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound					Monitoring	rational Evalua		90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans			Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.06	$ -	$ -	$ -	$ -	$ 1.06	$ 1.06	$ 1.06
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.09	$ 10.70	$ -	$ -	$ -	$ 15.80	$ 15.80	$ 15.80
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24.07	$ 0.30	$ -	$ -	$ 24.36	$ 24.36	$ 24.36
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.93	$ 22.67	$ 0.85	$ -	$ -	$ 24.45	$ 24.45	$ 24.45
2009	$ 533.00	$ 333.62	$ 749.27	$ -	$ -	$ -	$ 2.68	$ -	$ 2.70	$ -	$ -	$ 538.38	$ 339.00	$ 754.65
2010	$ 533.00	$ 333.62	$ 749.27	$ 46.97	$ 30.41	$ 63.86	$ 2.55	$ -	$ -	$ -	$ -	$ 582.52	$ 366.57	$ 815.69
2011	$ 533.00	$ 333.62	$ 749.27	$ 93.94	$ 60.81	$ 127.73	$ -	$ -	$ -	$ 0.32	$ -	$ 627.26	$ 394.75	$ 877.32
2012	$ 533.00	$ 333.62	$ 749.27	$ 140.91	$ 91.22	$ 191.59	$ -	$ -	$ -	$ 0.43	$ 0.06	$ 674.41	$ 425.33	$ 941.36
2013	$ 190.70	$ 129.47	$ 255.84	$ 187.88	$ 121.63	$ 255.46	$ -	$ -	$ -	$ 0.43	$ 0.15	$ 379.16	$ 251.68	$ 511.87
2014	$ 116.76	$ 82.00	$ 153.46	$ 203.14	$ 132.63	$ 275.03	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 320.54	$ 215.27	$ 429.14
2015	$ 36.17	$ 26.36	$ 46.35	$ 212.53	$ 139.66	$ 286.83	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 249.35	$ 166.67	$ 333.83
2016	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2017	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2018	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2019	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2020	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2021	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2022	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2023	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2024	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2025	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2026	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2027	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2028	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08
2029	$ -	$ -	$ -	$ 215.47	$ 141.93	$ 290.43	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 216.11	$ 142.57	$ 291.08

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1b and Exhibits D.1 through D.6.

Exhibit J.3h Projections of Stage 2 DBPR Primacy Agency Costs

Alternative 1

Year	Implementation Costs	IDSE Costs	Monitoring Plan Costs	Compliance Monitoring Costs	Operational Evaluation
2005	$ 3.88	$ -	$ -	$ -	$ -
2006	$ 3.88	$ 0.05	$ -	$ -	$ -
2007	$ -	$ 0.14	$ 0.02	$ -	$ -
2008	$ -	$ 2.03	$ 0.06	$ -	$ -
2009	$ -	$ -	$ 0.84	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 1.59	$ 0.11
2012	$ -	$ -	$ -	$ 1.59	$ 0.11
2013	$ -	$ -	$ -	$ 1.59	$ 0.11
2014	$ -	$ -	$ -	$ 1.59	$ 0.11
2015	$ -	$ -	$ -	$ 1.59	$ 0.11
2016	$ -	$ -	$ -	$ 1.59	$ 0.11
2017	$ -	$ -	$ -	$ 1.59	$ 0.11
2018	$ -	$ -	$ -	$ 1.59	$ 0.11
2019	$ -	$ -	$ -	$ 1.59	$ 0.11
2020	$ -	$ -	$ -	$ 1.59	$ 0.11
2021	$ -	$ -	$ -	$ 1.59	$ 0.11
2022	$ -	$ -	$ -	$ 1.59	$ 0.11
2023	$ -	$ -	$ -	$ 1.59	$ 0.11
2024	$ -	$ -	$ -	$ 1.59	$ 0.11
2025	$ -	$ -	$ -	$ 1.59	$ 0.11
2026	$ -	$ -	$ -	$ 1.59	$ 0.11
2027	$ -	$ -	$ -	$ 1.59	$ 0.11
2028	$ -	$ -	$ -	$ 1.59	$ 0.11
2029	$ -	$ -	$ -	$ 1.59	$ 0.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1h and D.7.

Exhibit J.3i Present Value of Annual Capital Cost Projections at 3% Discount Rate

(All Systems and Primacy Agencies)

Alternative 1

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.7	$ 4.7	$ 4.7	$ 4.7
2006	$ 10.8	$ 10.8	$ 10.8	$ 0.1	$ 0.1	$ 0.1	$ 3.1	$ 3.1	$ 3.1	$ 0.5	$ 0.5	$ 0.5	$ 3.6	$ 18.1	$ 18.1	$ 18.1
2007	$ 20.6	$ 20.6	$ 20.6	$ 0.0	$ 0.0	$ 0.0	$ 1.0	$ 1.0	$ 1.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 21.8	$ 21.8	$ 21.8
2008	$ 15.0	$ 15.0	$ 15.0	$ 0.0	$ 0.0	$ 0.0	$ 6.0	$ 6.0	$ 6.0	$ 0.0	$ 0.0	$ 0.0	$ 1.8	$ 22.9	$ 22.9	$ 22.9
2009	$ 361.1	$ 207.1	$ 529.2	$ 2.4	$ 1.4	$ 3.5	$ 84.7	$ 73.1	$ 96.4	$ 2.6	$ 2.3	$ 3.0	$ 0.7	$ 451.6	$ 284.6	$ 632.7
2010	$ 380.4	$ 218.0	$ 556.7	$ 2.5	$ 1.5	$ 3.7	$ 88.1	$ 76.3	$ 100.0	$ 2.6	$ 2.3	$ 2.9	$ -	$ 473.6	$ 298.1	$ 663.2
2011	$ 398.8	$ 228.7	$ 582.6	$ 2.6	$ 1.5	$ 3.8	$ 91.3	$ 79.3	$ 103.3	$ 2.5	$ 2.2	$ 2.9	$ 1.3	$ 496.5	$ 313.0	$ 693.9
2012	$ 415.0	$ 237.8	$ 605.8	$ 2.8	$ 1.6	$ 4.0	$ 96.2	$ 84.1	$ 108.4	$ 2.9	$ 2.6	$ 3.3	$ 1.3	$ 518.2	$ 327.3	$ 722.8
2013	$ 196.7	$ 112.7	$ 284.5	$ 2.6	$ 1.5	$ 3.7	$ 79.6	$ 70.2	$ 89.1	$ 3.3	$ 2.9	$ 3.6	$ 1.3	$ 283.4	$ 188.5	$ 382.2
2014	$ 156.7	$ 89.9	$ 225.8	$ 2.5	$ 1.5	$ 3.6	$ 69.0	$ 61.1	$ 76.9	$ 3.3	$ 3.0	$ 3.7	$ 1.2	$ 232.8	$ 156.8	$ 311.3
2015	$ 123.3	$ 70.8	$ 177.1	$ 1.8	$ 1.0	$ 2.5	$ 47.3	$ 42.8	$ 51.8	$ 2.5	$ 2.3	$ 2.7	$ 1.2	$ 176.1	$ 118.1	$ 235.3
2016	$ 110.8	$ 63.6	$ 158.9	$ 1.1	$ 0.6	$ 1.5	$ 33.6	$ 31.3	$ 36.0	$ 1.7	$ 1.6	$ 1.7	$ 1.2	$ 148.3	$ 98.2	$ 199.4
2017	$ 107.6	$ 61.7	$ 154.3	$ 1.0	$ 0.6	$ 1.5	$ 32.7	$ 30.4	$ 35.0	$ 1.6	$ 1.5	$ 1.7	$ 1.1	$ 144.0	$ 95.4	$ 193.6
2018	$ 104.4	$ 60.0	$ 149.8	$ 1.0	$ 0.6	$ 1.4	$ 31.7	$ 29.5	$ 33.9	$ 1.6	$ 1.5	$ 1.6	$ 1.1	$ 139.8	$ 92.6	$ 187.9
2019	$ 101.4	$ 58.2	$ 145.5	$ 1.0	$ 0.6	$ 1.4	$ 30.8	$ 28.6	$ 32.9	$ 1.5	$ 1.4	$ 1.6	$ 1.1	$ 135.7	$ 89.9	$ 182.5
2020	$ 98.4	$ 56.5	$ 141.2	$ 1.0	$ 0.6	$ 1.4	$ 29.9	$ 27.8	$ 32.0	$ 1.5	$ 1.4	$ 1.6	$ 1.0	$ 131.8	$ 87.3	$ 177.1
2021	$ 95.6	$ 54.9	$ 137.1	$ 0.9	$ 0.5	$ 1.3	$ 29.0	$ 27.0	$ 31.1	$ 1.4	$ 1.4	$ 1.5	$ 1.0	$ 127.9	$ 84.7	$ 172.0
2022	$ 92.8	$ 53.3	$ 133.1	$ 0.9	$ 0.5	$ 1.3	$ 28.2	$ 26.2	$ 30.1	$ 1.4	$ 1.3	$ 1.5	$ 1.0	$ 124.2	$ 82.3	$ 167.0
2023	$ 90.1	$ 51.7	$ 129.2	$ 0.9	$ 0.5	$ 1.2	$ 27.3	$ 25.4	$ 29.3	$ 1.4	$ 1.3	$ 1.4	$ 0.9	$ 120.6	$ 79.9	$ 162.1
2024	$ 87.5	$ 50.2	$ 125.5	$ 0.8	$ 0.5	$ 1.2	$ 26.6	$ 24.7	$ 28.4	$ 1.3	$ 1.2	$ 1.4	$ 0.9	$ 117.1	$ 77.6	$ 157.4
2025	$ 84.9	$ 48.7	$ 121.8	$ 0.8	$ 0.5	$ 1.2	$ 25.8	$ 24.0	$ 27.6	$ 1.3	$ 1.2	$ 1.3	$ 0.9	$ 113.7	$ 75.3	$ 152.8
2026	$ 82.4	$ 47.3	$ 118.3	$ 0.8	$ 0.5	$ 1.1	$ 25.0	$ 23.3	$ 26.8	$ 1.2	$ 1.2	$ 1.3	$ 0.9	$ 110.4	$ 73.1	$ 148.4
2027	$ 80.0	$ 45.9	$ 114.8	$ 0.8	$ 0.5	$ 1.1	$ 24.3	$ 22.6	$ 26.0	$ 1.2	$ 1.1	$ 1.3	$ 0.8	$ 107.2	$ 71.0	$ 144.0
2028	$ 77.7	$ 44.6	$ 111.5	$ 0.8	$ 0.4	$ 1.1	$ 23.6	$ 21.9	$ 25.2	$ 1.2	$ 1.1	$ 1.2	$ 0.8	$ 104.0	$ 68.9	$ 139.8
2029	$ 75.4	$ 43.3	$ 108.2	$ 0.7	$ 0.4	$ 1.0	$ 22.9	$ 21.3	$ 24.5	$ 1.1	$ 1.1	$ 1.2	$ 0.8	$ 101.0	$ 66.9	$ 135.8
Total	**$ 3,368.3**	**$ 1,952.2**	**$ 4,858.2**	**$ 29.8**	**$ 17.4**	**$ 42.6**	**$ 957.8**	**$ 861.0**	**$ 1,054.9**	**$ 39.7**	**$ 36.4**	**$ 42.9**	**$ 29.8**	**$ 4,425.4**	**$ 2,896.8**	**$ 6,028.5**
Ann.	**$ 193.4**	**$ 112.1**	**$ 279.0**	**$ 1.7**	**$ 1.0**	**$ 2.4**	**$ 55.0**	**$ 49.4**	**$ 60.6**	**$ 2.3**	**$ 2.1**	**$ 2.5**	**$ 1.7**	**$ 254.1**	**$ 166.4**	**$ 346.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3j Present Value of Annual O&M Treatment Cost Projections at 3% Discount Rate
(All Systems)

Alternative 1

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 360.0	$ 205.9	$ 528.0	$ 2.4	$ 1.4	$ 3.4	$ 81.8	$ 70.2	$ 93.5	$ 2.2	$ 1.9	$ 2.5	$ 446.4	$ 279.4	$ 627.5
2010	$ 349.5	$ 199.9	$ 512.6	$ 2.3	$ 1.3	$ 3.3	$ 79.5	$ 68.2	$ 90.8	$ 2.2	$ 1.8	$ 2.5	$ 433.4	$ 271.3	$ 609.2
2011	$ 339.3	$ 194.1	$ 497.7	$ 2.2	$ 1.3	$ 3.2	$ 77.1	$ 66.2	$ 88.1	$ 2.1	$ 1.8	$ 2.4	$ 420.8	$ 263.4	$ 591.5
2012	$ 329.4	$ 188.5	$ 483.2	$ 2.2	$ 1.2	$ 3.1	$ 74.9	$ 64.3	$ 85.6	$ 2.0	$ 1.7	$ 2.3	$ 408.5	$ 255.7	$ 574.3
2013	$ 86.7	$ 49.6	$ 126.5	$ 1.8	$ 1.0	$ 2.6	$ 51.5	$ 44.0	$ 59.0	$ 1.9	$ 1.7	$ 2.2	$ 141.9	$ 96.3	$ 190.4
2014	$ 43.4	$ 24.9	$ 63.3	$ 1.6	$ 0.9	$ 2.3	$ 37.5	$ 31.8	$ 43.1	$ 1.9	$ 1.6	$ 2.1	$ 84.4	$ 59.2	$ 110.9
2015	$ 10.1	$ 5.8	$ 14.6	$ 0.7	$ 0.4	$ 1.0	$ 13.7	$ 11.5	$ 15.9	$ 0.9	$ 0.8	$ 1.0	$ 25.4	$ 18.5	$ 32.5
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 1,518.3**	**$ 868.8**	**$ 2,225.9**	**$ 13.1**	**$ 7.5**	**$ 19.1**	**$ 416.0**	**$ 356.3**	**$ 476.0**	**$ 13.2**	**$ 11.2**	**$ 15.2**	**$ 1,960.6**	**$ 1,243.8**	**$ 2,736.2**
Ann.	**$ 87.2**	**$ 49.9**	**$ 127.8**	**$ 0.8**	**$ 0.4**	**$ 1.1**	**$ 23.9**	**$ 20.5**	**$ 27.3**	**$ 0.8**	**$ 0.6**	**$ 0.9**	**$ 112.6**	**$ 71.4**	**$ 157.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3k Present Value of Annual Treatment Cost Projections at 3% Discount Rate
(All Systems)

Alternative 1

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 30.5	$ 17.6	$ 43.5	$ 0.2	$ 0.1	$ 0.3	$ 7.3	$ 6.8	$ 7.8	$ 0.2	$ 0.2	$ 0.2	$ 38.2	$ 24.7	$ 51.9
2011	$ 59.1	$ 34.2	$ 84.6	$ 0.4	$ 0.2	$ 0.6	$ 14.2	$ 13.2	$ 15.2	$ 0.4	$ 0.4	$ 0.5	$ 74.2	$ 48.0	$ 100.8
2012	$ 86.1	$ 49.8	$ 123.1	$ 0.6	$ 0.3	$ 0.8	$ 20.7	$ 19.2	$ 22.2	$ 0.6	$ 0.6	$ 0.7	$ 108.0	$ 69.9	$ 146.8
2013	$ 111.5	$ 64.5	$ 159.4	$ 0.8	$ 0.4	$ 1.1	$ 26.8	$ 24.8	$ 28.7	$ 0.8	$ 0.7	$ 0.9	$ 139.8	$ 90.5	$ 190.1
2014	$ 114.6	$ 66.4	$ 163.9	$ 0.9	$ 0.5	$ 1.3	$ 30.3	$ 28.0	$ 32.5	$ 1.0	$ 0.9	$ 1.0	$ 146.8	$ 95.8	$ 198.7
2015	$ 114.6	$ 66.3	$ 163.8	$ 1.0	$ 0.6	$ 1.4	$ 32.4	$ 30.0	$ 34.7	$ 1.1	$ 1.0	$ 1.2	$ 149.1	$ 98.0	$ 201.2
2016	$ 112.1	$ 64.9	$ 160.2	$ 1.1	$ 0.6	$ 1.5	$ 32.4	$ 30.1	$ 34.8	$ 1.2	$ 1.1	$ 1.3	$ 146.7	$ 96.6	$ 197.8
2017	$ 108.8	$ 63.0	$ 155.5	$ 1.0	$ 0.6	$ 1.5	$ 31.5	$ 29.2	$ 33.8	$ 1.1	$ 1.1	$ 1.2	$ 142.4	$ 93.8	$ 192.0
2018	$ 105.6	$ 61.1	$ 151.0	$ 1.0	$ 0.6	$ 1.4	$ 30.6	$ 28.4	$ 32.8	$ 1.1	$ 1.0	$ 1.2	$ 138.3	$ 91.1	$ 186.4
2019	$ 102.5	$ 59.4	$ 146.6	$ 1.0	$ 0.6	$ 1.4	$ 29.7	$ 27.5	$ 31.8	$ 1.1	$ 1.0	$ 1.2	$ 134.3	$ 88.4	$ 181.0
2020	$ 99.6	$ 57.6	$ 142.3	$ 0.9	$ 0.5	$ 1.3	$ 28.8	$ 26.7	$ 30.9	$ 1.0	$ 1.0	$ 1.1	$ 130.4	$ 85.9	$ 175.7
2021	$ 96.7	$ 56.0	$ 138.2	$ 0.9	$ 0.5	$ 1.3	$ 28.0	$ 25.9	$ 30.0	$ 1.0	$ 0.9	$ 1.1	$ 126.6	$ 83.4	$ 170.6
2022	$ 93.8	$ 54.3	$ 134.2	$ 0.9	$ 0.5	$ 1.3	$ 27.2	$ 25.2	$ 29.1	$ 1.0	$ 0.9	$ 1.1	$ 122.9	$ 80.9	$ 165.6
2023	$ 91.1	$ 52.7	$ 130.3	$ 0.9	$ 0.5	$ 1.2	$ 26.4	$ 24.5	$ 28.3	$ 1.0	$ 0.9	$ 1.0	$ 119.3	$ 78.6	$ 160.8
2024	$ 88.5	$ 51.2	$ 126.5	$ 0.8	$ 0.5	$ 1.2	$ 25.6	$ 23.7	$ 27.5	$ 0.9	$ 0.9	$ 1.0	$ 115.8	$ 76.3	$ 156.1
2025	$ 85.9	$ 49.7	$ 122.8	$ 0.8	$ 0.5	$ 1.1	$ 24.9	$ 23.1	$ 26.7	$ 0.9	$ 0.8	$ 1.0	$ 112.5	$ 74.1	$ 151.6
2026	$ 83.4	$ 48.3	$ 119.2	$ 0.8	$ 0.5	$ 1.1	$ 24.1	$ 22.4	$ 25.9	$ 0.9	$ 0.8	$ 0.9	$ 109.2	$ 71.9	$ 147.2
2027	$ 81.0	$ 46.9	$ 115.7	$ 0.8	$ 0.4	$ 1.1	$ 23.4	$ 21.7	$ 25.1	$ 0.9	$ 0.8	$ 0.9	$ 106.0	$ 69.8	$ 142.9
2028	$ 78.6	$ 45.5	$ 112.4	$ 0.7	$ 0.4	$ 1.1	$ 22.8	$ 21.1	$ 24.4	$ 0.8	$ 0.8	$ 0.9	$ 102.9	$ 67.8	$ 138.7
2029	$ 76.3	$ 44.2	$ 109.1	$ 0.7	$ 0.4	$ 1.0	$ 22.1	$ 20.5	$ 23.7	$ 0.8	$ 0.7	$ 0.9	$ 99.9	$ 65.8	$ 134.7
Total	**$ 1,820.1**	**$ 1,053.6**	**$ 2,602.3**	**$ 16.1**	**$ 9.3**	**$ 23.0**	**$ 509.0**	**$ 471.9**	**$ 546.1**	**$ 17.9**	**$ 16.5**	**$ 19.1**	**$ 2,363.1**	**$ 1,551.4**	**$ 3,190.6**
Ann.	**$ 104.5**	**$ 60.5**	**$ 149.4**	**$ 0.9**	**$ 0.5**	**$ 1.3**	**$ 29.2**	**$ 27.1**	**$ 31.4**	**$ 1.0**	**$ 1.0**	**$ 1.1**	**$ 135.7**	**$ 89.1**	**$ 183.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3l Present Value of Annual Non-Treatment Capital Cost Projections at 3% Discount Rate
(All Systems)

Alternative 1

	Surface Water CWS					Surface Water NTNCWS					Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS					Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -
2006	$ 1.1	$ 9.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 3.0	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 4.7	$ 9.8	$ -	$ -	$ -
2007	$ -	$ 20.4	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 1.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 21.4	$ 0.3	$ -	$ -
2008	$ 0.7	$ 13.8	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.1	$ 5.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.8	$ 19.6	$ 0.7	$ -	$ -
2009	$ 0.6	$ -	$ 0.6	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 1.4	$ -	$ 1.5	$ -	$ -	$ 0.2	$ -	$ 0.2	$ -	$ -	$ 2.2	$ -	$ 2.3	$ -	$ -
2010	$ 0.5	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 2.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -
2012	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ 0.0
2013	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2014	$ -	$ -	$ -	$ (1.5)	$ 0.2	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.2
2015	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2016	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2017	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2018	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2019	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2020	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2021	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2022	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2023	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2024	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2025	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2026	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2027	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2028	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2029	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
Total	**$ 3.6**	**$ 43.9**	**$ 1.4**	**$ (21.1)**	**$ 2.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 6.1**	**$ 6.8**	**$ 1.7**	**$ 18.3**	**$ -**	**$ 1.0**	**$ 0.0**	**$ 0.2**	**$ 7.5**	**$ -**	**$ 10.8**	**$ 50.7**	**$ 3.3**	**$ 4.9**	**$ 2.1**
Ann.	**$ 0.2**	**$ 2.5**	**$ 0.1**	**$ (1.2)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.3**	**$ 0.4**	**$ 0.1**	**$ 1.1**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.4**	**$ -**	**$ 0.6**	**$ 2.9**	**$ 0.2**	**$ 0.3**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3m Present Value of Annual O&M Cost Projections at 7% Discount Rate

(All Systems and Primacy Agencies)

Alternative 1

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.4	$ 4.3	$ 4.3	$ 4.3
2006	$ 9.6	$ 9.6	$ 9.6	$ 0.1	$ 0.1	$ 0.1	$ 2.8	$ 2.8	$ 2.8	$ 0.5	$ 0.5	$ 0.5	$ 3.2	$ 16.1	$ 16.1	$ 16.1
2007	$ 17.7	$ 17.7	$ 17.7	$ 0.0	$ 0.0	$ 0.0	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 18.7	$ 18.7	$ 18.7
2008	$ 12.4	$ 12.4	$ 12.4	$ 0.0	$ 0.0	$ 0.0	$ 5.0	$ 5.0	$ 5.0	$ 0.0	$ 0.0	$ 0.0	$ 1.5	$ 18.9	$ 18.9	$ 18.9
2009	$ 287.3	$ 164.8	$ 421.1	$ 1.9	$ 1.1	$ 2.8	$ 67.4	$ 58.2	$ 76.7	$ 2.1	$ 1.8	$ 2.4	$ 0.6	$ 359.3	$ 226.4	$ 503.4
2010	$ 291.3	$ 167.0	$ 426.3	$ 1.9	$ 1.1	$ 2.8	$ 67.5	$ 58.4	$ 76.6	$ 2.0	$ 1.7	$ 2.2	$ -	$ 362.8	$ 228.3	$ 508.0
2011	$ 294.0	$ 168.6	$ 429.5	$ 1.9	$ 1.1	$ 2.8	$ 67.3	$ 58.4	$ 76.2	$ 1.9	$ 1.6	$ 2.1	$ -	$ 366.1	$ 230.7	$ 511.6
2012	$ 294.5	$ 168.7	$ 430.0	$ 2.0	$ 1.1	$ 2.8	$ 68.3	$ 59.7	$ 76.9	$ 2.1	$ 1.8	$ 2.3	$ -	$ 367.8	$ 232.3	$ 513.0
2013	$ 134.4	$ 77.0	$ 194.4	$ 1.7	$ 1.0	$ 2.5	$ 54.4	$ 47.9	$ 60.9	$ 2.2	$ 2.0	$ 2.5	$ -	$ 193.6	$ 128.8	$ 261.1
2014	$ 103.1	$ 59.1	$ 148.5	$ 1.7	$ 1.0	$ 2.4	$ 45.4	$ 40.2	$ 50.5	$ 2.2	$ 2.0	$ 2.4	$ -	$ 153.1	$ 103.1	$ 204.7
2015	$ 78.1	$ 44.8	$ 112.1	$ 1.1	$ 0.6	$ 1.6	$ 29.9	$ 27.1	$ 32.8	$ 1.6	$ 1.5	$ 1.7	$ -	$ 111.5	$ 74.8	$ 149.0
2016	$ 67.5	$ 38.8	$ 96.9	$ 0.7	$ 0.4	$ 0.9	$ 20.5	$ 19.1	$ 21.9	$ 1.0	$ 1.0	$ 1.1	$ -	$ 90.4	$ 59.9	$ 121.5
2017	$ 63.1	$ 36.2	$ 90.5	$ 0.6	$ 0.4	$ 0.9	$ 19.2	$ 17.8	$ 20.5	$ 0.9	$ 0.9	$ 1.0	$ -	$ 84.5	$ 56.0	$ 113.5
2018	$ 59.0	$ 33.9	$ 84.6	$ 0.6	$ 0.3	$ 0.8	$ 17.9	$ 16.6	$ 19.2	$ 0.9	$ 0.8	$ 0.9	$ -	$ 78.9	$ 52.3	$ 106.1
2019	$ 55.1	$ 31.6	$ 79.1	$ 0.5	$ 0.3	$ 0.8	$ 16.7	$ 15.6	$ 17.9	$ 0.8	$ 0.8	$ 0.9	$ -	$ 73.8	$ 48.9	$ 99.2
2020	$ 51.5	$ 29.6	$ 73.9	$ 0.5	$ 0.3	$ 0.7	$ 15.6	$ 14.5	$ 16.7	$ 0.8	$ 0.7	$ 0.8	$ -	$ 69.0	$ 45.7	$ 92.7
2021	$ 48.1	$ 27.6	$ 69.1	$ 0.5	$ 0.3	$ 0.7	$ 14.6	$ 13.6	$ 15.6	$ 0.7	$ 0.7	$ 0.8	$ -	$ 64.4	$ 42.7	$ 86.6
2022	$ 45.0	$ 25.8	$ 64.5	$ 0.4	$ 0.3	$ 0.6	$ 13.7	$ 12.7	$ 14.6	$ 0.7	$ 0.6	$ 0.7	$ -	$ 60.2	$ 39.9	$ 81.0
2023	$ 42.0	$ 24.1	$ 60.3	$ 0.4	$ 0.2	$ 0.6	$ 12.8	$ 11.9	$ 13.7	$ 0.6	$ 0.6	$ 0.7	$ -	$ 56.3	$ 37.3	$ 75.7
2024	$ 39.3	$ 22.6	$ 56.4	$ 0.4	$ 0.2	$ 0.5	$ 11.9	$ 11.1	$ 12.8	$ 0.6	$ 0.6	$ 0.6	$ -	$ 52.6	$ 34.8	$ 70.7
2025	$ 36.7	$ 21.1	$ 52.7	$ 0.4	$ 0.2	$ 0.5	$ 11.1	$ 10.4	$ 11.9	$ 0.6	$ 0.5	$ 0.6	$ -	$ 49.2	$ 32.6	$ 66.1
2026	$ 34.3	$ 19.7	$ 49.2	$ 0.3	$ 0.2	$ 0.5	$ 10.4	$ 9.7	$ 11.2	$ 0.5	$ 0.5	$ 0.5	$ -	$ 45.9	$ 30.4	$ 61.8
2027	$ 32.1	$ 18.4	$ 46.0	$ 0.3	$ 0.2	$ 0.4	$ 9.7	$ 9.1	$ 10.4	$ 0.5	$ 0.5	$ 0.5	$ -	$ 42.9	$ 28.4	$ 57.7
2028	$ 30.0	$ 17.2	$ 43.0	$ 0.3	$ 0.2	$ 0.4	$ 9.1	$ 8.5	$ 9.7	$ 0.4	$ 0.4	$ 0.5	$ -	$ 40.1	$ 26.6	$ 53.9
2029	$ 28.0	$ 16.1	$ 40.2	$ 0.3	$ 0.2	$ 0.4	$ 8.5	$ 7.9	$ 9.1	$ 0.4	$ 0.4	$ 0.4	$ -	$ 37.5	$ 24.8	$ 50.4
Total	**$ 2,155.0**	**$ 1,253.2**	**$ 3,108.7**	**$ 18.5**	**$ 10.8**	**$ 26.5**	**$ 600.7**	**$ 537.0**	**$ 664.6**	**$ 24.0**	**$ 21.9**	**$ 26.1**	**$ 8.8**	**$ 2,818.0**	**$ 1,842.7**	**$ 3,845.7**
Ann.	**$ 184.9**	**$ 107.5**	**$ 266.8**	**$ 1.6**	**$ 0.9**	**$ 2.3**	**$ 51.5**	**$ 46.1**	**$ 57.0**	**$ 2.1**	**$ 1.9**	**$ 2.2**	**$ 0.8**	**$ 241.8**	**$ 158.1**	**$ 330.0**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3n Present Value of Annual Treatment Cost Projections at 7% Discount Rate
(All Systems)

Alternative 1

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 286.4	$ 163.9	$ 420.1	$ 1.9	$ 1.1	$ 2.7	$ 65.1	$ 55.9	$ 74.4	$ 1.8	$ 1.5	$ 2.0	$ 355.2	$ 222.3	$ 499.3
2010	$ 267.7	$ 153.1	$ 392.6	$ 1.8	$ 1.0	$ 2.6	$ 60.9	$ 52.2	$ 69.5	$ 1.6	$ 1.4	$ 1.9	$ 331.9	$ 207.8	$ 466.6
2011	$ 250.2	$ 143.1	$ 366.9	$ 1.6	$ 0.9	$ 2.4	$ 56.9	$ 48.8	$ 65.0	$ 1.5	$ 1.3	$ 1.8	$ 310.2	$ 194.2	$ 436.1
2012	$ 233.8	$ 133.8	$ 342.9	$ 1.5	$ 0.9	$ 2.2	$ 53.2	$ 45.6	$ 60.7	$ 1.4	$ 1.2	$ 1.7	$ 289.9	$ 181.5	$ 407.6
2013	$ 59.2	$ 33.9	$ 86.4	$ 1.2	$ 0.7	$ 1.8	$ 35.2	$ 30.1	$ 40.3	$ 1.3	$ 1.1	$ 1.5	$ 96.9	$ 65.8	$ 130.1
2014	$ 28.6	$ 16.4	$ 41.6	$ 1.1	$ 0.6	$ 1.5	$ 24.6	$ 20.9	$ 28.4	$ 1.2	$ 1.0	$ 1.4	$ 55.5	$ 39.0	$ 72.9
2015	$ 6.4	$ 3.7	$ 9.2	$ 0.5	$ 0.3	$ 0.7	$ 8.7	$ 7.3	$ 10.0	$ 0.6	$ 0.5	$ 0.7	$ 16.1	$ 11.7	$ 20.6
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 1,132.1**	**$ 647.8**	**$ 1,659.9**	**$ 9.5**	**$ 5.5**	**$ 13.9**	**$ 304.5**	**$ 260.8**	**$ 348.3**	**$ 9.5**	**$ 8.1**	**$ 10.9**	**$ 1,455.7**	**$ 922.2**	**$ 2,033.1**
Ann.	**$ 97.1**	**$ 55.6**	**$ 142.4**	**$ 0.8**	**$ 0.5**	**$ 1.2**	**$ 26.1**	**$ 22.4**	**$ 29.9**	**$ 0.8**	**$ 0.7**	**$ 0.9**	**$ 124.9**	**$ 79.1**	**$ 174.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3o Present Value of Annual Treatment Cost Projections at 7% Discount Rate
(All Systems)

Alternative 1

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 23.3	$ 13.5	$ 33.4	$ 0.2	$ 0.1	$ 0.2	$ 5.6	$ 5.2	$ 6.0	$ 0.2	$ 0.2	$ 0.2	$ 29.3	$ 18.9	$ 39.8
2011	$ 43.6	$ 25.2	$ 62.3	$ 0.3	$ 0.2	$ 0.4	$ 10.5	$ 9.7	$ 11.2	$ 0.3	$ 0.3	$ 0.3	$ 54.7	$ 35.4	$ 74.3
2012	$ 61.1	$ 35.4	$ 87.4	$ 0.4	$ 0.2	$ 0.6	$ 14.7	$ 13.6	$ 15.8	$ 0.4	$ 0.4	$ 0.5	$ 76.6	$ 49.6	$ 104.2
2013	$ 76.2	$ 44.1	$ 108.9	$ 0.5	$ 0.3	$ 0.7	$ 18.3	$ 16.9	$ 19.6	$ 0.5	$ 0.5	$ 0.6	$ 95.5	$ 61.8	$ 129.9
2014	$ 75.4	$ 43.6	$ 107.8	$ 0.6	$ 0.3	$ 0.8	$ 19.9	$ 18.4	$ 21.4	$ 0.6	$ 0.6	$ 0.7	$ 96.5	$ 63.0	$ 130.7
2015	$ 72.5	$ 42.0	$ 103.7	$ 0.6	$ 0.4	$ 0.9	$ 20.5	$ 19.0	$ 22.0	$ 0.7	$ 0.7	$ 0.8	$ 94.4	$ 62.0	$ 127.4
2016	$ 68.3	$ 39.5	$ 97.6	$ 0.6	$ 0.4	$ 0.9	$ 19.8	$ 18.3	$ 21.2	$ 0.7	$ 0.7	$ 0.8	$ 89.4	$ 58.9	$ 120.5
2017	$ 63.8	$ 36.9	$ 91.2	$ 0.6	$ 0.3	$ 0.9	$ 18.5	$ 17.1	$ 19.8	$ 0.7	$ 0.6	$ 0.7	$ 83.6	$ 55.0	$ 112.6
2018	$ 59.6	$ 34.5	$ 85.3	$ 0.6	$ 0.3	$ 0.8	$ 17.3	$ 16.0	$ 18.5	$ 0.6	$ 0.6	$ 0.7	$ 78.1	$ 51.4	$ 105.3
2019	$ 55.7	$ 32.3	$ 79.7	$ 0.5	$ 0.3	$ 0.7	$ 16.1	$ 15.0	$ 17.3	$ 0.6	$ 0.5	$ 0.6	$ 73.0	$ 48.1	$ 98.4
2020	$ 52.1	$ 30.2	$ 74.5	$ 0.5	$ 0.3	$ 0.7	$ 15.1	$ 14.0	$ 16.2	$ 0.5	$ 0.5	$ 0.6	$ 68.2	$ 44.9	$ 91.9
2021	$ 48.7	$ 28.2	$ 69.6	$ 0.5	$ 0.3	$ 0.7	$ 14.1	$ 13.1	$ 15.1	$ 0.5	$ 0.5	$ 0.5	$ 63.7	$ 42.0	$ 85.9
2022	$ 45.5	$ 26.3	$ 65.1	$ 0.4	$ 0.2	$ 0.6	$ 13.2	$ 12.2	$ 14.1	$ 0.5	$ 0.4	$ 0.5	$ 59.6	$ 39.2	$ 80.3
2023	$ 42.5	$ 24.6	$ 60.8	$ 0.4	$ 0.2	$ 0.6	$ 12.3	$ 11.4	$ 13.2	$ 0.4	$ 0.4	$ 0.5	$ 55.7	$ 36.7	$ 75.1
2024	$ 39.7	$ 23.0	$ 56.8	$ 0.4	$ 0.2	$ 0.5	$ 11.5	$ 10.7	$ 12.3	$ 0.4	$ 0.4	$ 0.4	$ 52.0	$ 34.3	$ 70.1
2025	$ 37.1	$ 21.5	$ 53.1	$ 0.3	$ 0.2	$ 0.5	$ 10.8	$ 10.0	$ 11.5	$ 0.4	$ 0.4	$ 0.4	$ 48.6	$ 32.0	$ 65.6
2026	$ 34.7	$ 20.1	$ 49.6	$ 0.3	$ 0.2	$ 0.5	$ 10.0	$ 9.3	$ 10.8	$ 0.4	$ 0.3	$ 0.4	$ 45.5	$ 29.9	$ 61.3
2027	$ 32.4	$ 18.8	$ 46.4	$ 0.3	$ 0.2	$ 0.4	$ 9.4	$ 8.7	$ 10.1	$ 0.3	$ 0.3	$ 0.4	$ 42.5	$ 28.0	$ 57.3
2028	$ 30.3	$ 17.6	$ 43.3	$ 0.3	$ 0.2	$ 0.4	$ 8.8	$ 8.1	$ 9.4	$ 0.3	$ 0.3	$ 0.3	$ 39.7	$ 26.2	$ 53.5
2029	$ 28.3	$ 16.4	$ 40.5	$ 0.3	$ 0.2	$ 0.4	$ 8.2	$ 7.6	$ 8.8	$ 0.3	$ 0.3	$ 0.3	$ 37.1	$ 24.4	$ 50.0
Total	**$ 991.1**	**$ 573.7**	**$ 1,417.0**	**$ 8.6**	**$ 5.0**	**$ 12.3**	**$ 274.4**	**$ 254.4**	**$ 294.4**	**$ 9.5**	**$ 8.8**	**$ 10.2**	**$ 1,283.6**	**$ 841.9**	**$ 1,734.0**
Ann.	**$ 85.0**	**$ 49.2**	**$ 121.6**	**$ 0.7**	**$ 0.4**	**$ 1.1**	**$ 23.5**	**$ 21.8**	**$ 25.3**	**$ 0.8**	**$ 0.8**	**$ 0.9**	**$ 110.1**	**$ 72.2**	**$ 148.8**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Exhibit J.3p Present Value of Annual Cost Projections at 7% Discount Rate
(All Systems)

Alternative 1

	Surface Water CWS					Surface Water NTNCWS					Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS					Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -
2006	$ 0.9	$ 8.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 2.7	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 4.2	$ 8.7	$ -	$ -	$ -
2007	$ -	$ 17.5	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.8	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 18.4	$ 0.2	$ -	$ -
2008	$ 0.6	$ 11.4	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.1	$ 4.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.7	$ 16.2	$ 0.6	$ -	$ -
2009	$ 0.4	$ -	$ 0.5	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 1.1	$ -	$ 1.2	$ -	$ -	$ 0.2	$ -	$ 0.1	$ -	$ -	$ 1.8	$ -	$ 1.8	$ -	$ -
2010	$ 0.4	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 1.6	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -
2012	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ 0.0
2013	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2014	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2015	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2016	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2017	$ -	$ -	$ -	$ (0.8)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2018	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2019	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2020	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2021	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2022	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2023	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2024	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2025	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2026	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2027	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2028	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2029	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
Total	**$ 3.1**	**$ 37.6**	**$ 1.2**	**$ (11.2)**	**$ 1.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.2**	**$ -**	**$ 5.1**	**$ 5.6**	**$ 1.3**	**$ 9.7**	**$ -**	**$ 0.8**	**$ 0.0**	**$ 0.1**	**$ 4.0**	**$ -**	**$ 9.1**	**$ 43.3**	**$ 2.6**	**$ 2.7**	**$ 1.1**
Ann.	**$ 0.3**	**$ 3.2**	**$ 0.1**	**$ (1.0)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.4**	**$ 0.5**	**$ 0.1**	**$ 0.8**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 0.8**	**$ 3.7**	**$ 0.2**	**$ 0.2**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.3a through h.

Section J.4
Cost Projections (Alternative 2)

Exhibit J.4a Projections of Stage 2 DBPR PWS Costs

(All Surface Water CWSs)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.87	$ -	$ -	$ -	$ -	$ 0.87	$ 0.87	$ 0.87
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.15	$10.60	$ -	$ -	$ -	$ 11.76	$ 11.76	$ 11.76
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$22.94	$ 0.28	$ -	$ -	$ 23.22	$ 23.22	$ 23.22
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	$15.99	$ 0.64	$ -	$ -	$ 17.40	$ 17.40	$ 17.40
2009	$ 894.42	$ 766.97	$ 1,029.03	$ -	$ -	$ -	$ 0.67	$ -	$ 0.74	$ -	$ -	$ 895.83	$ 768.38	$1,030.44
2010	$ 894.42	$ 766.97	$ 1,029.03	$ 57.48	$ 50.47	$ 64.68	$ 0.58	$ -	$ -	$ -	$ -	$ 952.47	$ 818.02	$1,094.29
2011	$ 894.42	$ 766.97	$ 1,029.03	$ 114.95	$ 100.94	$ 129.36	$ -	$ -	$ -	$ 0.42	$ -	$1,009.79	$ 868.33	$1,158.82
2012	$ 894.42	$ 766.97	$ 1,029.03	$ 172.43	$ 151.41	$ 194.05	$ -	$ -	$ -	$ (0.77)	$ 0.06	$1,066.14	$ 917.67	$1,222.37
2013	$ 342.69	$ 293.49	$ 394.94	$ 229.90	$ 201.88	$ 258.73	$ -	$ -	$ -	$ (2.07)	$ 0.15	$ 570.67	$ 493.45	$ 651.74
2014	$ 217.22	$ 185.95	$ 250.49	$ 255.39	$ 224.25	$ 287.44	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 470.75	$ 408.34	$ 536.07
2015	$ 72.70	$ 62.18	$ 83.87	$ 274.42	$ 240.93	$ 308.89	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 345.26	$ 301.26	$ 390.90
2016	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2017	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2018	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2019	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2020	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2021	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2022	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2023	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2024	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2025	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2026	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2027	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2028	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69
2029	$ -	$ -	$ -	$ 282.08	$ 247.65	$ 317.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 280.23	$ 245.79	$ 315.69

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4b Projections of Stage 2 DBPR PWS Costs

(All Surface Water NTNCWSs)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.01	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.00	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2009	$ 11.34	$ 9.71	$ 13.09	$ -	$ -	$ -	$ 0.04	$ -	$ 0.01	$ -	$ -	$ 11.39	$ 9.76	$ 13.14
2010	$ 11.34	$ 9.71	$ 13.09	$ 1.41	$ 1.23	$ 1.59	$ 0.04	$ -	$ -	$ -	$ -	$ 12.79	$ 10.98	$ 14.72
2011	$ 11.34	$ 9.71	$ 13.09	$ 2.82	$ 2.47	$ 3.18	$ -	$ -	$ -	$ 0.00	$ -	$ 14.17	$ 12.18	$ 16.28
2012	$ 11.34	$ 9.71	$ 13.09	$ 4.22	$ 3.70	$ 4.77	$ -	$ -	$ -	$ 0.02	$ -	$ 15.59	$ 13.43	$ 17.88
2013	$ 10.58	$ 9.06	$ 12.22	$ 5.63	$ 4.93	$ 6.36	$ -	$ -	$ -	$ 0.03	$ -	$ 16.24	$ 14.02	$ 18.60
2014	$ 10.22	$ 8.75	$ 11.81	$ 7.00	$ 6.13	$ 7.90	$ -	$ -	$ -	$ 0.03	$ -	$ 17.25	$ 14.91	$ 19.74
2015	$ 4.93	$ 4.22	$ 5.70	$ 8.35	$ 7.31	$ 9.42	$ -	$ -	$ -	$ 0.03	$ -	$ 13.31	$ 11.56	$ 15.15
2016	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2017	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2018	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2019	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2020	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2021	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2022	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2023	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2024	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2025	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2026	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2027	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2028	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20
2029	$ -	$ -	$ -	$ 9.02	$ 7.89	$ 10.17	$ -	$ -	$ -	$ 0.03	$ -	$ 9.05	$ 7.92	$ 10.20

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4c Projections of Stage 2 DBPR PWS Costs

(All Surface Water Systems)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ -	$ -	$ -	$ -	$ 0.88	$ 0.88	$ 0.88
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.22	$ 10.62	$ -	$ -	$ -	$ 11.84	$ 11.84	$ 11.84
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.98	$ 0.28	$ -	$ -	$ 23.26	$ 23.26	$ 23.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.79	$ 16.01	$ 0.64	$ -	$ -	$ 17.44	$ 17.44	$ 17.44
2009	$ 905.77	$ 776.68	$ 1,042.12	$ -	$ -	$ -	$ 0.71	$ -	$ 0.75	$ -	$ -	$ 907.22	$ 778.14	$ 1,043.58
2010	$ 905.77	$ 776.68	$ 1,042.12	$ 58.88	$ 51.70	$ 66.27	$ 0.61	$ -	$ -	$ -	$ -	$ 965.26	$ 829.00	$ 1,109.01
2011	$ 905.77	$ 776.68	$ 1,042.12	$ 117.77	$ 103.41	$ 132.54	$ -	$ -	$ -	$ 0.42	$ -	$ 1,023.96	$ 880.51	$ 1,175.09
2012	$ 905.77	$ 776.68	$ 1,042.12	$ 176.65	$ 155.11	$ 198.81	$ -	$ -	$ -	$ (0.75)	$ 0.06	$ 1,081.73	$ 931.10	$ 1,240.25
2013	$ 353.27	$ 302.55	$ 407.15	$ 235.53	$ 206.81	$ 265.09	$ -	$ -	$ -	$ (2.04)	$ 0.15	$ 586.91	$ 507.47	$ 670.35
2014	$ 227.44	$ 194.70	$ 262.30	$ 262.39	$ 230.38	$ 295.34	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 488.00	$ 423.25	$ 555.81
2015	$ 77.63	$ 66.41	$ 89.57	$ 282.77	$ 248.24	$ 318.32	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 358.57	$ 312.82	$ 406.05
2016	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2017	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2018	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2019	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2020	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2021	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2022	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2023	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2024	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2025	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2026	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2027	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2028	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89
2029	$ -	$ -	$ -	$ 291.10	$ 255.54	$ 327.72	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 289.27	$ 253.71	$ 325.89

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4d Projections of Stage 2 DBPR PWS Costs

(All Ground Water CWSs)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.31	$ 0.09	$ -	$ -	$ -	$ 3.40	$ 3.40	$ 3.40
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 75.07	$ 65.13	$ 84.98	$ -	$ -	$ -	$ 1.69	$ -	$ 1.74	$ -	$ -	$ 78.50	$ 68.56	$ 88.41
2010	$ 75.07	$ 65.13	$ 84.98	$ 6.40	$ 5.95	$ 6.85	$ 1.66	$ -	$ -	$ -	$ -	$ 83.13	$ 72.74	$ 93.49
2011	$ 75.07	$ 65.13	$ 84.98	$ 12.80	$ 11.90	$ 13.71	$ -	$ -	$ -	$ (0.11)	$ -	$ 87.76	$ 76.92	$ 98.58
2012	$ 75.07	$ 65.13	$ 84.98	$ 19.20	$ 17.85	$ 20.56	$ -	$ -	$ -	$ 0.83	$ -	$ 95.10	$ 83.81	$ 106.37
2013	$ 54.77	$ 47.51	$ 62.00	$ 25.60	$ 23.80	$ 27.41	$ -	$ -	$ -	$ 1.76	$ -	$ 82.13	$ 73.07	$ 91.17
2014	$ 40.28	$ 34.69	$ 45.86	$ 29.92	$ 27.83	$ 32.01	$ -	$ -	$ -	$ 1.76	$ -	$ 71.96	$ 64.28	$ 79.63
2015	$ 14.60	$ 12.43	$ 16.78	$ 32.95	$ 30.66	$ 35.25	$ -	$ -	$ -	$ 1.76	$ -	$ 49.31	$ 44.85	$ 53.78
2016	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2017	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2018	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2019	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2020	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2021	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2022	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2023	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2024	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2025	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2026	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2027	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2028	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11
2029	$ -	$ -	$ -	$ 33.98	$ 31.61	$ 36.35	$ -	$ -	$ -	$ 1.76	$ -	$ 35.74	$ 33.37	$ 38.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4e Projections of Stage 2 DBPR PWS Costs

(All Ground Water NTNCWSs)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ -	$ 0.56	$ 0.56	$ 0.56
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 2.46	$ 2.12	$ 2.80	$ -	$ -	$ -	$ 0.28	$ -	$ 0.21	$ -	$ -	$ 2.96	$ 2.61	$ 3.29
2010	$ 2.46	$ 2.12	$ 2.80	$ 0.21	$ 0.20	$ 0.22	$ 0.28	$ -	$ -	$ -	$ -	$ 2.95	$ 2.59	$ 3.30
2011	$ 2.46	$ 2.12	$ 2.80	$ 0.42	$ 0.39	$ 0.45	$ -	$ -	$ -	$ 0.00	$ -	$ 2.88	$ 2.51	$ 3.25
2012	$ 2.46	$ 2.12	$ 2.80	$ 0.63	$ 0.59	$ 0.67	$ -	$ -	$ -	$ 0.36	$ -	$ 3.45	$ 3.06	$ 3.83
2013	$ 2.44	$ 2.10	$ 2.78	$ 0.84	$ 0.78	$ 0.89	$ -	$ -	$ -	$ 0.71	$ -	$ 3.99	$ 3.59	$ 4.38
2014	$ 2.42	$ 2.08	$ 2.75	$ 1.04	$ 0.97	$ 1.12	$ -	$ -	$ -	$ 0.71	$ -	$ 4.18	$ 3.77	$ 4.58
2015	$ 1.20	$ 1.03	$ 1.37	$ 1.25	$ 1.16	$ 1.33	$ -	$ -	$ -	$ 0.71	$ -	$ 3.16	$ 2.91	$ 3.41
2016	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2017	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2018	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2019	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2020	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2021	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2022	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2023	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2024	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2025	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2026	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2027	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2028	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15
2029	$ -	$ -	$ -	$ 1.35	$ 1.26	$ 1.44	$ -	$ -	$ -	$ 0.71	$ -	$ 2.06	$ 1.97	$ 2.15

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4f Projections of Stage 2 DBPR PWS Costs

(All Ground Water Systems)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.87	$ 0.09	$ -	$ -	$ -	$ 3.96	$ 3.96	$ 3.96
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 77.53	$ 67.25	$ 87.79	$ -	$ -	$ -	$ 1.97	$ -	$ 1.95	$ -	$ -	$ 81.45	$ 71.17	$ 91.71
2010	$ 77.53	$ 67.25	$ 87.79	$ 6.61	$ 6.14	$ 7.08	$ 1.94	$ -	$ -	$ -	$ -	$ 86.08	$ 75.33	$ 96.80
2011	$ 77.53	$ 67.25	$ 87.79	$ 13.22	$ 12.29	$ 14.15	$ -	$ -	$ -	$ (0.11)	$ -	$ 90.65	$ 79.43	$ 101.83
2012	$ 77.53	$ 67.25	$ 87.79	$ 19.83	$ 18.43	$ 21.23	$ -	$ -	$ -	$ 1.18	$ -	$ 98.55	$ 86.87	$ 110.20
2013	$ 57.21	$ 49.61	$ 64.78	$ 26.44	$ 24.58	$ 28.30	$ -	$ -	$ -	$ 2.47	$ -	$ 86.12	$ 76.66	$ 95.56
2014	$ 42.70	$ 36.78	$ 48.61	$ 30.96	$ 28.80	$ 33.13	$ -	$ -	$ -	$ 2.47	$ -	$ 76.14	$ 68.05	$ 84.21
2015	$ 15.80	$ 13.46	$ 18.14	$ 34.20	$ 31.82	$ 36.58	$ -	$ -	$ -	$ 2.47	$ -	$ 52.48	$ 47.75	$ 57.20
2016	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2017	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2018	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2019	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2020	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2021	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2022	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2023	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2024	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2025	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2026	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2027	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2028	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26
2029	$ -	$ -	$ -	$ 35.33	$ 32.87	$ 37.79	$ -	$ -	$ -	$ 2.47	$ -	$ 37.80	$ 35.34	$ 40.26

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4g Projections of Stage 2 DBPR PWS Costs

(All Systems)

Alternative 2

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operation Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.06	$ -	$ -	$ -	$ -	$ 1.06	$ 1.06	$ 1.06
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.09	$ 10.70	$ -	$ -	$ -	$ 15.80	$ 15.80	$ 15.80
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24.07	$ 0.30	$ -	$ -	$ 24.36	$ 24.36	$ 24.36
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.93	$ 22.67	$ 0.85	$ -	$ -	$ 24.45	$ 24.45	$ 24.45
2009	$ 983.30	$ 843.93	$ 1,129.91	$ -	$ -	$ -	$ 2.68	$ -	$ 2.70	$ -	$ -	$ 988.68	$ 849.31	$ 1,135.29
2010	$ 983.30	$ 843.93	$ 1,129.91	$ 65.49	$ 57.85	$ 73.35	$ 2.55	$ -	$ -	$ -	$ -	$ 1,051.34	$ 904.33	$ 1,205.80
2011	$ 983.30	$ 843.93	$ 1,129.91	$ 130.99	$ 115.69	$ 146.70	$ -	$ -	$ -	$ 0.32	$ -	$ 1,114.60	$ 959.94	$ 1,276.92
2012	$ 983.30	$ 843.93	$ 1,129.91	$ 196.48	$ 173.54	$ 220.04	$ -	$ -	$ -	$ 0.43	$ 0.06	$ 1,180.27	$ 1,017.97	$ 1,350.45
2013	$ 410.48	$ 352.16	$ 471.94	$ 261.97	$ 231.39	$ 293.39	$ -	$ -	$ -	$ 0.43	$ 0.15	$ 673.03	$ 584.13	$ 765.90
2014	$ 270.14	$ 231.47	$ 310.91	$ 293.35	$ 259.18	$ 328.46	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 564.14	$ 491.30	$ 640.02
2015	$ 93.44	$ 79.87	$ 107.71	$ 316.97	$ 280.07	$ 354.90	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 411.05	$ 360.58	$ 463.25
2016	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2017	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2018	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2019	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2020	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2021	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2022	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2023	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2024	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2025	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2026	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2027	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2028	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15
2029	$ -	$ -	$ -	$ 326.43	$ 288.41	$ 365.51	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 327.07	$ 289.06	$ 366.15

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1c and Exhibits D.1 through D.6.

Exhibit J.4h Projections of Stage 2 DBPR Primacy Agency Costs

Alternative 2

Year	Implementation Costs	IDSE Costs	Monitoring Plan Costs	Compliance Monitoring Costs	Operational Evaluation
2005	$ 3.88	$ -	$ -	$ -	$ -
2006	$ 3.88	$ 0.05	$ -	$ -	$ -
2007	$ -	$ 0.14	$ 0.02	$ -	$ -
2008	$ -	$ 2.03	$ 0.06	$ -	$ -
2009	$ -	$ -	$ 0.84	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 1.59	$ 0.11
2012	$ -	$ -	$ -	$ 1.59	$ 0.11
2013	$ -	$ -	$ -	$ 1.59	$ 0.11
2014	$ -	$ -	$ -	$ 1.59	$ 0.11
2015	$ -	$ -	$ -	$ 1.59	$ 0.11
2016	$ -	$ -	$ -	$ 1.59	$ 0.11
2017	$ -	$ -	$ -	$ 1.59	$ 0.11
2018	$ -	$ -	$ -	$ 1.59	$ 0.11
2019	$ -	$ -	$ -	$ 1.59	$ 0.11
2020	$ -	$ -	$ -	$ 1.59	$ 0.11
2021	$ -	$ -	$ -	$ 1.59	$ 0.11
2022	$ -	$ -	$ -	$ 1.59	$ 0.11
2023	$ -	$ -	$ -	$ 1.59	$ 0.11
2024	$ -	$ -	$ -	$ 1.59	$ 0.11
2025	$ -	$ -	$ -	$ 1.59	$ 0.11
2026	$ -	$ -	$ -	$ 1.59	$ 0.11
2027	$ -	$ -	$ -	$ 1.59	$ 0.11
2028	$ -	$ -	$ -	$ 1.59	$ 0.11
2029	$ -	$ -	$ -	$ 1.59	$ 0.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1h and D.7.

Exhibit J.4i Present Value of Annual Capital Cost Projections at 3% Discount Rate

(All Systems and Primacy Agencies)

Alternative 2

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.7	$ 4.7	$ 4.7	$ 4.7
2006	$ 10.8	$ 10.8	$ 10.8	$ 0.1	$ 0.1	$ 0.1	$ 3.1	$ 3.1	$ 3.1	$ 0.5	$ 0.5	$ 0.5	$ 3.6	$ 18.1	$ 18.1	$ 18.1
2007	$ 20.6	$ 20.6	$ 20.6	$ 0.0	$ 0.0	$ 0.0	$ 1.0	$ 1.0	$ 1.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 21.8	$ 21.8	$ 21.8
2008	$ 15.0	$ 15.0	$ 15.0	$ 0.0	$ 0.0	$ 0.0	$ 6.0	$ 6.0	$ 6.0	$ 0.0	$ 0.0	$ 0.0	$ 1.8	$ 22.9	$ 22.9	$ 22.9
2009	$ 750.2	$ 643.5	$ 863.0	$ 9.5	$ 8.2	$ 11.0	$ 65.7	$ 57.4	$ 74.0	$ 2.5	$ 2.2	$ 2.8	$ 0.7	$ 828.7	$ 712.0	$ 951.5
2010	$ 774.4	$ 665.1	$ 889.8	$ 10.4	$ 8.9	$ 12.0	$ 67.6	$ 59.1	$ 76.0	$ 2.4	$ 2.1	$ 2.7	$ -	$ 854.8	$ 735.3	$ 980.4
2011	$ 797.1	$ 685.5	$ 914.8	$ 11.2	$ 9.6	$ 12.8	$ 69.3	$ 60.7	$ 77.8	$ 2.3	$ 2.0	$ 2.6	$ 1.3	$ 881.2	$ 759.1	$ 1,009.4
2012	$ 817.1	$ 703.3	$ 936.8	$ 11.9	$ 10.3	$ 13.7	$ 72.9	$ 64.2	$ 81.5	$ 2.6	$ 2.3	$ 2.9	$ 1.3	$ 905.9	$ 781.5	$ 1,036.3
2013	$ 424.6	$ 367.2	$ 485.0	$ 12.1	$ 10.4	$ 13.8	$ 61.1	$ 54.4	$ 67.8	$ 3.0	$ 2.7	$ 3.3	$ 1.3	$ 502.1	$ 435.9	$ 571.2
2014	$ 340.1	$ 295.0	$ 387.3	$ 12.5	$ 10.8	$ 14.3	$ 52.0	$ 46.4	$ 57.5	$ 3.0	$ 2.7	$ 3.3	$ 1.2	$ 408.8	$ 356.2	$ 463.6
2015	$ 242.2	$ 211.3	$ 274.2	$ 9.3	$ 8.1	$ 10.6	$ 34.6	$ 31.5	$ 37.7	$ 2.2	$ 2.0	$ 2.4	$ 1.2	$ 289.5	$ 254.1	$ 326.1
2016	$ 190.8	$ 167.4	$ 215.0	$ 6.2	$ 5.4	$ 6.9	$ 24.3	$ 22.7	$ 25.9	$ 1.4	$ 1.3	$ 1.5	$ 1.2	$ 223.9	$ 198.0	$ 250.5
2017	$ 185.3	$ 162.5	$ 208.7	$ 6.0	$ 5.2	$ 6.7	$ 23.6	$ 22.1	$ 25.2	$ 1.4	$ 1.3	$ 1.4	$ 1.1	$ 217.4	$ 192.2	$ 243.2
2018	$ 179.9	$ 157.8	$ 202.6	$ 5.8	$ 5.1	$ 6.5	$ 22.9	$ 21.4	$ 24.5	$ 1.3	$ 1.3	$ 1.4	$ 1.1	$ 211.0	$ 186.6	$ 236.1
2019	$ 174.6	$ 153.2	$ 196.7	$ 5.6	$ 4.9	$ 6.4	$ 22.3	$ 20.8	$ 23.7	$ 1.3	$ 1.2	$ 1.3	$ 1.1	$ 204.9	$ 181.2	$ 229.2
2020	$ 169.5	$ 148.7	$ 191.0	$ 5.5	$ 4.8	$ 6.2	$ 21.6	$ 20.2	$ 23.1	$ 1.2	$ 1.2	$ 1.3	$ 1.0	$ 198.9	$ 175.9	$ 222.6
2021	$ 164.6	$ 144.4	$ 185.4	$ 5.3	$ 4.7	$ 6.0	$ 21.0	$ 19.6	$ 22.4	$ 1.2	$ 1.2	$ 1.3	$ 1.0	$ 193.1	$ 170.8	$ 216.1
2022	$ 159.8	$ 140.2	$ 180.0	$ 5.2	$ 4.5	$ 5.8	$ 20.4	$ 19.0	$ 21.7	$ 1.2	$ 1.1	$ 1.2	$ 1.0	$ 187.5	$ 165.8	$ 209.8
2023	$ 155.2	$ 136.1	$ 174.8	$ 5.0	$ 4.4	$ 5.6	$ 19.8	$ 18.5	$ 21.1	$ 1.1	$ 1.1	$ 1.2	$ 0.9	$ 182.0	$ 161.0	$ 203.7
2024	$ 150.6	$ 132.1	$ 169.7	$ 4.9	$ 4.3	$ 5.5	$ 19.2	$ 17.9	$ 20.5	$ 1.1	$ 1.1	$ 1.2	$ 0.9	$ 176.7	$ 156.3	$ 197.7
2025	$ 146.2	$ 128.3	$ 164.8	$ 4.7	$ 4.1	$ 5.3	$ 18.7	$ 17.4	$ 19.9	$ 1.1	$ 1.0	$ 1.1	$ 0.9	$ 171.6	$ 151.7	$ 192.0
2026	$ 142.0	$ 124.5	$ 160.0	$ 4.6	$ 4.0	$ 5.2	$ 18.1	$ 16.9	$ 19.3	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 166.6	$ 147.3	$ 186.4
2027	$ 137.9	$ 120.9	$ 155.3	$ 4.4	$ 3.9	$ 5.0	$ 17.6	$ 16.4	$ 18.7	$ 1.0	$ 1.0	$ 1.1	$ 0.8	$ 161.7	$ 143.0	$ 181.0
2028	$ 133.8	$ 117.4	$ 150.8	$ 4.3	$ 3.8	$ 4.9	$ 17.1	$ 15.9	$ 18.2	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 157.0	$ 138.9	$ 175.7
2029	$ 129.9	$ 114.0	$ 146.4	$ 4.2	$ 3.7	$ 4.7	$ 16.6	$ 15.5	$ 17.7	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 152.5	$ 134.8	$ 170.6
Total	**$ 6,413.2**	**$ 5,565.5**	**$ 7,299.1**	**$ 148.8**	**$ 129.2**	**$ 169.2**	**$ 716.6**	**$ 648.5**	**$ 784.7**	**$ 34.9**	**$ 32.2**	**$ 37.5**	**$ 29.8**	**$ 7,343.3**	**$ 6,405.2**	**$ 8,320.4**
Ann.	**$ 368.3**	**$ 319.6**	**$ 419.2**	**$ 8.5**	**$ 7.4**	**$ 9.7**	**$ 41.2**	**$ 37.2**	**$ 45.1**	**$ 2.0**	**$ 1.8**	**$ 2.2**	**$ 1.7**	**$ 421.7**	**$ 367.8**	**$ 477.8**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4j Present Value of Annual O&M Treatment Cost Projections at 3% Discount Rate (All Systems)

Alternative 2

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 749.1	$ 642.3	$ 861.8	$ 9.5	$ 8.1	$ 11.0	$ 62.9	$ 54.5	$ 71.2	$ 2.1	$ 1.8	$ 2.3	$ 823.5	$ 706.8	$ 946.3
2010	$ 727.2	$ 623.6	$ 836.7	$ 9.2	$ 7.9	$ 10.6	$ 61.0	$ 53.0	$ 69.1	$ 2.0	$ 1.7	$ 2.3	$ 799.5	$ 686.2	$ 918.7
2011	$ 706.1	$ 605.5	$ 812.3	$ 9.0	$ 7.7	$ 10.3	$ 59.3	$ 51.4	$ 67.1	$ 1.9	$ 1.7	$ 2.2	$ 776.2	$ 666.2	$ 892.0
2012	$ 685.5	$ 587.8	$ 788.7	$ 8.7	$ 7.4	$ 10.0	$ 57.5	$ 49.9	$ 65.1	$ 1.9	$ 1.6	$ 2.1	$ 753.6	$ 646.8	$ 866.0
2013	$ 255.0	$ 218.4	$ 293.9	$ 7.9	$ 6.7	$ 9.1	$ 40.8	$ 35.4	$ 46.1	$ 1.8	$ 1.6	$ 2.1	$ 305.4	$ 262.0	$ 351.2
2014	$ 156.9	$ 134.3	$ 181.0	$ 7.4	$ 6.3	$ 8.5	$ 29.1	$ 25.1	$ 33.1	$ 1.7	$ 1.5	$ 2.0	$ 195.2	$ 167.2	$ 224.6
2015	$ 51.0	$ 43.6	$ 58.8	$ 3.5	$ 3.0	$ 4.0	$ 10.2	$ 8.7	$ 11.8	$ 0.8	$ 0.7	$ 1.0	$ 65.5	$ 56.0	$ 75.5
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 3,330.8**	**$ 2,855.5**	**$ 3,833.1**	**$ 55.1**	**$ 47.2**	**$ 63.6**	**$ 320.8**	**$ 278.0**	**$ 363.5**	**$ 12.3**	**$ 10.6**	**$ 14.0**	**$ 3,719.0**	**$ 3,191.3**	**$ 4,274.3**
Ann.	**$ 191.3**	**$ 164.0**	**$ 220.1**	**$ 3.2**	**$ 2.7**	**$ 3.7**	**$ 18.4**	**$ 16.0**	**$ 20.9**	**$ 0.7**	**$ 0.6**	**$ 0.8**	**$ 213.6**	**$ 183.3**	**$ 245.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4k Present Value of Annual Treatment Cost Projections at 3% Discount Rate
(All Systems)

Alternative 2

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 46.7	$ 41.0	$ 52.6	$ 1.1	$ 1.0	$ 1.3	$ 5.2	$ 4.8	$ 5.6	$ 0.2	$ 0.2	$ 0.2	$ 53.3	$ 47.0	$ 59.6
2011	$ 90.7	$ 79.7	$ 102.1	$ 2.2	$ 1.9	$ 2.5	$ 10.1	$ 9.4	$ 10.8	$ 0.3	$ 0.3	$ 0.4	$ 103.4	$ 91.3	$ 115.8
2012	$ 132.1	$ 116.0	$ 148.7	$ 3.2	$ 2.8	$ 3.7	$ 14.7	$ 13.7	$ 15.8	$ 0.5	$ 0.4	$ 0.5	$ 150.6	$ 133.0	$ 168.6
2013	$ 171.1	$ 150.2	$ 192.5	$ 4.2	$ 3.7	$ 4.7	$ 19.1	$ 17.7	$ 20.4	$ 0.6	$ 0.6	$ 0.7	$ 194.9	$ 172.2	$ 218.3
2014	$ 184.5	$ 162.0	$ 207.7	$ 5.1	$ 4.4	$ 5.7	$ 21.6	$ 20.1	$ 23.1	$ 0.8	$ 0.7	$ 0.8	$ 211.9	$ 187.2	$ 237.3
2015	$ 192.5	$ 169.0	$ 216.7	$ 5.9	$ 5.1	$ 6.6	$ 23.1	$ 21.5	$ 24.7	$ 0.9	$ 0.8	$ 0.9	$ 222.3	$ 196.4	$ 248.9
2016	$ 192.1	$ 168.6	$ 216.2	$ 6.1	$ 5.4	$ 6.9	$ 23.1	$ 21.5	$ 24.8	$ 0.9	$ 0.9	$ 1.0	$ 222.3	$ 196.4	$ 248.9
2017	$ 186.5	$ 163.7	$ 209.9	$ 6.0	$ 5.2	$ 6.7	$ 22.5	$ 20.9	$ 24.0	$ 0.9	$ 0.8	$ 1.0	$ 215.8	$ 190.7	$ 241.6
2018	$ 181.1	$ 159.0	$ 203.8	$ 5.8	$ 5.1	$ 6.5	$ 21.8	$ 20.3	$ 23.3	$ 0.9	$ 0.8	$ 0.9	$ 209.5	$ 185.1	$ 234.6
2019	$ 175.8	$ 154.3	$ 197.9	$ 5.6	$ 4.9	$ 6.3	$ 21.2	$ 19.7	$ 22.7	$ 0.8	$ 0.8	$ 0.9	$ 203.4	$ 179.7	$ 227.8
2020	$ 170.7	$ 149.8	$ 192.1	$ 5.5	$ 4.8	$ 6.2	$ 20.6	$ 19.1	$ 22.0	$ 0.8	$ 0.8	$ 0.9	$ 197.5	$ 174.5	$ 221.1
2021	$ 165.7	$ 145.5	$ 186.5	$ 5.3	$ 4.6	$ 6.0	$ 20.0	$ 18.6	$ 21.3	$ 0.8	$ 0.7	$ 0.8	$ 191.7	$ 169.4	$ 214.7
2022	$ 160.9	$ 141.2	$ 181.1	$ 5.1	$ 4.5	$ 5.8	$ 19.4	$ 18.0	$ 20.7	$ 0.8	$ 0.7	$ 0.8	$ 186.2	$ 164.5	$ 208.4
2023	$ 156.2	$ 137.1	$ 175.8	$ 5.0	$ 4.4	$ 5.6	$ 18.8	$ 17.5	$ 20.1	$ 0.7	$ 0.7	$ 0.8	$ 180.7	$ 159.7	$ 202.4
2024	$ 151.6	$ 133.1	$ 170.7	$ 4.8	$ 4.2	$ 5.5	$ 18.3	$ 17.0	$ 19.5	$ 0.7	$ 0.7	$ 0.8	$ 175.5	$ 155.0	$ 196.5
2025	$ 147.2	$ 129.2	$ 165.7	$ 4.7	$ 4.1	$ 5.3	$ 17.7	$ 16.5	$ 19.0	$ 0.7	$ 0.7	$ 0.8	$ 170.4	$ 150.5	$ 190.8
2026	$ 142.9	$ 125.5	$ 160.9	$ 4.6	$ 4.0	$ 5.2	$ 17.2	$ 16.0	$ 18.4	$ 0.7	$ 0.6	$ 0.7	$ 165.4	$ 146.1	$ 185.2
2027	$ 138.8	$ 121.8	$ 156.2	$ 4.4	$ 3.9	$ 5.0	$ 16.7	$ 15.6	$ 17.9	$ 0.7	$ 0.6	$ 0.7	$ 160.6	$ 141.9	$ 179.8
2028	$ 134.7	$ 118.3	$ 151.7	$ 4.3	$ 3.8	$ 4.9	$ 16.2	$ 15.1	$ 17.4	$ 0.6	$ 0.6	$ 0.7	$ 155.9	$ 137.7	$ 174.6
2029	$ 130.8	$ 114.8	$ 147.2	$ 4.2	$ 3.7	$ 4.7	$ 15.8	$ 14.7	$ 16.9	$ 0.6	$ 0.6	$ 0.7	$ 151.4	$ 133.7	$ 169.5
Total	**$ 3,052.5**	**$ 2,680.0**	**$ 3,436.1**	**$ 93.1**	**$ 81.6**	**$ 105.1**	**$ 363.0**	**$ 337.7**	**$ 388.4**	**$ 13.9**	**$ 13.0**	**$ 14.9**	**$ 3,522.6**	**$ 3,112.3**	**$ 3,944.5**
Ann.	**$ 175.3**	**$ 153.9**	**$ 197.3**	**$ 5.3**	**$ 4.7**	**$ 6.0**	**$ 20.8**	**$ 19.4**	**$ 22.3**	**$ 0.8**	**$ 0.7**	**$ 0.9**	**$ 202.3**	**$ 178.7**	**$ 226.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4l Present Value of Annual Non-Treatment Capital Cost Projections at 3% Discount Rate
(All Systems)

Alternative 2

	Surface Water CWS					Surface Water NTNCWS					Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS					Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -
2006	$ 1.1	$ 9.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 3.0	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 4.7	$ 9.8	$ -	$ -	$ -
2007	$ -	$ 20.4	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 1.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 21.4	$ 0.3	$ -	$ -
2008	$ 0.7	$ 13.8	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.1	$ 5.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.8	$ 19.6	$ 0.7	$ -	$ -
2009	$ 0.6	$ -	$ 0.6	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 1.4	$ -	$ 1.5	$ -	$ -	$ 0.2	$ -	$ 0.2	$ -	$ -	$ 2.2	$ -	$ 2.3	$ -	$ -
2010	$ 0.5	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 2.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -
2012	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ 0.0
2013	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2014	$ -	$ -	$ -	$ (1.5)	$ 0.2	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.2
2015	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2016	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2017	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2018	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2019	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2020	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2021	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2022	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2023	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2024	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2025	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2026	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2027	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2028	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2029	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
Total	**$ 3.6**	**$ 43.9**	**$ 1.4**	**$ (21.1)**	**$ 2.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 6.1**	**$ 6.8**	**$ 1.7**	**$ 18.3**	**$ -**	**$ 1.0**	**$ 0.0**	**$ 0.2**	**$ 7.5**	**$ -**	**$ 10.8**	**$ 50.7**	**$ 3.3**	**$ 4.9**	**$ 2.1**
Ann.	**$ 0.2**	**$ 2.5**	**$ 0.1**	**$ (1.2)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.3**	**$ 0.4**	**$ 0.1**	**$ 1.1**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.4**	**$ -**	**$ 0.6**	**$ 2.9**	**$ 0.2**	**$ 0.3**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4m Present Value of Annual O&M Cost Projections at 7% Discount Rate

(All Systems and Primacy Agencies)

Alternative 2

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.4	$ 4.3	$ 4.3	$ 4.3
2006	$ 9.6	$ 9.6	$ 9.6	$ 0.1	$ 0.1	$ 0.1	$ 2.8	$ 2.8	$ 2.8	$ 0.5	$ 0.5	$ 0.5	$ 3.2	$ 16.1	$ 16.1	$ 16.1
2007	$ 17.7	$ 17.7	$ 17.7	$ 0.0	$ 0.0	$ 0.0	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 18.7	$ 18.7	$ 18.7
2008	$ 12.4	$ 12.4	$ 12.4	$ 0.0	$ 0.0	$ 0.0	$ 5.0	$ 5.0	$ 5.0	$ 0.0	$ 0.0	$ 0.0	$ 1.5	$ 18.9	$ 18.9	$ 18.9
2009	$ 596.9	$ 512.0	$ 686.6	$ 7.6	$ 6.5	$ 8.8	$ 52.3	$ 45.7	$ 58.9	$ 2.0	$ 1.7	$ 2.2	$ 0.6	$ 659.4	$ 566.5	$ 757.1
2010	$ 593.2	$ 509.4	$ 681.5	$ 8.0	$ 6.8	$ 9.2	$ 51.8	$ 45.3	$ 58.2	$ 1.8	$ 1.6	$ 2.1	$ -	$ 654.7	$ 563.2	$ 750.9
2011	$ 587.7	$ 505.4	$ 674.4	$ 8.2	$ 7.1	$ 9.5	$ 51.1	$ 44.8	$ 57.4	$ 1.7	$ 1.5	$ 1.9	$ -	$ 649.7	$ 559.7	$ 744.2
2012	$ 579.9	$ 499.2	$ 664.9	$ 8.5	$ 7.3	$ 9.7	$ 51.7	$ 45.6	$ 57.9	$ 1.9	$ 1.7	$ 2.1	$ -	$ 642.9	$ 554.6	$ 735.5
2013	$ 290.1	$ 250.8	$ 331.3	$ 8.3	$ 7.1	$ 9.5	$ 41.8	$ 37.1	$ 46.3	$ 2.0	$ 1.8	$ 2.2	$ -	$ 343.0	$ 297.8	$ 390.2
2014	$ 223.6	$ 194.0	$ 254.7	$ 8.2	$ 7.1	$ 9.4	$ 34.2	$ 30.5	$ 37.8	$ 2.0	$ 1.8	$ 2.2	$ -	$ 268.8	$ 234.2	$ 304.9
2015	$ 153.3	$ 133.8	$ 173.6	$ 5.9	$ 5.1	$ 6.7	$ 21.9	$ 19.9	$ 23.9	$ 1.4	$ 1.3	$ 1.5	$ -	$ 183.3	$ 160.9	$ 206.4
2016	$ 116.3	$ 102.0	$ 131.0	$ 3.8	$ 3.3	$ 4.2	$ 14.8	$ 13.8	$ 15.8	$ 0.9	$ 0.8	$ 0.9	$ -	$ 136.4	$ 120.7	$ 152.6
2017	$ 108.7	$ 95.3	$ 122.4	$ 3.5	$ 3.1	$ 4.0	$ 13.9	$ 12.9	$ 14.8	$ 0.8	$ 0.8	$ 0.8	$ -	$ 127.5	$ 112.8	$ 142.7
2018	$ 101.6	$ 89.1	$ 114.4	$ 3.3	$ 2.9	$ 3.7	$ 13.0	$ 12.1	$ 13.8	$ 0.7	$ 0.7	$ 0.8	$ -	$ 119.2	$ 105.4	$ 133.3
2019	$ 94.9	$ 83.3	$ 106.9	$ 3.1	$ 2.7	$ 3.5	$ 12.1	$ 11.3	$ 12.9	$ 0.7	$ 0.7	$ 0.7	$ -	$ 111.4	$ 98.5	$ 124.6
2020	$ 88.7	$ 77.8	$ 99.9	$ 2.9	$ 2.5	$ 3.2	$ 11.3	$ 10.6	$ 12.1	$ 0.7	$ 0.6	$ 0.7	$ -	$ 104.1	$ 92.0	$ 116.5
2021	$ 82.9	$ 72.7	$ 93.4	$ 2.7	$ 2.3	$ 3.0	$ 10.6	$ 9.9	$ 11.3	$ 0.6	$ 0.6	$ 0.6	$ -	$ 97.3	$ 86.0	$ 108.8
2022	$ 77.5	$ 68.0	$ 87.3	$ 2.5	$ 2.2	$ 2.8	$ 9.9	$ 9.2	$ 10.5	$ 0.6	$ 0.5	$ 0.6	$ -	$ 90.9	$ 80.4	$ 101.7
2023	$ 72.4	$ 63.5	$ 81.6	$ 2.3	$ 2.0	$ 2.6	$ 9.2	$ 8.6	$ 9.8	$ 0.5	$ 0.5	$ 0.6	$ -	$ 85.0	$ 75.1	$ 95.1
2024	$ 67.7	$ 59.4	$ 76.2	$ 2.2	$ 1.9	$ 2.5	$ 8.6	$ 8.1	$ 9.2	$ 0.5	$ 0.5	$ 0.5	$ -	$ 79.4	$ 70.2	$ 88.8
2025	$ 63.3	$ 55.5	$ 71.3	$ 2.0	$ 1.8	$ 2.3	$ 8.1	$ 7.5	$ 8.6	$ 0.5	$ 0.4	$ 0.5	$ -	$ 74.2	$ 65.6	$ 83.0
2026	$ 59.1	$ 51.8	$ 66.6	$ 1.9	$ 1.7	$ 2.2	$ 7.5	$ 7.0	$ 8.0	$ 0.4	$ 0.4	$ 0.5	$ -	$ 69.4	$ 61.3	$ 77.6
2027	$ 55.2	$ 48.5	$ 62.2	$ 1.8	$ 1.6	$ 2.0	$ 7.0	$ 6.6	$ 7.5	$ 0.4	$ 0.4	$ 0.4	$ -	$ 64.8	$ 57.3	$ 72.5
2028	$ 51.6	$ 45.3	$ 58.2	$ 1.7	$ 1.5	$ 1.9	$ 6.6	$ 6.1	$ 7.0	$ 0.4	$ 0.4	$ 0.4	$ -	$ 60.6	$ 53.6	$ 67.8
2029	$ 48.3	$ 42.3	$ 54.4	$ 1.6	$ 1.4	$ 1.8	$ 6.2	$ 5.7	$ 6.6	$ 0.4	$ 0.3	$ 0.4	$ -	$ 56.6	$ 50.1	$ 63.3
Total	**$ 4,153.4**	**$ 3,599.5**	**$ 4,733.3**	**$ 89.9**	**$ 78.0**	**$ 102.4**	**$ 452.3**	**$ 407.3**	**$ 497.2**	**$ 21.2**	**$ 19.5**	**$ 23.0**	**$ 8.8**	**$ 4,736.5**	**$ 4,124.0**	**$ 5,375.7**
Ann.	**$ 356.4**	**$ 308.9**	**$ 406.2**	**$ 7.7**	**$ 6.7**	**$ 8.8**	**$ 38.8**	**$ 34.9**	**$ 42.7**	**$ 1.8**	**$ 1.7**	**$ 2.0**	**$ 0.8**	**$ 406.4**	**$ 353.9**	**$ 461.3**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4n Present Value of Annual Treatment Cost Projections at 7% Discount Rate
(All Systems)

Alternative 2

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 596.0	$ 511.1	$ 685.7	$ 7.6	$ 6.5	$ 8.7	$ 50.0	$ 43.4	$ 56.6	$ 1.6	$ 1.4	$ 1.9	$ 655.2	$ 562.3	$ 752.9
2010	$ 557.0	$ 477.6	$ 640.8	$ 7.1	$ 6.0	$ 8.2	$ 46.8	$ 40.6	$ 52.9	$ 1.5	$ 1.3	$ 1.7	$ 612.3	$ 525.6	$ 703.7
2011	$ 520.6	$ 446.4	$ 598.9	$ 6.6	$ 5.7	$ 7.6	$ 43.7	$ 37.9	$ 49.5	$ 1.4	$ 1.2	$ 1.6	$ 572.3	$ 491.2	$ 657.6
2012	$ 486.5	$ 417.2	$ 559.7	$ 6.2	$ 5.3	$ 7.1	$ 40.8	$ 35.4	$ 46.2	$ 1.3	$ 1.2	$ 1.5	$ 534.8	$ 459.0	$ 614.6
2013	$ 174.2	$ 149.2	$ 200.8	$ 5.4	$ 4.6	$ 6.2	$ 27.8	$ 24.2	$ 31.5	$ 1.2	$ 1.1	$ 1.4	$ 208.7	$ 179.0	$ 239.9
2014	$ 103.2	$ 88.3	$ 119.0	$ 4.9	$ 4.2	$ 5.6	$ 19.1	$ 16.5	$ 21.8	$ 1.1	$ 1.0	$ 1.3	$ 128.3	$ 110.0	$ 147.7
2015	$ 32.3	$ 27.6	$ 37.2	$ 2.2	$ 1.9	$ 2.5	$ 6.5	$ 5.5	$ 7.4	$ 0.5	$ 0.5	$ 0.6	$ 41.5	$ 35.5	$ 47.8
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 2,469.7**	**$ 2,117.4**	**$ 2,842.2**	**$ 39.8**	**$ 34.1**	**$ 46.0**	**$ 234.8**	**$ 203.4**	**$ 266.0**	**$ 8.9**	**$ 7.6**	**$ 10.1**	**$ 2,753.2**	**$ 2,362.6**	**$ 3,164.2**
Ann.	**$ 211.9**	**$ 181.7**	**$ 243.9**	**$ 3.4**	**$ 2.9**	**$ 3.9**	**$ 20.1**	**$ 17.5**	**$ 22.8**	**$ 0.8**	**$ 0.7**	**$ 0.9**	**$ 236.3**	**$ 202.7**	**$ 271.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4o Present Value of Annual Treatment Cost Projections at 7% Discount Rate
(All Systems)

Alternative 2

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 35.8	$ 31.4	$ 40.3	$ 0.9	$ 0.8	$ 1.0	$ 4.0	$ 3.7	$ 4.3	$ 0.1	$ 0.1	$ 0.1	$ 40.8	$ 36.0	$ 45.7
2011	$ 66.9	$ 58.7	$ 75.3	$ 1.6	$ 1.4	$ 1.8	$ 7.5	$ 6.9	$ 8.0	$ 0.2	$ 0.2	$ 0.3	$ 76.2	$ 67.3	$ 85.4
2012	$ 93.8	$ 82.4	$ 105.5	$ 2.3	$ 2.0	$ 2.6	$ 10.4	$ 9.7	$ 11.2	$ 0.3	$ 0.3	$ 0.4	$ 106.9	$ 94.4	$ 119.7
2013	$ 116.9	$ 102.6	$ 131.5	$ 2.9	$ 2.5	$ 3.2	$ 13.0	$ 12.1	$ 13.9	$ 0.4	$ 0.4	$ 0.5	$ 133.2	$ 117.6	$ 149.1
2014	$ 121.3	$ 106.5	$ 136.6	$ 3.3	$ 2.9	$ 3.8	$ 14.2	$ 13.2	$ 15.2	$ 0.5	$ 0.5	$ 0.5	$ 139.4	$ 123.1	$ 156.1
2015	$ 121.8	$ 107.0	$ 137.2	$ 3.7	$ 3.2	$ 4.2	$ 14.6	$ 13.6	$ 15.7	$ 0.6	$ 0.5	$ 0.6	$ 140.7	$ 124.4	$ 157.6
2016	$ 117.1	$ 102.8	$ 131.8	$ 3.7	$ 3.3	$ 4.2	$ 14.1	$ 13.1	$ 15.1	$ 0.6	$ 0.5	$ 0.6	$ 135.5	$ 119.7	$ 151.7
2017	$ 109.4	$ 96.0	$ 123.1	$ 3.5	$ 3.1	$ 3.9	$ 13.2	$ 12.3	$ 14.1	$ 0.5	$ 0.5	$ 0.6	$ 126.6	$ 111.9	$ 141.7
2018	$ 102.2	$ 89.8	$ 115.1	$ 3.3	$ 2.9	$ 3.7	$ 12.3	$ 11.5	$ 13.2	$ 0.5	$ 0.5	$ 0.5	$ 118.3	$ 104.5	$ 132.5
2019	$ 95.6	$ 83.9	$ 107.6	$ 3.1	$ 2.7	$ 3.4	$ 11.5	$ 10.7	$ 12.3	$ 0.5	$ 0.4	$ 0.5	$ 110.6	$ 97.7	$ 123.8
2020	$ 89.3	$ 78.4	$ 100.5	$ 2.9	$ 2.5	$ 3.2	$ 10.8	$ 10.0	$ 11.5	$ 0.4	$ 0.4	$ 0.5	$ 103.3	$ 91.3	$ 115.7
2021	$ 83.5	$ 73.3	$ 93.9	$ 2.7	$ 2.3	$ 3.0	$ 10.1	$ 9.4	$ 10.8	$ 0.4	$ 0.4	$ 0.4	$ 96.6	$ 85.3	$ 108.1
2022	$ 78.0	$ 68.5	$ 87.8	$ 2.5	$ 2.2	$ 2.8	$ 9.4	$ 8.7	$ 10.1	$ 0.4	$ 0.3	$ 0.4	$ 90.3	$ 79.7	$ 101.1
2023	$ 72.9	$ 64.0	$ 82.1	$ 2.3	$ 2.0	$ 2.6	$ 8.8	$ 8.2	$ 9.4	$ 0.3	$ 0.3	$ 0.4	$ 84.4	$ 74.5	$ 94.5
2024	$ 68.1	$ 59.8	$ 76.7	$ 2.2	$ 1.9	$ 2.5	$ 8.2	$ 7.6	$ 8.8	$ 0.3	$ 0.3	$ 0.3	$ 78.8	$ 69.7	$ 88.3
2025	$ 63.7	$ 55.9	$ 71.7	$ 2.0	$ 1.8	$ 2.3	$ 7.7	$ 7.1	$ 8.2	$ 0.3	$ 0.3	$ 0.3	$ 73.7	$ 65.1	$ 82.5
2026	$ 59.5	$ 52.2	$ 67.0	$ 1.9	$ 1.7	$ 2.1	$ 7.2	$ 6.7	$ 7.7	$ 0.3	$ 0.3	$ 0.3	$ 68.9	$ 60.8	$ 77.1
2027	$ 55.6	$ 48.8	$ 62.6	$ 1.8	$ 1.6	$ 2.0	$ 6.7	$ 6.2	$ 7.2	$ 0.3	$ 0.2	$ 0.3	$ 64.4	$ 56.9	$ 72.1
2028	$ 52.0	$ 45.6	$ 58.5	$ 1.7	$ 1.5	$ 1.9	$ 6.3	$ 5.8	$ 6.7	$ 0.2	$ 0.2	$ 0.3	$ 60.1	$ 53.1	$ 67.3
2029	$ 48.6	$ 42.6	$ 54.7	$ 1.6	$ 1.4	$ 1.8	$ 5.9	$ 5.4	$ 6.3	$ 0.2	$ 0.2	$ 0.2	$ 56.2	$ 49.7	$ 62.9
Total	**$ 1,651.9**	**$ 1,450.3**	**$ 1,859.4**	**$ 49.7**	**$ 43.5**	**$ 56.1**	**$ 195.7**	**$ 182.0**	**$ 209.4**	**$ 7.4**	**$ 6.9**	**$ 7.9**	**$ 1,904.7**	**$ 1,682.8**	**$ 2,132.8**
Ann.	**$ 141.7**	**$ 124.5**	**$ 159.6**	**$ 4.3**	**$ 3.7**	**$ 4.8**	**$ 16.8**	**$ 15.6**	**$ 18.0**	**$ 0.6**	**$ 0.6**	**$ 0.7**	**$ 163.4**	**$ 144.4**	**$ 183.0**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Exhibit J.4p Present Value of Annual Cost Projections at 7% Discount Rate
(All Systems)

Alternative 2

	Surface Water CWS					Surface Water NTNCWS					Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS					Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -
2006	$ 0.9	$ 8.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 2.7	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 4.2	$ 8.7	$ -	$ -	$ -
2007	$ -	$ 17.5	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 0.8	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 18.4	$ 0.2	$ -	$ -
2008	$ 0.6	$ 11.4	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.1	$ 4.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.7	$ 16.2	$ 0.6	$ -	$ -
2009	$ 0.4	$ -	$ 0.5	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 1.1	$ -	$ 1.2	$ -	$ -	$ 0.2	$ -	$ 0.1	$ -	$ -	$ 1.8	$ -	$ 1.8	$ -	$ -
2010	$ 0.4	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 1.6	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -
2012	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.2	$ 0.0
2013	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2014	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2015	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2016	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2017	$ -	$ -	$ -	$ (0.8)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2018	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2019	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2020	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2021	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2022	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2023	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2024	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.1
2025	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2026	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2027	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2028	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
2029	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -	$ -	$ -	$ -	$ 0.1	$ 0.0
Total	**$ 3.1**	**$ 37.6**	**$ 1.2**	**$ (11.2)**	**$ 1.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.2**	**$ -**	**$ 5.1**	**$ 5.6**	**$ 1.3**	**$ 9.7**	**$ -**	**$ 0.8**	**$ 0.0**	**$ 0.1**	**$ 4.0**	**$ -**	**$ 9.1**	**$ 43.3**	**$ 2.6**	**$ 2.7**	**$ 1.1**
Ann.	**$ 0.3**	**$ 3.2**	**$ 0.1**	**$ (1.0)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.4**	**$ 0.5**	**$ 0.1**	**$ 0.8**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 0.8**	**$ 3.7**	**$ 0.2**	**$ 0.2**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.4a through h.

Section J.5
Cost Projections (Alternative 3)

Exhibit J.5a Projections of Stage 2 DBPR PWS Costs

(All Surface Water CWSs)

Alternative 3

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.87	$ -	$ -	$ -	$ -	$ 0.87	$ 0.87	$ 0.87
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.15	$ 10.60	$ -	$ -	$ -	$ 11.76	$ 11.76	$ 11.76
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.94	$ 0.28	$ -	$ -	$ 23.22	$ 23.22	$ 23.22
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	$ 15.99	$ 0.64	$ -	$ -	$ 17.40	$ 17.40	$ 17.40
2009	$ 1,433.00	$ 1,193.47	$ 1,686.79	$ -	$ -	$ -	$ 0.67	$ -	$ 0.74	$ -	$ -	$ 1,434.40	$ 1,194.88	$ 1,688.20
2010	$ 1,433.00	$ 1,193.47	$ 1,686.79	$ 87.84	$ 74.63	$ 101.36	$ 0.58	$ -	$ -	$ -	$ -	$ 1,521.41	$ 1,268.68	$ 1,788.73
2011	$ 1,433.00	$ 1,193.47	$ 1,686.79	$ 175.67	$ 149.26	$ 202.72	$ -	$ -	$ -	$ 0.42	$ -	$ 1,609.09	$ 1,343.16	$ 1,889.93
2012	$ 1,433.00	$ 1,193.47	$ 1,686.79	$ 263.51	$ 223.90	$ 304.08	$ -	$ -	$ -	$ (0.77)	$ 0.06	$ 1,695.80	$ 1,416.66	$ 1,990.16
2013	$ 529.20	$ 439.56	$ 624.67	$ 351.34	$ 298.53	$ 405.44	$ -	$ -	$ -	$ (2.07)	$ 0.15	$ 878.62	$ 736.16	$ 1,028.19
2014	$ 325.74	$ 270.42	$ 384.78	$ 390.25	$ 331.55	$ 450.41	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 714.13	$ 600.11	$ 833.34
2015	$ 104.71	$ 86.85	$ 123.76	$ 419.28	$ 356.16	$ 484.00	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 522.13	$ 441.16	$ 605.91
2016	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2017	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2018	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2019	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2020	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2021	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2022	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2023	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2024	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2025	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2026	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2027	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2028	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68
2029	$ -	$ -	$ -	$ 430.96	$ 366.06	$ 497.54	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 429.11	$ 364.21	$ 495.68

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5b Projections of Stage 2 DBPR PWS Costs

(All Surface Water NTNCWSs)

Alternative 3

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.01	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.00	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2009	$ 16.52	$ 13.74	$ 19.51	$ -	$ -	$ -	$ 0.04	$ -	$ 0.01	$ -	$ -	$ 16.57	$ 13.79	$ 19.56
2010	$ 16.52	$ 13.74	$ 19.51	$ 2.17	$ 1.84	$ 2.51	$ 0.04	$ -	$ -	$ -	$ -	$ 18.72	$ 15.61	$ 22.06
2011	$ 16.52	$ 13.74	$ 19.51	$ 4.33	$ 3.67	$ 5.02	$ -	$ -	$ -	$ 0.00	$ -	$ 20.86	$ 17.42	$ 24.53
2012	$ 16.52	$ 13.74	$ 19.51	$ 6.50	$ 5.51	$ 7.52	$ -	$ -	$ -	$ 0.02	$ -	$ 23.04	$ 19.26	$ 27.05
2013	$ 15.27	$ 12.70	$ 18.05	$ 8.66	$ 7.34	$ 10.03	$ -	$ -	$ -	$ 0.03	$ -	$ 23.97	$ 20.07	$ 28.11
2014	$ 14.69	$ 12.22	$ 17.37	$ 10.77	$ 9.12	$ 12.47	$ -	$ -	$ -	$ 0.03	$ -	$ 25.49	$ 21.37	$ 29.86
2015	$ 7.06	$ 5.87	$ 8.34	$ 12.84	$ 10.88	$ 14.87	$ -	$ -	$ -	$ 0.03	$ -	$ 19.93	$ 16.78	$ 23.25
2016	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2017	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2018	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2019	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2020	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2021	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2022	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2023	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2024	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2025	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2026	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2027	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2028	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09
2029	$ -	$ -	$ -	$ 13.87	$ 11.75	$ 16.06	$ -	$ -	$ -	$ 0.03	$ -	$ 13.90	$ 11.78	$ 16.09

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5c Projections of Stage 2 DBPR PWS Costs

(All Surface Water Systems)

Alternative 3

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ -	$ -	$ -	$ -	$ 0.88	$ 0.88	$ 0.88
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.22	$ 10.62	$ -	$ -	$ -	$ 11.84	$ 11.84	$ 11.84
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.98	$ 0.28	$ -	$ -	$ 23.26	$ 23.26	$ 23.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.79	$ 16.01	$ 0.64	$ -	$ -	$ 17.44	$ 17.44	$ 17.44
2009	$ 1,449.52	$ 1,207.21	$ 1,706.30	$ -	$ -	$ -	$ 0.71	$ -	$ 0.75	$ -	$ -	$ 1,450.97	$ 1,208.67	$ 1,707.76
2010	$ 1,449.52	$ 1,207.21	$ 1,706.30	$ 90.00	$ 76.47	$ 103.87	$ 0.61	$ -	$ -	$ -	$ -	$ 1,540.13	$ 1,284.29	$ 1,810.78
2011	$ 1,449.52	$ 1,207.21	$ 1,706.30	$ 180.00	$ 152.93	$ 207.74	$ -	$ -	$ -	$ 0.42	$ -	$ 1,629.95	$ 1,360.57	$ 1,914.46
2012	$ 1,449.52	$ 1,207.21	$ 1,706.30	$ 270.00	$ 229.40	$ 311.60	$ -	$ -	$ -	$ (0.75)	$ 0.06	$ 1,718.83	$ 1,435.93	$ 2,017.22
2013	$ 544.47	$ 452.26	$ 642.71	$ 360.01	$ 305.87	$ 415.47	$ -	$ -	$ -	$ (2.04)	$ 0.15	$ 902.58	$ 756.23	$ 1,056.30
2014	$ 340.43	$ 282.64	$ 402.15	$ 401.02	$ 340.67	$ 462.88	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 739.62	$ 621.48	$ 863.20
2015	$ 111.77	$ 92.72	$ 132.10	$ 432.12	$ 367.04	$ 498.88	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 542.06	$ 457.94	$ 629.15
2016	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2017	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2018	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2019	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2020	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2021	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2022	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2023	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2024	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2025	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2026	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2027	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2028	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77
2029	$ -	$ -	$ -	$ 444.83	$ 377.81	$ 513.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 443.00	$ 375.99	$ 511.77

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5d Projections of Stage 2 DBPR PWS Costs

(All Ground Water CWSs)

Alternative 3

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.31	$ 0.09	$ -	$ -	$ -	$ 3.40	$ 3.40	$ 3.40
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 81.25	$ 70.09	$ 92.44	$ -	$ -	$ -	$ 1.69	$ -	$ 1.74	$ -	$ -	$ 84.67	$ 73.52	$ 95.87
2010	$ 81.25	$ 70.09	$ 92.44	$ 6.88	$ 6.38	$ 7.38	$ 1.66	$ -	$ -	$ -	$ -	$ 89.78	$ 78.13	$ 101.47
2011	$ 81.25	$ 70.09	$ 92.44	$ 13.75	$ 12.76	$ 14.75	$ -	$ -	$ -	$ (0.11)	$ -	$ 94.89	$ 82.74	$ 107.08
2012	$ 81.25	$ 70.09	$ 92.44	$ 20.63	$ 19.14	$ 22.13	$ -	$ -	$ -	$ 0.83	$ -	$ 102.71	$ 90.06	$ 115.39
2013	$ 57.75	$ 49.74	$ 65.81	$ 27.51	$ 25.52	$ 29.50	$ -	$ -	$ -	$ 1.76	$ -	$ 87.02	$ 77.01	$ 97.07
2014	$ 41.47	$ 35.45	$ 47.54	$ 32.12	$ 29.81	$ 34.43	$ -	$ -	$ -	$ 1.76	$ -	$ 75.35	$ 67.02	$ 83.73
2015	$ 14.58	$ 12.31	$ 16.88	$ 35.32	$ 32.79	$ 37.86	$ -	$ -	$ -	$ 1.76	$ -	$ 51.66	$ 46.85	$ 56.50
2016	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2017	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2018	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2019	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2020	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2021	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2022	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2023	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2024	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2025	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2026	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2027	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2028	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77
2029	$ -	$ -	$ -	$ 36.39	$ 33.77	$ 39.01	$ -	$ -	$ -	$ 1.76	$ -	$ 38.15	$ 35.53	$ 40.77

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5e Projections of Stage 2 DBPR PWS Costs

(All Ground Water NTNCWSs)

Alternative 3

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ -	$ 0.56	$ 0.56	$ 0.56
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 2.20	$ 1.88	$ 2.51	$ -	$ -	$ -	$ 0.28	$ -	$ 0.21	$ -	$ -	$ 2.69	$ 2.37	$ 3.01
2010	$ 2.20	$ 1.88	$ 2.51	$ 0.21	$ 0.19	$ 0.22	$ 0.28	$ -	$ -	$ -	$ -	$ 2.68	$ 2.34	$ 3.01
2011	$ 2.20	$ 1.88	$ 2.51	$ 0.41	$ 0.38	$ 0.44	$ -	$ -	$ -	$ 0.00	$ -	$ 2.61	$ 2.26	$ 2.96
2012	$ 2.20	$ 1.88	$ 2.51	$ 0.62	$ 0.57	$ 0.66	$ -	$ -	$ -	$ 0.36	$ -	$ 3.17	$ 2.80	$ 3.53
2013	$ 2.17	$ 1.85	$ 2.49	$ 0.82	$ 0.76	$ 0.88	$ -	$ -	$ -	$ 0.71	$ -	$ 3.71	$ 3.33	$ 4.08
2014	$ 2.14	$ 1.83	$ 2.45	$ 1.03	$ 0.95	$ 1.10	$ -	$ -	$ -	$ 0.71	$ -	$ 3.88	$ 3.49	$ 4.27
2015	$ 1.06	$ 0.91	$ 1.22	$ 1.23	$ 1.14	$ 1.32	$ -	$ -	$ -	$ 0.71	$ -	$ 3.00	$ 2.76	$ 3.25
2016	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2017	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2018	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2019	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2020	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2021	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2022	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2023	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2024	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2025	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2026	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2027	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2028	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14
2029	$ -	$ -	$ -	$ 1.33	$ 1.23	$ 1.43	$ -	$ -	$ -	$ 0.71	$ -	$ 2.04	$ 1.94	$ 2.14

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5f Projections of Stage 2 DBPR PWS Costs

(All Ground Water Systems)

Alternative 3

Year	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
	Mean Value	90 Percent Confidence Bound		Mean Value	90 Percent Confidence Bound		Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	90 Percent Confidence Bound	
		Lower (5th %tile)	Upper (95th %tile)		Lower (5th %tile)	Upper (95th %tile)							Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.87	$ 0.09	$ -	$ -	$ -	$ 3.96	$ 3.96	$ 3.96
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 83.44	$ 71.97	$ 94.95	$ -	$ -	$ -	$ 1.97	$ -	$ 1.95	$ -	$ -	$ 87.36	$ 75.89	$ 98.87
2010	$ 83.44	$ 71.97	$ 94.95	$ 7.08	$ 6.57	$ 7.60	$ 1.94	$ -	$ -	$ -	$ -	$ 92.46	$ 80.47	$ 104.48
2011	$ 83.44	$ 71.97	$ 94.95	$ 14.17	$ 13.14	$ 15.19	$ -	$ -	$ -	$ (0.11)	$ -	$ 97.50	$ 85.00	$ 110.04
2012	$ 83.44	$ 71.97	$ 94.95	$ 21.25	$ 19.71	$ 22.79	$ -	$ -	$ -	$ 1.18	$ -	$ 105.88	$ 92.86	$ 118.93
2013	$ 59.92	$ 51.59	$ 68.29	$ 28.33	$ 26.28	$ 30.39	$ -	$ -	$ -	$ 2.47	$ -	$ 90.72	$ 80.34	$ 101.15
2014	$ 43.62	$ 37.28	$ 49.99	$ 33.15	$ 30.76	$ 35.54	$ -	$ -	$ -	$ 2.47	$ -	$ 79.23	$ 70.52	$ 88.00
2015	$ 15.64	$ 13.21	$ 18.09	$ 36.55	$ 33.92	$ 39.18	$ -	$ -	$ -	$ 2.47	$ -	$ 54.67	$ 49.61	$ 59.75
2016	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2017	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2018	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2019	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2020	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2021	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2022	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2023	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2024	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2025	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2026	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2027	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2028	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91
2029	$ -	$ -	$ -	$ 37.72	$ 35.00	$ 40.44	$ -	$ -	$ -	$ 2.47	$ -	$ 40.19	$ 37.47	$ 42.91

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5g Projections of Stage 2 DBPR PWS Costs

(All Systems)

Alternative 3

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.06	$ -	$ -	$ -	$ -	$ 1.06	$ 1.06	$ 1.06
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.09	$ 10.70	$ -	$ -	$ -	$ 15.80	$ 15.80	$ 15.80
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24.07	$ 0.30	$ -	$ -	$ 24.36	$ 24.36	$ 24.36
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.93	$ 22.67	$ 0.85	$ -	$ -	$ 24.45	$ 24.45	$ 24.45
2009	$ 1,532.96	$ 1,279.18	$ 1,801.25	$ -	$ -	$ -	$ 2.68	$ -	$ 2.70	$ -	$ -	$ 1,538.34	$ 1,284.56	$ 1,806.63
2010	$ 1,532.96	$ 1,279.18	$ 1,801.25	$ 97.08	$ 83.04	$ 111.46	$ 2.55	$ -	$ -	$ -	$ -	$ 1,632.59	$ 1,364.77	$ 1,915.27
2011	$ 1,532.96	$ 1,279.18	$ 1,801.25	$ 194.17	$ 166.07	$ 222.93	$ -	$ -	$ -	$ 0.32	$ -	$ 1,727.45	$ 1,445.57	$ 2,024.50
2012	$ 1,532.96	$ 1,279.18	$ 1,801.25	$ 291.25	$ 249.11	$ 334.39	$ -	$ -	$ -	$ 0.43	$ 0.06	$ 1,824.71	$ 1,528.79	$ 2,136.14
2013	$ 604.39	$ 503.85	$ 711.01	$ 388.34	$ 332.15	$ 445.86	$ -	$ -	$ -	$ 0.43	$ 0.15	$ 993.31	$ 836.57	$ 1,157.45
2014	$ 384.05	$ 319.92	$ 452.14	$ 434.17	$ 371.43	$ 498.42	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 818.86	$ 691.99	$ 951.20
2015	$ 127.41	$ 105.94	$ 150.19	$ 468.67	$ 400.97	$ 538.06	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 596.73	$ 507.55	$ 688.90
2016	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2017	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2018	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2019	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2020	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2021	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2022	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2023	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2024	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2025	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2026	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2027	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2028	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68
2029	$ -	$ -	$ -	$ 482.55	$ 412.82	$ 554.04	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 483.19	$ 413.46	$ 554.68

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1d and Exhibits D.1 through D.6.

Exhibit J.5h Projections of Stage 2 DBPR Primacy Agency Costs

Alternative 3

Year	Implementation Costs	IDSE Costs	Monitoring Plan Costs	Compliance Monitoring Costs	Operational Evaluation
2005	$ 3.88	$ -	$ -	$ -	$ -
2006	$ 3.88	$ 0.05	$ -	$ -	$ -
2007	$ -	$ 0.14	$ 0.02	$ -	$ -
2008	$ -	$ 2.03	$ 0.06	$ -	$ -
2009	$ -	$ -	$ 0.84	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 1.59	$ 0.11
2012	$ -	$ -	$ -	$ 1.59	$ 0.11
2013	$ -	$ -	$ -	$ 1.59	$ 0.11
2014	$ -	$ -	$ -	$ 1.59	$ 0.11
2015	$ -	$ -	$ -	$ 1.59	$ 0.11
2016	$ -	$ -	$ -	$ 1.59	$ 0.11
2017	$ -	$ -	$ -	$ 1.59	$ 0.11
2018	$ -	$ -	$ -	$ 1.59	$ 0.11
2019	$ -	$ -	$ -	$ 1.59	$ 0.11
2020	$ -	$ -	$ -	$ 1.59	$ 0.11
2021	$ -	$ -	$ -	$ 1.59	$ 0.11
2022	$ -	$ -	$ -	$ 1.59	$ 0.11
2023	$ -	$ -	$ -	$ 1.59	$ 0.11
2024	$ -	$ -	$ -	$ 1.59	$ 0.11
2025	$ -	$ -	$ -	$ 1.59	$ 0.11
2026	$ -	$ -	$ -	$ 1.59	$ 0.11
2027	$ -	$ -	$ -	$ 1.59	$ 0.11
2028	$ -	$ -	$ -	$ 1.59	$ 0.11
2029	$ -	$ -	$ -	$ 1.59	$ 0.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1h and D.7.

Exhibit J.5i Present Value of Annual Capital Cost Projections at 3% Discount Rate

(All Systems and Primacy Agencies)

Alternative 3

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.7	$ 4.7	$ 4.7	$ 4.7
2006	$ 10.8	$ 10.8	$ 10.8	$ 0.1	$ 0.1	$ 0.1	$ 3.1	$ 3.1	$ 3.1	$ 0.5	$ 0.5	$ 0.5	$ 3.6	$ 18.1	$ 18.1	$ 18.1
2007	$ 20.6	$ 20.6	$ 20.6	$ 0.0	$ 0.0	$ 0.0	$ 1.0	$ 1.0	$ 1.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 21.8	$ 21.8	$ 21.8
2008	$ 15.0	$ 15.0	$ 15.0	$ 0.0	$ 0.0	$ 0.0	$ 6.0	$ 6.0	$ 6.0	$ 0.0	$ 0.0	$ 0.0	$ 1.8	$ 22.9	$ 22.9	$ 22.9
2009	$ 1,201.3	$ 1,000.7	$ 1,413.8	$ 13.9	$ 11.5	$ 16.4	$ 70.9	$ 61.6	$ 80.3	$ 2.3	$ 2.0	$ 2.5	$ 0.7	$ 1,289.0	$ 1,076.5	$ 1,513.7
2010	$ 1,237.0	$ 1,031.6	$ 1,454.4	$ 15.2	$ 12.7	$ 17.9	$ 73.0	$ 63.5	$ 82.5	$ 2.2	$ 1.9	$ 2.4	$ -	$ 1,327.4	$ 1,109.7	$ 1,557.3
2011	$ 1,270.2	$ 1,060.3	$ 1,491.9	$ 16.5	$ 13.7	$ 19.4	$ 74.9	$ 65.3	$ 84.5	$ 2.1	$ 1.8	$ 2.3	$ 1.3	$ 1,365.0	$ 1,142.5	$ 1,599.5
2012	$ 1,299.7	$ 1,085.8	$ 1,525.3	$ 17.7	$ 14.8	$ 20.7	$ 78.7	$ 69.0	$ 88.4	$ 2.4	$ 2.1	$ 2.7	$ 1.3	$ 1,399.8	$ 1,173.0	$ 1,638.5
2013	$ 653.8	$ 547.8	$ 765.1	$ 17.8	$ 14.9	$ 20.9	$ 64.7	$ 57.3	$ 72.2	$ 2.8	$ 2.5	$ 3.0	$ 1.3	$ 740.4	$ 623.8	$ 862.5
2014	$ 515.9	$ 433.5	$ 602.0	$ 18.4	$ 15.4	$ 21.6	$ 54.4	$ 48.4	$ 60.5	$ 2.8	$ 2.5	$ 3.1	$ 1.2	$ 592.8	$ 501.1	$ 688.4
2015	$ 366.2	$ 309.4	$ 425.0	$ 14.0	$ 11.8	$ 16.3	$ 36.2	$ 32.9	$ 39.6	$ 2.1	$ 1.9	$ 2.3	$ 1.2	$ 419.7	$ 357.2	$ 484.4
2016	$ 292.2	$ 248.0	$ 337.5	$ 9.5	$ 8.0	$ 11.0	$ 26.0	$ 24.2	$ 27.8	$ 1.4	$ 1.3	$ 1.5	$ 1.2	$ 330.2	$ 282.7	$ 378.9
2017	$ 283.7	$ 240.8	$ 327.7	$ 9.2	$ 7.8	$ 10.6	$ 25.2	$ 23.5	$ 27.0	$ 1.3	$ 1.3	$ 1.4	$ 1.1	$ 320.6	$ 274.5	$ 367.8
2018	$ 275.4	$ 233.8	$ 318.2	$ 8.9	$ 7.6	$ 10.3	$ 24.5	$ 22.8	$ 26.2	$ 1.3	$ 1.2	$ 1.4	$ 1.1	$ 311.2	$ 266.5	$ 357.1
2019	$ 267.4	$ 227.0	$ 308.9	$ 8.7	$ 7.3	$ 10.0	$ 23.8	$ 22.1	$ 25.4	$ 1.3	$ 1.2	$ 1.3	$ 1.1	$ 302.2	$ 258.7	$ 346.7
2020	$ 259.6	$ 220.4	$ 299.9	$ 8.4	$ 7.1	$ 9.7	$ 23.1	$ 21.5	$ 24.7	$ 1.2	$ 1.2	$ 1.3	$ 1.0	$ 293.4	$ 251.2	$ 336.6
2021	$ 252.1	$ 213.9	$ 291.2	$ 8.2	$ 6.9	$ 9.5	$ 22.4	$ 20.9	$ 23.9	$ 1.2	$ 1.1	$ 1.3	$ 1.0	$ 284.8	$ 243.9	$ 326.8
2022	$ 244.7	$ 207.7	$ 282.7	$ 7.9	$ 6.7	$ 9.2	$ 21.8	$ 20.3	$ 23.2	$ 1.2	$ 1.1	$ 1.2	$ 1.0	$ 276.5	$ 236.8	$ 317.3
2023	$ 237.6	$ 201.7	$ 274.4	$ 7.7	$ 6.5	$ 8.9	$ 21.1	$ 19.7	$ 22.6	$ 1.1	$ 1.1	$ 1.2	$ 0.9	$ 268.5	$ 229.9	$ 308.1
2024	$ 230.7	$ 195.8	$ 266.5	$ 7.5	$ 6.3	$ 8.6	$ 20.5	$ 19.1	$ 21.9	$ 1.1	$ 1.0	$ 1.1	$ 0.9	$ 260.7	$ 223.2	$ 299.1
2025	$ 223.9	$ 190.1	$ 258.7	$ 7.3	$ 6.1	$ 8.4	$ 19.9	$ 18.5	$ 21.3	$ 1.1	$ 1.0	$ 1.1	$ 0.9	$ 253.1	$ 216.7	$ 290.4
2026	$ 217.4	$ 184.5	$ 251.2	$ 7.0	$ 6.0	$ 8.2	$ 19.3	$ 18.0	$ 20.7	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 245.7	$ 210.4	$ 281.9
2027	$ 211.1	$ 179.2	$ 243.8	$ 6.8	$ 5.8	$ 7.9	$ 18.8	$ 17.5	$ 20.1	$ 1.0	$ 1.0	$ 1.1	$ 0.8	$ 238.5	$ 204.2	$ 273.7
2028	$ 204.9	$ 173.9	$ 236.7	$ 6.6	$ 5.6	$ 7.7	$ 18.2	$ 17.0	$ 19.5	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 231.6	$ 198.3	$ 265.7
2029	$ 199.0	$ 168.9	$ 229.8	$ 6.4	$ 5.5	$ 7.5	$ 17.7	$ 16.5	$ 18.9	$ 0.9	$ 0.9	$ 1.0	$ 0.8	$ 224.8	$ 192.5	$ 258.0
Total	**$ 9,991.1**	**$ 8,401.8**	**$ 11,652.0**	**$ 223.7**	**$ 188.4**	**$ 260.8**	**$ 765.5**	**$ 689.8**	**$ 841.4**	**$ 33.3**	**$ 30.7**	**$ 35.9**	**$ 29.8**	**$ 11,043.4**	**$ 9,340.5**	**$ 12,819.9**
Ann.	**$ 573.8**	**$ 482.5**	**$ 669.1**	**$ 12.8**	**$ 10.8**	**$ 15.0**	**$ 44.0**	**$ 39.6**	**$ 48.3**	**$ 1.9**	**$ 1.8**	**$ 2.1**	**$ 1.7**	**$ 634.2**	**$ 536.4**	**$ 736.2**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5j Present Value of Annual O&M Treatment Cost Projections at 3% Discount Rate
(All Systems)

Alternative 3

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 1,200.1	$ 999.5	$ 1,412.7	$ 13.8	$ 11.5	$ 16.3	$ 68.0	$ 58.7	$ 77.4	$ 1.8	$ 1.6	$ 2.1	$ 1,283.8	$ 1,071.3	$ 1,508.5
2010	$ 1,165.2	$ 970.4	$ 1,371.5	$ 13.4	$ 11.2	$ 15.9	$ 66.1	$ 57.0	$ 75.2	$ 1.8	$ 1.5	$ 2.0	$ 1,246.4	$ 1,040.1	$ 1,464.6
2011	$ 1,131.2	$ 942.1	$ 1,331.6	$ 13.0	$ 10.8	$ 15.4	$ 64.1	$ 55.3	$ 73.0	$ 1.7	$ 1.5	$ 2.0	$ 1,210.1	$ 1,009.8	$ 1,421.9
2012	$ 1,098.3	$ 914.7	$ 1,292.8	$ 12.7	$ 10.5	$ 15.0	$ 62.3	$ 53.7	$ 70.8	$ 1.7	$ 1.4	$ 1.9	$ 1,174.9	$ 980.4	$ 1,380.5
2013	$ 393.8	$ 327.1	$ 464.8	$ 11.4	$ 9.5	$ 13.4	$ 43.0	$ 37.0	$ 49.0	$ 1.6	$ 1.4	$ 1.8	$ 449.7	$ 374.9	$ 529.1
2014	$ 235.3	$ 195.4	$ 278.0	$ 10.6	$ 8.8	$ 12.5	$ 30.0	$ 25.6	$ 34.3	$ 1.5	$ 1.3	$ 1.8	$ 277.4	$ 231.1	$ 326.6
2015	$ 73.4	$ 60.9	$ 86.8	$ 4.9	$ 4.1	$ 5.9	$ 10.2	$ 8.6	$ 11.8	$ 0.7	$ 0.6	$ 0.9	$ 89.4	$ 74.3	$ 105.3
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 5,297.3**	**$ 4,410.1**	**$ 6,238.1**	**$ 79.9**	**$ 66.5**	**$ 94.4**	**$ 343.7**	**$ 296.0**	**$ 391.5**	**$ 10.9**	**$ 9.4**	**$ 12.5**	**$ 5,731.8**	**$ 4,781.9**	**$ 6,736.6**
Ann.	**$ 304.2**	**$ 253.3**	**$ 358.2**	**$ 4.6**	**$ 3.8**	**$ 5.4**	**$ 19.7**	**$ 17.0**	**$ 22.5**	**$ 0.6**	**$ 0.5**	**$ 0.7**	**$ 329.2**	**$ 274.6**	**$ 386.9**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5k Present Value of Annual Treatment Cost Projections at 3% Discount Rate
(All Systems)

Alternative 3

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 71.4	$ 60.7	$ 82.4	$ 1.8	$ 1.5	$ 2.0	$ 5.6	$ 5.2	$ 6.0	$ 0.2	$ 0.2	$ 0.2	$ 78.9	$ 67.5	$ 90.6
2011	$ 138.7	$ 117.8	$ 160.0	$ 3.4	$ 2.9	$ 4.0	$ 10.9	$ 10.1	$ 11.6	$ 0.3	$ 0.3	$ 0.3	$ 153.3	$ 131.1	$ 176.0
2012	$ 202.0	$ 171.6	$ 233.1	$ 5.0	$ 4.2	$ 5.8	$ 15.8	$ 14.7	$ 17.0	$ 0.5	$ 0.4	$ 0.5	$ 223.2	$ 190.9	$ 256.3
2013	$ 261.4	$ 222.1	$ 301.7	$ 6.4	$ 5.5	$ 7.5	$ 20.5	$ 19.0	$ 22.0	$ 0.6	$ 0.6	$ 0.7	$ 289.0	$ 247.1	$ 331.8
2014	$ 281.9	$ 239.5	$ 325.4	$ 7.8	$ 6.6	$ 9.0	$ 23.2	$ 21.5	$ 24.9	$ 0.7	$ 0.7	$ 0.8	$ 313.7	$ 268.3	$ 360.1
2015	$ 294.1	$ 249.8	$ 339.5	$ 9.0	$ 7.6	$ 10.4	$ 24.8	$ 23.0	$ 26.6	$ 0.9	$ 0.8	$ 0.9	$ 328.7	$ 281.2	$ 377.4
2016	$ 293.5	$ 249.3	$ 338.8	$ 9.4	$ 8.0	$ 10.9	$ 24.8	$ 23.0	$ 26.6	$ 0.9	$ 0.8	$ 1.0	$ 328.6	$ 281.1	$ 377.3
2017	$ 284.9	$ 242.0	$ 328.9	$ 9.2	$ 7.8	$ 10.6	$ 24.1	$ 22.3	$ 25.8	$ 0.9	$ 0.8	$ 0.9	$ 319.0	$ 272.9	$ 366.3
2018	$ 276.6	$ 235.0	$ 319.4	$ 8.9	$ 7.5	$ 10.3	$ 23.4	$ 21.7	$ 25.0	$ 0.9	$ 0.8	$ 0.9	$ 309.7	$ 265.0	$ 355.6
2019	$ 268.6	$ 228.1	$ 310.1	$ 8.6	$ 7.3	$ 10.0	$ 22.7	$ 21.0	$ 24.3	$ 0.8	$ 0.8	$ 0.9	$ 300.7	$ 257.3	$ 345.3
2020	$ 260.7	$ 221.5	$ 301.0	$ 8.4	$ 7.1	$ 9.7	$ 22.0	$ 20.4	$ 23.6	$ 0.8	$ 0.7	$ 0.9	$ 291.9	$ 249.8	$ 335.2
2021	$ 253.1	$ 215.0	$ 292.3	$ 8.1	$ 6.9	$ 9.4	$ 21.4	$ 19.8	$ 22.9	$ 0.8	$ 0.7	$ 0.8	$ 283.4	$ 242.5	$ 325.4
2022	$ 245.8	$ 208.8	$ 283.7	$ 7.9	$ 6.7	$ 9.2	$ 20.8	$ 19.3	$ 22.2	$ 0.8	$ 0.7	$ 0.8	$ 275.2	$ 235.4	$ 316.0
2023	$ 238.6	$ 202.7	$ 275.5	$ 7.7	$ 6.5	$ 8.9	$ 20.1	$ 18.7	$ 21.6	$ 0.7	$ 0.7	$ 0.8	$ 267.2	$ 228.6	$ 306.8
2024	$ 231.7	$ 196.8	$ 267.5	$ 7.5	$ 6.3	$ 8.6	$ 19.6	$ 18.2	$ 21.0	$ 0.7	$ 0.7	$ 0.8	$ 259.4	$ 221.9	$ 297.8
2025	$ 224.9	$ 191.0	$ 259.7	$ 7.2	$ 6.1	$ 8.4	$ 19.0	$ 17.6	$ 20.4	$ 0.7	$ 0.6	$ 0.7	$ 251.8	$ 215.4	$ 289.1
2026	$ 218.4	$ 185.5	$ 252.1	$ 7.0	$ 6.0	$ 8.1	$ 18.4	$ 17.1	$ 19.8	$ 0.7	$ 0.6	$ 0.7	$ 244.5	$ 209.2	$ 280.7
2027	$ 212.0	$ 180.1	$ 244.8	$ 6.8	$ 5.8	$ 7.9	$ 17.9	$ 16.6	$ 19.2	$ 0.7	$ 0.6	$ 0.7	$ 237.4	$ 203.1	$ 272.5
2028	$ 205.8	$ 174.8	$ 237.6	$ 6.6	$ 5.6	$ 7.7	$ 17.4	$ 16.1	$ 18.6	$ 0.6	$ 0.6	$ 0.7	$ 230.5	$ 197.2	$ 264.6
2029	$ 199.8	$ 169.7	$ 230.7	$ 6.4	$ 5.4	$ 7.4	$ 16.9	$ 15.7	$ 18.1	$ 0.6	$ 0.6	$ 0.7	$ 223.8	$ 191.4	$ 256.9
Total	**$ 4,663.9**	**$ 3,961.8**	**$ 5,384.0**	**$ 143.3**	**$ 121.4**	**$ 165.9**	**$ 389.0**	**$ 361.0**	**$ 417.0**	**$ 13.7**	**$ 12.7**	**$ 14.7**	**$ 5,209.9**	**$ 4,456.9**	**$ 5,981.6**
Ann.	**$ 267.8**	**$ 227.5**	**$ 309.2**	**$ 8.2**	**$ 7.0**	**$ 9.5**	**$ 22.3**	**$ 20.7**	**$ 24.0**	**$ 0.8**	**$ 0.7**	**$ 0.8**	**$ 299.2**	**$ 256.0**	**$ 343.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5l Present Value of Annual Non-Treatment Capital Cost Projections at 3% Discount Rate
(All Systems)

Alternative 3

	Surface Water CWS					Surface Water NTNCWS					Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS					Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -
2006	$ 1.1	$ 9.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -	$ 3.0	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 4.7	$ 9.8	$ -	$ -	$ -
2007	$ -	$ 20.4	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 1.0	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -	$ -	$ 21.4	$ 0.3	$ -	$ -
2008	$ 0.7	$ 13.8	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.1	$ 5.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -	$ 0.8	$ 19.6	$ 0.7	$ -	$ -
2009	$ 0.6	$ -	$ 0.6	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -	$ 1.4	$ -	$ 1.5	$ -	$ -	$ 0.2	$ -	$ 0.2	$ -	$ -	$ 2.2	$ -	$ 2.3	$ -	$ -
2010	$ 0.5	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 2.1	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.3	$ -
2012	$ -	$ -	$ -	$ (0.6)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.3	$ 0.0
2013	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2014	$ -	$ -	$ -	$ (1.5)	$ 0.2	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.3	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.2
2015	$ -	$ -	$ -	$ (1.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2016	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2017	$ -	$ -	$ -	$ (1.4)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.2	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2018	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2019	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2020	$ -	$ -	$ -	$ (1.3)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.1	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2021	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.3	$ 0.1
2022	$ -	$ -	$ -	$ (1.2)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2023	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 1.0	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2024	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2025	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2026	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2027	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2028	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
2029	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.2	$ 0.1
Total	**$ 3.6**	**$ 43.9**	**$ 1.4**	**$ (21.1)**	**$ 2.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.3**	**$ -**	**$ 6.1**	**$ 6.8**	**$ 1.7**	**$ 18.3**	**$ -**	**$ 1.0**	**$ 0.0**	**$ 0.2**	**$ 7.5**	**$ -**	**$ 10.8**	**$ 50.7**	**$ 3.3**	**$ 4.9**	**$ 2.1**
Ann.	**$ 0.2**	**$ 2.5**	**$ 0.1**	**$ (1.2)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**	**$ 0.3**	**$ 0.4**	**$ 0.1**	**$ 1.1**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.4**	**$ -**	**$ 0.6**	**$ 2.9**	**$ 0.2**	**$ 0.3**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5m Present Value of Annual O&M Cost Projections at 7% Discount Rate

(All Systems and Primacy Agencies)

Alternative 3

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.4	$ 4.3	$ 4.3	$ 4.3
2006	$ 9.6	$ 9.6	$ 9.6	$ 0.1	$ 0.1	$ 0.1	$ 2.8	$ 2.8	$ 2.8	$ 0.5	$ 0.5	$ 0.5	$ 3.2	$ 16.1	$ 16.1	$ 16.1
2007	$ 17.7	$ 17.7	$ 17.7	$ 0.0	$ 0.0	$ 0.0	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 18.7	$ 18.7	$ 18.7
2008	$ 12.4	$ 12.4	$ 12.4	$ 0.0	$ 0.0	$ 0.0	$ 5.0	$ 5.0	$ 5.0	$ 0.0	$ 0.0	$ 0.0	$ 1.5	$ 18.9	$ 18.9	$ 18.9
2009	$ 955.8	$ 796.2	$ 1,124.9	$ 11.0	$ 9.2	$ 13.0	$ 56.4	$ 49.0	$ 63.9	$ 1.8	$ 1.6	$ 2.0	$ 0.6	$ 1,025.6	$ 856.5	$ 1,204.4
2010	$ 947.5	$ 790.1	$ 1,113.9	$ 11.7	$ 9.7	$ 13.7	$ 55.9	$ 48.7	$ 63.2	$ 1.7	$ 1.5	$ 1.9	$ -	$ 1,016.7	$ 849.9	$ 1,192.7
2011	$ 936.5	$ 781.7	$ 1,100.0	$ 12.1	$ 10.1	$ 14.3	$ 55.2	$ 48.2	$ 62.3	$ 1.5	$ 1.3	$ 1.7	$ -	$ 1,006.4	$ 842.3	$ 1,179.3
2012	$ 922.4	$ 770.6	$ 1,082.5	$ 12.5	$ 10.5	$ 14.7	$ 55.9	$ 49.0	$ 62.8	$ 1.7	$ 1.5	$ 1.9	$ -	$ 993.5	$ 832.5	$ 1,162.8
2013	$ 446.6	$ 374.2	$ 522.7	$ 12.2	$ 10.2	$ 14.3	$ 44.2	$ 39.1	$ 49.3	$ 1.9	$ 1.7	$ 2.1	$ -	$ 505.8	$ 426.1	$ 589.3
2014	$ 339.3	$ 285.1	$ 395.9	$ 12.1	$ 10.2	$ 14.2	$ 35.8	$ 31.8	$ 39.8	$ 1.8	$ 1.7	$ 2.0	$ -	$ 389.8	$ 329.6	$ 452.7
2015	$ 231.8	$ 195.9	$ 269.0	$ 8.8	$ 7.5	$ 10.3	$ 22.9	$ 20.8	$ 25.1	$ 1.3	$ 1.2	$ 1.4	$ -	$ 265.7	$ 226.1	$ 306.6
2016	$ 178.1	$ 151.1	$ 205.7	$ 5.8	$ 4.9	$ 6.7	$ 15.8	$ 14.7	$ 16.9	$ 0.8	$ 0.8	$ 0.9	$ -	$ 201.2	$ 172.3	$ 230.9
2017	$ 166.4	$ 141.2	$ 192.2	$ 5.4	$ 4.6	$ 6.2	$ 14.8	$ 13.8	$ 15.8	$ 0.8	$ 0.8	$ 0.8	$ -	$ 188.1	$ 161.0	$ 215.8
2018	$ 155.5	$ 132.0	$ 179.7	$ 5.0	$ 4.3	$ 5.8	$ 13.8	$ 12.9	$ 14.8	$ 0.7	$ 0.7	$ 0.8	$ -	$ 175.8	$ 150.5	$ 201.7
2019	$ 145.4	$ 123.4	$ 167.9	$ 4.7	$ 4.0	$ 5.4	$ 12.9	$ 12.0	$ 13.8	$ 0.7	$ 0.7	$ 0.7	$ -	$ 164.3	$ 140.6	$ 188.5
2020	$ 135.8	$ 115.3	$ 156.9	$ 4.4	$ 3.7	$ 5.1	$ 12.1	$ 11.2	$ 12.9	$ 0.6	$ 0.6	$ 0.7	$ -	$ 153.5	$ 131.4	$ 176.1
2021	$ 127.0	$ 107.8	$ 146.7	$ 4.1	$ 3.5	$ 4.8	$ 11.3	$ 10.5	$ 12.1	$ 0.6	$ 0.6	$ 0.6	$ -	$ 143.5	$ 122.8	$ 164.6
2022	$ 118.7	$ 100.7	$ 137.1	$ 3.8	$ 3.3	$ 4.4	$ 10.5	$ 9.8	$ 11.3	$ 0.6	$ 0.5	$ 0.6	$ -	$ 134.1	$ 114.8	$ 153.8
2023	$ 110.9	$ 94.1	$ 128.1	$ 3.6	$ 3.0	$ 4.2	$ 9.9	$ 9.2	$ 10.5	$ 0.5	$ 0.5	$ 0.6	$ -	$ 125.3	$ 107.3	$ 143.8
2024	$ 103.6	$ 88.0	$ 119.7	$ 3.4	$ 2.8	$ 3.9	$ 9.2	$ 8.6	$ 9.8	$ 0.5	$ 0.5	$ 0.5	$ -	$ 117.1	$ 100.3	$ 134.4
2025	$ 96.9	$ 82.2	$ 111.9	$ 3.1	$ 2.7	$ 3.6	$ 8.6	$ 8.0	$ 9.2	$ 0.5	$ 0.4	$ 0.5	$ -	$ 109.4	$ 93.7	$ 125.6
2026	$ 90.5	$ 76.8	$ 104.6	$ 2.9	$ 2.5	$ 3.4	$ 8.0	$ 7.5	$ 8.6	$ 0.4	$ 0.4	$ 0.5	$ -	$ 102.3	$ 87.6	$ 117.4
2027	$ 84.6	$ 71.8	$ 97.7	$ 2.7	$ 2.3	$ 3.2	$ 7.5	$ 7.0	$ 8.0	$ 0.4	$ 0.4	$ 0.4	$ -	$ 95.6	$ 81.8	$ 109.7
2028	$ 79.1	$ 67.1	$ 91.3	$ 2.6	$ 2.2	$ 3.0	$ 7.0	$ 6.5	$ 7.5	$ 0.4	$ 0.4	$ 0.4	$ -	$ 89.3	$ 76.5	$ 102.5
2029	$ 73.9	$ 62.7	$ 85.4	$ 2.4	$ 2.0	$ 2.8	$ 6.6	$ 6.1	$ 7.0	$ 0.4	$ 0.3	$ 0.4	$ -	$ 83.5	$ 71.5	$ 95.8
Total	**$ 6,486.7**	**$ 5,448.5**	**$ 7,574.2**	**$ 134.6**	**$ 113.2**	**$ 157.2**	**$ 483.3**	**$ 433.3**	**$ 533.5**	**$ 20.1**	**$ 18.5**	**$ 21.8**	**$ 8.8**	**$ 7,144.5**	**$ 6,033.3**	**$ 8,306.4**
Ann.	**$ 556.6**	**$ 467.5**	**$ 649.9**	**$ 11.6**	**$ 9.7**	**$ 13.5**	**$ 41.5**	**$ 37.2**	**$ 45.8**	**$ 1.7**	**$ 1.6**	**$ 1.9**	**$ 0.8**	**$ 613.1**	**$ 517.7**	**$ 712.8**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.

Detail may not add exactly to totals due to independent rounding.

Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5n Present Value of Annual Treatment Cost Projections at 7% Discount Rate
(All Systems)

Alternative 3

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ 954.9	$ 795.3	$ 1,124.0	$ 11.0	$ 9.2	$ 13.0	$ 54.1	$ 46.7	$ 61.6	$ 1.5	$ 1.2	$ 1.7	$ 1,021.5	$ 852.4	$ 1,200.3
2010	$ 892.4	$ 743.2	$ 1,050.4	$ 10.3	$ 8.6	$ 12.2	$ 50.6	$ 43.6	$ 57.6	$ 1.4	$ 1.2	$ 1.6	$ 954.7	$ 796.6	$ 1,121.7
2011	$ 834.0	$ 694.6	$ 981.7	$ 9.6	$ 8.0	$ 11.4	$ 47.3	$ 40.8	$ 53.8	$ 1.3	$ 1.1	$ 1.5	$ 892.2	$ 744.5	$ 1,048.3
2012	$ 779.5	$ 649.2	$ 917.5	$ 9.0	$ 7.5	$ 10.6	$ 44.2	$ 38.1	$ 50.3	$ 1.2	$ 1.0	$ 1.4	$ 833.8	$ 695.8	$ 979.8
2013	$ 269.0	$ 223.4	$ 317.5	$ 7.8	$ 6.5	$ 9.2	$ 29.4	$ 25.3	$ 33.5	$ 1.1	$ 0.9	$ 1.3	$ 307.2	$ 256.1	$ 361.4
2014	$ 154.8	$ 128.5	$ 182.8	$ 7.0	$ 5.8	$ 8.3	$ 19.7	$ 16.8	$ 22.6	$ 1.0	$ 0.9	$ 1.2	$ 182.5	$ 152.0	$ 214.8
2015	$ 46.5	$ 38.6	$ 54.9	$ 3.1	$ 2.6	$ 3.7	$ 6.5	$ 5.5	$ 7.5	$ 0.5	$ 0.4	$ 0.5	$ 56.6	$ 47.0	$ 66.7
2016	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2019	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2022	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2024	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2025	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2026	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2028	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2029	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total	**$ 3,931.0**	**$ 3,272.8**	**$ 4,629.0**	**$ 57.8**	**$ 48.1**	**$ 68.3**	**$ 251.8**	**$ 216.9**	**$ 286.8**	**$ 7.9**	**$ 6.7**	**$ 9.0**	**$ 4,248.4**	**$ 3,544.4**	**$ 4,993.0**
Ann.	**$ 337.3**	**$ 280.8**	**$ 397.2**	**$ 5.0**	**$ 4.1**	**$ 5.9**	**$ 21.6**	**$ 18.6**	**$ 24.6**	**$ 0.7**	**$ 0.6**	**$ 0.8**	**$ 364.6**	**$ 304.1**	**$ 428.5**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5o Present Value of Annual Treatment Cost Projections at 7% Discount Rate
(All Systems)

Alternative 3

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound			90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2009	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2010	$ 54.7	$ 46.5	$ 63.1	$ 1.3	$ 1.1	$ 1.6	$ 4.3	$ 4.0	$ 4.6	$ 0.1	$ 0.1	$ 0.1	$ 60.5	$ 51.7	$ 69.4
2011	$ 102.2	$ 86.9	$ 118.0	$ 2.5	$ 2.1	$ 2.9	$ 8.0	$ 7.4	$ 8.6	$ 0.2	$ 0.2	$ 0.3	$ 113.0	$ 96.7	$ 129.7
2012	$ 143.3	$ 121.8	$ 165.4	$ 3.5	$ 3.0	$ 4.1	$ 11.2	$ 10.4	$ 12.0	$ 0.3	$ 0.3	$ 0.4	$ 158.4	$ 135.5	$ 181.9
2013	$ 178.6	$ 151.8	$ 206.1	$ 4.4	$ 3.7	$ 5.1	$ 14.0	$ 13.0	$ 15.0	$ 0.4	$ 0.4	$ 0.4	$ 197.4	$ 168.8	$ 226.7
2014	$ 185.4	$ 157.5	$ 214.0	$ 5.1	$ 4.3	$ 5.9	$ 15.3	$ 14.2	$ 16.4	$ 0.5	$ 0.5	$ 0.5	$ 206.3	$ 176.5	$ 236.8
2015	$ 186.2	$ 158.1	$ 214.9	$ 5.7	$ 4.8	$ 6.6	$ 15.7	$ 14.6	$ 16.8	$ 0.5	$ 0.5	$ 0.6	$ 208.1	$ 178.0	$ 238.9
2016	$ 178.8	$ 151.9	$ 206.5	$ 5.8	$ 4.9	$ 6.7	$ 15.1	$ 14.0	$ 16.2	$ 0.6	$ 0.5	$ 0.6	$ 200.2	$ 171.3	$ 229.9
2017	$ 167.1	$ 142.0	$ 193.0	$ 5.4	$ 4.6	$ 6.2	$ 14.1	$ 13.1	$ 15.1	$ 0.5	$ 0.5	$ 0.6	$ 187.1	$ 160.1	$ 214.9
2018	$ 156.2	$ 132.7	$ 180.3	$ 5.0	$ 4.3	$ 5.8	$ 13.2	$ 12.2	$ 14.1	$ 0.5	$ 0.4	$ 0.5	$ 174.9	$ 149.6	$ 200.8
2019	$ 146.0	$ 124.0	$ 168.5	$ 4.7	$ 4.0	$ 5.4	$ 12.3	$ 11.4	$ 13.2	$ 0.5	$ 0.4	$ 0.5	$ 163.5	$ 139.8	$ 187.7
2020	$ 136.4	$ 115.9	$ 157.5	$ 4.4	$ 3.7	$ 5.1	$ 11.5	$ 10.7	$ 12.3	$ 0.4	$ 0.4	$ 0.5	$ 152.8	$ 130.7	$ 175.4
2021	$ 127.5	$ 108.3	$ 147.2	$ 4.1	$ 3.5	$ 4.8	$ 10.8	$ 10.0	$ 11.5	$ 0.4	$ 0.4	$ 0.4	$ 142.8	$ 122.1	$ 163.9
2022	$ 119.2	$ 101.2	$ 137.6	$ 3.8	$ 3.2	$ 4.4	$ 10.1	$ 9.3	$ 10.8	$ 0.4	$ 0.3	$ 0.4	$ 133.4	$ 114.1	$ 153.2
2023	$ 111.4	$ 94.6	$ 128.6	$ 3.6	$ 3.0	$ 4.2	$ 9.4	$ 8.7	$ 10.1	$ 0.3	$ 0.3	$ 0.4	$ 124.7	$ 106.7	$ 143.2
2024	$ 104.1	$ 88.4	$ 120.2	$ 3.3	$ 2.8	$ 3.9	$ 8.8	$ 8.2	$ 9.4	$ 0.3	$ 0.3	$ 0.3	$ 116.5	$ 99.7	$ 133.8
2025	$ 97.3	$ 82.6	$ 112.3	$ 3.1	$ 2.7	$ 3.6	$ 8.2	$ 7.6	$ 8.8	$ 0.3	$ 0.3	$ 0.3	$ 108.9	$ 93.2	$ 125.1
2026	$ 90.9	$ 77.2	$ 105.0	$ 2.9	$ 2.5	$ 3.4	$ 7.7	$ 7.1	$ 8.2	$ 0.3	$ 0.3	$ 0.3	$ 101.8	$ 87.1	$ 116.9
2027	$ 85.0	$ 72.2	$ 98.1	$ 2.7	$ 2.3	$ 3.2	$ 7.2	$ 6.7	$ 7.7	$ 0.3	$ 0.2	$ 0.3	$ 95.1	$ 81.4	$ 109.2
2028	$ 79.4	$ 67.4	$ 91.7	$ 2.6	$ 2.2	$ 3.0	$ 6.7	$ 6.2	$ 7.2	$ 0.2	$ 0.2	$ 0.3	$ 88.9	$ 76.1	$ 102.1
2029	$ 74.2	$ 63.0	$ 85.7	$ 2.4	$ 2.0	$ 2.8	$ 6.3	$ 5.8	$ 6.7	$ 0.2	$ 0.2	$ 0.2	$ 83.1	$ 71.1	$ 95.4
Total	**$ 2,523.9**	**$ 2,144.0**	**$ 2,913.5**	**$ 76.5**	**$ 64.8**	**$ 88.6**	**$ 209.7**	**$ 194.6**	**$ 224.9**	**$ 7.3**	**$ 6.8**	**$ 7.9**	**$ 2,817.4**	**$ 2,410.2**	**$ 3,234.8**
Ann.	**$ 216.6**	**$ 184.0**	**$ 250.0**	**$ 6.6**	**$ 5.6**	**$ 7.6**	**$ 18.0**	**$ 16.7**	**$ 19.3**	**$ 0.6**	**$ 0.6**	**$ 0.7**	**$ 241.8**	**$ 206.8**	**$ 277.6**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Exhibit J.5p Present Value of Annual Cost Projections at 7% Discount Rate
(All Systems)

Alternative 3

	Surface Water CWS					Surface Water NTNCWS				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.8	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 0.9	$ 8.7	$ -	$ -	$ -	$ 0.1	$ 0.0	$ -	$ -	$ -
2007	$ -	$ 17.5	$ 0.2	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -
2008	$ 0.6	$ 11.4	$ 0.5	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -
2009	$ 0.4	$ -	$ 0.5	$ -	$ -	$ 0.0	$ -	$ 0.0	$ -	$ -
2010	$ 0.4	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -
2012	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
2013	$ -	$ -	$ -	$ (1.1)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2014	$ -	$ -	$ -	$ (1.0)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2015	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2016	$ -	$ -	$ -	$ (0.9)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2017	$ -	$ -	$ -	$ (0.8)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2018	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2019	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2020	$ -	$ -	$ -	$ (0.7)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2021	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2022	$ -	$ -	$ -	$ (0.6)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2023	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2024	$ -	$ -	$ -	$ (0.5)	$ 0.1	$ -	$ -	$ -	$ 0.0	$ -
2025	$ -	$ -	$ -	$ (0.5)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
2026	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
2027	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
2028	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
2029	$ -	$ -	$ -	$ (0.4)	$ 0.0	$ -	$ -	$ -	$ 0.0	$ -
Total	**$ 3.1**	**$ 37.6**	**$ 1.2**	**$ (11.2)**	**$ 1.1**	**$ 0.1**	**$ 0.1**	**$ 0.0**	**$ 0.2**	**$ -**
Ann.	**$ 0.3**	**$ 3.2**	**$ 0.1**	**$ (1.0)**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ 0.0**	**$ -**

	Disinfecting Ground Water CWS					Disinfecting Ground Water NTNCWS				
	Implementation	IDSE	Monitoring Plans	Monitoring	Siginificant Excursion	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.2	$ -	$ -	$ -	$ -	$ 0.0	$ -	$ -	$ -	$ -
2006	$ 2.7	$ 0.1	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -
2007	$ -	$ 0.8	$ 0.0	$ -	$ -	$ -	$ 0.0	$ 0.0	$ -	$ -
2008	$ 0.1	$ 4.7	$ 0.2	$ -	$ -	$ 0.0	$ 0.0	$ 0.0	$ -	$ -
2009	$ 1.1	$ -	$ 1.2	$ -	$ -	$ 0.2	$ -	$ 0.1	$ -	$ -
2010	$ 1.0	$ -	$ -	$ -	$ -	$ 0.2	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ (0.1)	$ -	$ -	$ -	$ -	$ 0.0	$ -
2012	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2013	$ -	$ -	$ -	$ 0.9	$ -	$ -	$ -	$ -	$ 0.4	$ -
2014	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -
2015	$ -	$ -	$ -	$ 0.8	$ -	$ -	$ -	$ -	$ 0.3	$ -
2016	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -
2017	$ -	$ -	$ -	$ 0.7	$ -	$ -	$ -	$ -	$ 0.3	$ -
2018	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.3	$ -
2019	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -
2020	$ -	$ -	$ -	$ 0.6	$ -	$ -	$ -	$ -	$ 0.2	$ -
2021	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2022	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2023	$ -	$ -	$ -	$ 0.5	$ -	$ -	$ -	$ -	$ 0.2	$ -
2024	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2025	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.2	$ -
2026	$ -	$ -	$ -	$ 0.4	$ -	$ -	$ -	$ -	$ 0.1	$ -
2027	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2028	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
2029	$ -	$ -	$ -	$ 0.3	$ -	$ -	$ -	$ -	$ 0.1	$ -
Total	**$ 5.1**	**$ 5.6**	**$ 1.3**	**$ 9.7**	**$ -**	**$ 0.8**	**$ 0.0**	**$ 0.1**	**$ 4.0**	**$ -**
Ann.	**$ 0.4**	**$ 0.5**	**$ 0.1**	**$ 0.8**	**$ -**	**$ 0.1**	**$ 0.0**	**$ 0.0**	**$ 0.3**	**$ -**

	Total				
	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation
2005	$ 0.9	$ -	$ -	$ -	$ -
2006	$ 4.2	$ 8.7	$ -	$ -	$ -
2007	$ -	$ 18.4	$ 0.2	$ -	$ -
2008	$ 0.7	$ 16.2	$ 0.6	$ -	$ -
2009	$ 1.8	$ -	$ 1.8	$ -	$ -
2010	$ 1.6	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 0.2	$ -
2012	$ -	$ -	$ -	$ 0.2	$ 0.0
2013	$ -	$ -	$ -	$ 0.2	$ 0.1
2014	$ -	$ -	$ -	$ 0.2	$ 0.1
2015	$ -	$ -	$ -	$ 0.2	$ 0.1
2016	$ -	$ -	$ -	$ 0.2	$ 0.1
2017	$ -	$ -	$ -	$ 0.2	$ 0.1
2018	$ -	$ -	$ -	$ 0.2	$ 0.1
2019	$ -	$ -	$ -	$ 0.1	$ 0.1
2020	$ -	$ -	$ -	$ 0.1	$ 0.1
2021	$ -	$ -	$ -	$ 0.1	$ 0.1
2022	$ -	$ -	$ -	$ 0.1	$ 0.1
2023	$ -	$ -	$ -	$ 0.1	$ 0.1
2024	$ -	$ -	$ -	$ 0.1	$ 0.1
2025	$ -	$ -	$ -	$ 0.1	$ 0.0
2026	$ -	$ -	$ -	$ 0.1	$ 0.0
2027	$ -	$ -	$ -	$ 0.1	$ 0.0
2028	$ -	$ -	$ -	$ 0.1	$ 0.0
2029	$ -	$ -	$ -	$ 0.1	$ 0.0
Total	**$ 9.1**	**$ 43.3**	**$ 2.6**	**$ 2.7**	**$ 1.1**
Ann.	**$ 0.8**	**$ 3.7**	**$ 0.2**	**$ 0.2**	**$ 0.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.5a through h.

Section J.6
Cost Projections
Preferred Alternative, ICR Matrix Method

Exhibit J.6a Projections of Stage 2 DBPR PWS Costs

(All Surface Water CWSs)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.87	$ -	$ -	$ -	$ -	$ 0.87	$ 0.87	$ 0.87
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.15	$ 10.60	$ -	$ -	$ -	$ 11.76	$ 11.76	$ 11.76
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.94	$ 0.28	$ -	$ -	$ 23.22	$ 23.22	$ 23.22
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	$ 15.99	$ 0.64	$ -	$ -	$ 17.40	$ 17.40	$ 17.40
2009	$ 159.00	$ 136.72	$ 182.05	$ -	$ -	$ -	$ 0.67	$ -	$ 0.74	$ -	$ -	$ 160.41	$ 138.13	$ 183.46
2010	$ 159.00	$ 136.72	$ 182.05	$ 9.22	$ 7.68	$ 10.80	$ 0.58	$ -	$ -	$ -	$ -	$ 168.80	$ 144.98	$ 193.43
2011	$ 159.00	$ 136.72	$ 182.05	$ 18.44	$ 15.36	$ 21.59	$ -	$ -	$ -	$ 0.42	$ -	$ 177.86	$ 152.50	$ 204.07
2012	$ 159.00	$ 136.72	$ 182.05	$ 27.66	$ 23.05	$ 32.39	$ -	$ -	$ -	$ (0.77)	$ 0.06	$ 185.96	$ 159.06	$ 213.74
2013	$ 58.60	$ 50.70	$ 66.60	$ 36.88	$ 30.73	$ 43.18	$ -	$ -	$ -	$ (2.07)	$ 0.15	$ 93.56	$ 79.51	$ 107.86
2014	$ 34.76	$ 30.05	$ 39.54	$ 41.15	$ 34.56	$ 47.89	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 74.06	$ 62.76	$ 85.58
2015	$ 10.48	$ 9.05	$ 11.93	$ 44.17	$ 37.33	$ 51.16	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 52.80	$ 44.53	$ 61.23
2016	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2017	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2018	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2019	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2020	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2021	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2022	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2023	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2024	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2025	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2026	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2027	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2028	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52
2029	$ -	$ -	$ -	$ 45.31	$ 38.40	$ 52.38	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 43.45	$ 36.54	$ 50.52

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6b Projections of Stage 2 DBPR PWS Costs

(All Surface Water NTNCWSs)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.01	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.00	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2009	$ 1.60	$ 1.35	$ 1.86	$ -	$ -	$ -	$ 0.04	$ -	$ 0.01	$ -	$ -	$ 1.65	$ 1.40	$ 1.91
2010	$ 1.60	$ 1.35	$ 1.86	$ 0.22	$ 0.21	$ 0.24	$ 0.04	$ -	$ -	$ -	$ -	$ 1.86	$ 1.59	$ 2.14
2011	$ 1.60	$ 1.35	$ 1.86	$ 0.45	$ 0.42	$ 0.48	$ -	$ -	$ -	$ 0.00	$ -	$ 2.06	$ 1.77	$ 2.35
2012	$ 1.60	$ 1.35	$ 1.86	$ 0.67	$ 0.62	$ 0.72	$ -	$ -	$ -	$ 0.02	$ -	$ 2.30	$ 1.99	$ 2.60
2013	$ 1.47	$ 1.23	$ 1.70	$ 0.90	$ 0.83	$ 0.97	$ -	$ -	$ -	$ 0.03	$ -	$ 2.40	$ 2.09	$ 2.70
2014	$ 1.40	$ 1.17	$ 1.63	$ 1.12	$ 1.04	$ 1.20	$ -	$ -	$ -	$ 0.03	$ -	$ 2.55	$ 2.24	$ 2.86
2015	$ 0.67	$ 0.56	$ 0.78	$ 1.33	$ 1.24	$ 1.43	$ -	$ -	$ -	$ 0.03	$ -	$ 2.03	$ 1.82	$ 2.24
2016	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2017	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2018	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2019	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2020	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2021	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2022	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2023	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2024	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2025	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2026	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2027	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2028	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57
2029	$ -	$ -	$ -	$ 1.44	$ 1.34	$ 1.54	$ -	$ -	$ -	$ 0.03	$ -	$ 1.47	$ 1.36	$ 1.57

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6c Projections of Stage 2 DBPR PWS Costs

(All Surface Water Systems)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ -	$ -	$ -	$ -	$ 0.88	$ 0.88	$ 0.88
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.22	$ 10.62	$ -	$ -	$ -	$ 11.84	$ 11.84	$ 11.84
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.98	$ 0.28	$ -	$ -	$ 23.26	$ 23.26	$ 23.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.79	$ 16.01	$ 0.64	$ -	$ -	$ 17.44	$ 17.44	$ 17.44
2009	$ 160.61	$ 138.06	$ 183.92	$ -	$ -	$ -	$ 0.71	$ -	$ 0.75	$ -	$ -	$ 162.06	$ 139.52	$ 185.37
2010	$ 160.61	$ 138.06	$ 183.92	$ 9.44	$ 7.89	$ 11.04	$ 0.61	$ -	$ -	$ -	$ -	$ 170.66	$ 146.57	$ 195.56
2011	$ 160.61	$ 138.06	$ 183.92	$ 18.89	$ 15.78	$ 22.08	$ -	$ -	$ -	$ 0.42	$ -	$ 179.92	$ 154.27	$ 206.42
2012	$ 160.61	$ 138.06	$ 183.92	$ 28.33	$ 23.67	$ 33.11	$ -	$ -	$ -	$ (0.75)	$ 0.06	$ 188.25	$ 161.04	$ 216.34
2013	$ 60.07	$ 51.93	$ 68.30	$ 37.78	$ 31.56	$ 44.15	$ -	$ -	$ -	$ (2.04)	$ 0.15	$ 95.95	$ 81.60	$ 110.56
2014	$ 36.16	$ 31.22	$ 41.17	$ 42.27	$ 35.60	$ 49.09	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 76.61	$ 64.99	$ 88.44
2015	$ 11.15	$ 9.61	$ 12.70	$ 45.50	$ 38.57	$ 52.60	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 54.83	$ 46.35	$ 63.47
2016	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2017	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2018	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2019	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2020	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2021	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2022	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2023	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2024	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2025	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2026	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2027	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2028	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09
2029	$ -	$ -	$ -	$ 46.75	$ 39.73	$ 53.92	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 44.92	$ 37.91	$ 52.09

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6d Projections of Stage 2 DBPR PWS Costs

(All Ground Water CWSs)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.31	$ 0.09	$ -	$ -	$ -	$ 3.40	$ 3.40	$ 3.40
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 48.03	$ 41.27	$ 54.80	$ -	$ -	$ -	$ 1.69	$ -	$ 1.74	$ -	$ -	$ 51.46	$ 44.70	$ 58.23
2010	$ 48.03	$ 41.27	$ 54.80	$ 3.88	$ 3.61	$ 4.16	$ 1.66	$ -	$ -	$ -	$ -	$ 53.57	$ 46.54	$ 60.62
2011	$ 48.03	$ 41.27	$ 54.80	$ 7.77	$ 7.21	$ 8.32	$ -	$ -	$ -	$ (0.11)	$ -	$ 55.69	$ 48.38	$ 63.02
2012	$ 48.03	$ 41.27	$ 54.80	$ 11.65	$ 10.82	$ 12.49	$ -	$ -	$ -	$ 0.83	$ -	$ 60.51	$ 52.92	$ 68.12
2013	$ 38.10	$ 32.43	$ 43.78	$ 15.54	$ 14.43	$ 16.65	$ -	$ -	$ -	$ 1.76	$ -	$ 55.39	$ 48.62	$ 62.19
2014	$ 31.06	$ 26.09	$ 36.05	$ 18.46	$ 17.14	$ 19.79	$ -	$ -	$ -	$ 1.76	$ -	$ 51.29	$ 45.00	$ 57.60
2015	$ 12.85	$ 10.62	$ 15.08	$ 20.79	$ 19.29	$ 22.29	$ -	$ -	$ -	$ 1.76	$ -	$ 35.40	$ 31.67	$ 39.14
2016	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2017	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2018	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2019	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2020	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2021	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2022	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2023	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2024	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2025	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2026	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2027	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2028	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2029	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6e Projections of Stage 2 DBPR PWS Costs

(All Ground Water NTNCWSs)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ -	$ 0.56	$ 0.56	$ 0.56
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 1.99	$ 1.68	$ 2.30	$ -	$ -	$ -	$ 0.28	$ -	$ 0.21	$ -	$ -	$ 2.48	$ 2.17	$ 2.79
2010	$ 1.99	$ 1.68	$ 2.30	$ 0.20	$ 0.18	$ 0.21	$ 0.28	$ -	$ -	$ -	$ -	$ 2.47	$ 2.14	$ 2.79
2011	$ 1.99	$ 1.68	$ 2.30	$ 0.40	$ 0.37	$ 0.43	$ -	$ -	$ -	$ 0.00	$ -	$ 2.39	$ 2.05	$ 2.73
2012	$ 1.99	$ 1.68	$ 2.30	$ 0.59	$ 0.55	$ 0.64	$ -	$ -	$ -	$ 0.36	$ -	$ 2.94	$ 2.58	$ 3.30
2013	$ 1.98	$ 1.67	$ 2.29	$ 0.79	$ 0.73	$ 0.86	$ -	$ -	$ -	$ 0.71	$ -	$ 3.49	$ 3.11	$ 3.86
2014	$ 1.97	$ 1.66	$ 2.28	$ 0.99	$ 0.91	$ 1.07	$ -	$ -	$ -	$ 0.71	$ -	$ 3.67	$ 3.28	$ 4.06
2015	$ 0.98	$ 0.83	$ 1.13	$ 1.19	$ 1.09	$ 1.28	$ -	$ -	$ -	$ 0.71	$ -	$ 2.88	$ 2.63	$ 3.12
2016	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2017	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2018	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2019	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2020	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2021	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2022	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2023	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2024	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2025	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2026	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2027	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2028	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2029	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6f Projections of Stage 2 DBPR PWS Costs

(All Ground Water Systems)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.87	$ 0.09	$ -	$ -	$ -	$ 3.96	$ 3.96	$ 3.96
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 50.02	$ 42.95	$ 57.11	$ -	$ -	$ -	$ 1.97	$ -	$ 1.95	$ -	$ -	$ 53.94	$ 46.87	$ 61.02
2010	$ 50.02	$ 42.95	$ 57.11	$ 4.08	$ 3.79	$ 4.38	$ 1.94	$ -	$ -	$ -	$ -	$ 56.04	$ 48.68	$ 63.42
2011	$ 50.02	$ 42.95	$ 57.11	$ 8.17	$ 7.58	$ 8.75	$ -	$ -	$ -	$ (0.11)	$ -	$ 58.08	$ 50.42	$ 65.75
2012	$ 50.02	$ 42.95	$ 57.11	$ 12.25	$ 11.37	$ 13.13	$ -	$ -	$ -	$ 1.18	$ -	$ 63.45	$ 55.51	$ 71.42
2013	$ 40.08	$ 34.10	$ 46.07	$ 16.33	$ 15.16	$ 17.50	$ -	$ -	$ -	$ 2.47	$ -	$ 58.88	$ 51.73	$ 66.04
2014	$ 33.03	$ 27.75	$ 38.33	$ 19.45	$ 18.06	$ 20.86	$ -	$ -	$ -	$ 2.47	$ -	$ 54.96	$ 48.28	$ 61.66
2015	$ 13.83	$ 11.45	$ 16.22	$ 21.98	$ 20.39	$ 23.57	$ -	$ -	$ -	$ 2.47	$ -	$ 38.28	$ 34.31	$ 42.26
2016	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2017	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2018	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2019	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2020	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2021	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2022	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2023	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2024	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2025	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2026	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2027	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2028	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2029	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6g Projections of Stage 2 DBPR PWS Costs

(All Systems)

Preferred Alternative, ICR Matrix Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.06	$ -	$ -	$ -	$ -	$ 1.06	$ 1.06	$ 1.06
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.09	$ 10.70	$ -	$ -	$ -	$ 15.80	$ 15.80	$ 15.80
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24.07	$ 0.30	$ -	$ -	$ 24.36	$ 24.36	$ 24.36
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.93	$ 22.67	$ 0.85	$ -	$ -	$ 24.45	$ 24.45	$ 24.45
2009	$ 210.63	$ 181.02	$ 241.02	$ -	$ -	$ -	$ 2.68	$ -	$ 2.70	$ -	$ -	$ 216.00	$ 186.39	$ 246.40
2010	$ 210.63	$ 181.02	$ 241.02	$ 13.53	$ 11.68	$ 15.41	$ 2.55	$ -	$ -	$ -	$ -	$ 226.70	$ 195.24	$ 258.98
2011	$ 210.63	$ 181.02	$ 241.02	$ 27.05	$ 23.36	$ 30.83	$ -	$ -	$ -	$ 0.32	$ -	$ 238.00	$ 204.69	$ 272.16
2012	$ 210.63	$ 181.02	$ 241.02	$ 40.58	$ 35.04	$ 46.24	$ -	$ -	$ -	$ 0.43	$ 0.06	$ 251.70	$ 216.55	$ 287.76
2013	$ 100.15	$ 86.04	$ 114.37	$ 54.11	$ 46.72	$ 61.65	$ -	$ -	$ -	$ 0.43	$ 0.15	$ 154.83	$ 133.34	$ 176.61
2014	$ 69.20	$ 58.97	$ 79.50	$ 61.72	$ 53.66	$ 69.95	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 131.57	$ 113.27	$ 150.10
2015	$ 24.98	$ 21.06	$ 28.92	$ 67.48	$ 58.96	$ 76.17	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 93.11	$ 80.66	$ 105.73
2016	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2017	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2018	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2019	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2020	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2021	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2022	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2023	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2024	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2025	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2026	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2027	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2028	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26
2029	$ -	$ -	$ -	$ 69.76	$ 61.07	$ 78.61	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 70.41	$ 61.71	$ 79.26

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1e and Exhibits D.1 through D.6.

Exhibit J.6h Projections of Stage 2 DBPR Primacy Agency Costs

Preferred Alternative, ICR Matrix Method

Year	Implementation Costs	IDSE Costs	Monitoring Plan Costs	Compliance Monitoring Costs	Operational Evaluation
2005	$ 3.88	$ -	$ -	$ -	$ -
2006	$ 3.88	$ 0.05	$ -	$ -	$ -
2007	$ -	$ 0.14	$ 0.02	$ -	$ -
2008	$ -	$ 2.03	$ 0.06	$ -	$ -
2009	$ -	$ -	$ 0.84	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 1.59	$ 0.11
2012	$ -	$ -	$ -	$ 1.59	$ 0.11
2013	$ -	$ -	$ -	$ 1.59	$ 0.11
2014	$ -	$ -	$ -	$ 1.59	$ 0.11
2015	$ -	$ -	$ -	$ 1.59	$ 0.11
2016	$ -	$ -	$ -	$ 1.59	$ 0.11
2017	$ -	$ -	$ -	$ 1.59	$ 0.11
2018	$ -	$ -	$ -	$ 1.59	$ 0.11
2019	$ -	$ -	$ -	$ 1.59	$ 0.11
2020	$ -	$ -	$ -	$ 1.59	$ 0.11
2021	$ -	$ -	$ -	$ 1.59	$ 0.11
2022	$ -	$ -	$ -	$ 1.59	$ 0.11
2023	$ -	$ -	$ -	$ 1.59	$ 0.11
2024	$ -	$ -	$ -	$ 1.59	$ 0.11
2025	$ -	$ -	$ -	$ 1.59	$ 0.11
2026	$ -	$ -	$ -	$ 1.59	$ 0.11
2027	$ -	$ -	$ -	$ 1.59	$ 0.11
2028	$ -	$ -	$ -	$ 1.59	$ 0.11
2029	$ -	$ -	$ -	$ 1.59	$ 0.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1h and D.7.

Exhibit J.6i Present Value of Annual Capital Cost Projections at 3% Discount Rate

(All Systems and Primacy Agencies)

Preferred Alternative, ICR Matrix Method

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.7	$ 4.7	$ 4.7	$ 4.7
2006	$ 10.8	$ 10.8	$ 10.8	$ 0.1	$ 0.1	$ 0.1	$ 3.1	$ 3.1	$ 3.1	$ 0.5	$ 0.5	$ 0.5	$ 3.6	$ 18.1	$ 18.1	$ 18.1
2007	$ 20.6	$ 20.6	$ 20.6	$ 0.0	$ 0.0	$ 0.0	$ 1.0	$ 1.0	$ 1.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 21.8	$ 21.8	$ 21.8
2008	$ 15.0	$ 15.0	$ 15.0	$ 0.0	$ 0.0	$ 0.0	$ 6.0	$ 6.0	$ 6.0	$ 0.0	$ 0.0	$ 0.0	$ 1.8	$ 22.9	$ 22.9	$ 22.9
2009	$ 134.3	$ 115.7	$ 153.6	$ 1.4	$ 1.2	$ 1.6	$ 43.1	$ 37.4	$ 48.8	$ 2.1	$ 1.8	$ 2.3	$ 0.7	$ 181.6	$ 156.8	$ 207.1
2010	$ 137.2	$ 117.9	$ 157.3	$ 1.5	$ 1.3	$ 1.7	$ 43.6	$ 37.8	$ 49.3	$ 2.0	$ 1.7	$ 2.3	$ -	$ 184.3	$ 158.8	$ 210.6
2011	$ 140.4	$ 120.4	$ 161.1	$ 1.6	$ 1.4	$ 1.9	$ 44.0	$ 38.2	$ 49.7	$ 1.9	$ 1.6	$ 2.2	$ 1.3	$ 189.2	$ 162.9	$ 216.2
2012	$ 142.5	$ 121.9	$ 163.8	$ 1.8	$ 1.5	$ 2.0	$ 46.4	$ 40.6	$ 52.2	$ 2.3	$ 2.0	$ 2.5	$ 1.3	$ 194.2	$ 167.3	$ 221.8
2013	$ 69.6	$ 59.2	$ 80.3	$ 1.8	$ 1.6	$ 2.0	$ 41.2	$ 36.2	$ 46.3	$ 2.6	$ 2.3	$ 2.9	$ 1.3	$ 116.5	$ 100.5	$ 132.7
2014	$ 53.5	$ 45.3	$ 61.8	$ 1.8	$ 1.6	$ 2.1	$ 37.1	$ 32.5	$ 41.6	$ 2.7	$ 2.4	$ 2.9	$ 1.2	$ 96.3	$ 83.1	$ 109.7
2015	$ 37.0	$ 31.2	$ 42.9	$ 1.4	$ 1.3	$ 1.6	$ 24.8	$ 22.2	$ 27.4	$ 2.0	$ 1.8	$ 2.2	$ 1.2	$ 66.5	$ 57.8	$ 75.4
2016	$ 29.6	$ 24.9	$ 34.4	$ 1.0	$ 0.9	$ 1.1	$ 16.0	$ 14.9	$ 17.1	$ 1.4	$ 1.3	$ 1.4	$ 1.2	$ 49.1	$ 43.2	$ 55.1
2017	$ 28.7	$ 24.2	$ 33.4	$ 1.0	$ 0.9	$ 1.0	$ 15.5	$ 14.5	$ 16.6	$ 1.3	$ 1.3	$ 1.4	$ 1.1	$ 47.7	$ 41.9	$ 53.5
2018	$ 27.9	$ 23.5	$ 32.4	$ 0.9	$ 0.9	$ 1.0	$ 15.1	$ 14.1	$ 16.1	$ 1.3	$ 1.2	$ 1.3	$ 1.1	$ 46.3	$ 40.7	$ 52.0
2019	$ 27.1	$ 22.8	$ 31.5	$ 0.9	$ 0.9	$ 1.0	$ 14.6	$ 13.7	$ 15.6	$ 1.2	$ 1.2	$ 1.3	$ 1.1	$ 44.9	$ 39.5	$ 50.5
2020	$ 26.3	$ 22.1	$ 30.6	$ 0.9	$ 0.8	$ 1.0	$ 14.2	$ 13.3	$ 15.2	$ 1.2	$ 1.1	$ 1.3	$ 1.0	$ 43.6	$ 38.4	$ 49.0
2021	$ 25.5	$ 21.5	$ 29.7	$ 0.9	$ 0.8	$ 0.9	$ 13.8	$ 12.9	$ 14.7	$ 1.2	$ 1.1	$ 1.2	$ 1.0	$ 42.4	$ 37.3	$ 47.6
2022	$ 24.8	$ 20.8	$ 28.8	$ 0.8	$ 0.8	$ 0.9	$ 13.4	$ 12.5	$ 14.3	$ 1.1	$ 1.1	$ 1.2	$ 1.0	$ 41.1	$ 36.2	$ 46.2
2023	$ 24.1	$ 20.2	$ 28.0	$ 0.8	$ 0.8	$ 0.9	$ 13.0	$ 12.1	$ 13.9	$ 1.1	$ 1.0	$ 1.2	$ 0.9	$ 39.9	$ 35.1	$ 44.8
2024	$ 23.4	$ 19.6	$ 27.2	$ 0.8	$ 0.7	$ 0.8	$ 12.6	$ 11.8	$ 13.5	$ 1.1	$ 1.0	$ 1.1	$ 0.9	$ 38.8	$ 34.1	$ 43.5
2025	$ 22.7	$ 19.1	$ 26.4	$ 0.8	$ 0.7	$ 0.8	$ 12.3	$ 11.4	$ 13.1	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 37.6	$ 33.1	$ 42.3
2026	$ 22.0	$ 18.5	$ 25.6	$ 0.7	$ 0.7	$ 0.8	$ 11.9	$ 11.1	$ 12.7	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 36.5	$ 32.1	$ 41.0
2027	$ 21.4	$ 18.0	$ 24.9	$ 0.7	$ 0.7	$ 0.8	$ 11.6	$ 10.8	$ 12.3	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 35.5	$ 31.2	$ 39.8
2028	$ 20.8	$ 17.5	$ 24.1	$ 0.7	$ 0.7	$ 0.8	$ 11.2	$ 10.5	$ 12.0	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 34.4	$ 30.3	$ 38.7
2029	$ 20.1	$ 16.9	$ 23.4	$ 0.7	$ 0.6	$ 0.7	$ 10.9	$ 10.2	$ 11.6	$ 0.9	$ 0.9	$ 1.0	$ 0.8	$ 33.4	$ 29.4	$ 37.5
Total	**$ 1,106.2**	**$ 948.3**	**$ 1,268.3**	**$ 23.1**	**$ 20.8**	**$ 25.4**	**$ 476.5**	**$ 428.8**	**$ 524.2**	**$ 31.8**	**$ 29.2**	**$ 34.4**	**$ 29.8**	**$ 1,667.4**	**$ 1,457.0**	**$ 1,882.3**
Ann.	**$ 63.5**	**$ 54.5**	**$ 72.8**	**$ 1.3**	**$ 1.2**	**$ 1.5**	**$ 27.4**	**$ 24.6**	**$ 30.1**	**$ 1.8**	**$ 1.7**	**$ 2.0**	**$ 1.7**	**$ 95.8**	**$ 83.7**	**$ 108.1**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.6a through h.

Section J.7
Cost Projections
Preferred Alternative, SWAT Method

Exhibit J.7a Projections of Stage 2 DBPR PWS Costs

(All Surface Water CWSs)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.87	$ -	$ -	$ -	$ -	$ 0.87	$ 0.87	$ 0.87
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.15	$ 10.60	$ -	$ -	$ -	$ 11.76	$ 11.76	$ 11.76
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.94	$ 0.28	$ -	$ -	$ 23.22	$ 23.22	$ 23.22
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.78	$ 15.99	$ 0.64	$ -	$ -	$ 17.40	$ 17.40	$ 17.40
2009	$ 75.77	$ 54.13	$ 101.08	$ -	$ -	$ -	$ 0.67	$ -	$ 0.74	$ -	$ -	$ 77.18	$ 55.54	$ 102.49
2010	$ 75.77	$ 54.13	$ 101.08	$ 4.17	$ 3.77	$ 4.60	$ 0.58	$ -	$ -	$ -	$ -	$ 80.52	$ 58.48	$ 106.25
2011	$ 75.77	$ 54.13	$ 101.08	$ 8.33	$ 7.55	$ 9.19	$ -	$ -	$ -	$ 0.42	$ -	$ 84.53	$ 62.10	$ 110.69
2012	$ 75.77	$ 54.13	$ 101.08	$ 12.50	$ 11.32	$ 13.79	$ -	$ -	$ -	$ (0.77)	$ 0.06	$ 87.57	$ 64.75	$ 114.16
2013	$ 26.53	$ 20.12	$ 33.87	$ 16.67	$ 15.10	$ 18.39	$ -	$ -	$ -	$ (2.07)	$ 0.15	$ 41.28	$ 33.30	$ 50.34
2014	$ 14.89	$ 11.84	$ 18.30	$ 18.51	$ 16.74	$ 20.44	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 31.54	$ 26.73	$ 36.88
2015	$ 4.08	$ 3.52	$ 4.64	$ 19.75	$ 17.88	$ 21.79	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 21.97	$ 19.54	$ 24.58
2016	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2017	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2018	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2019	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2020	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2021	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2022	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2023	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2024	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2025	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2026	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2027	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2028	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41
2029	$ -	$ -	$ -	$ 20.19	$ 18.29	$ 22.26	$ -	$ -	$ -	$ (2.07)	$ 0.21	$ 18.34	$ 16.43	$ 20.41

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7b Projections of Stage 2 DBPR PWS Costs

(All Surface Water NTNCWSs)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ 0.01
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.01	$ -	$ -	$ -	$ 0.08	$ 0.08	$ 0.08
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.00	$ -	$ -	$ 0.04	$ 0.04	$ 0.04
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.02	$ 0.00	$ -	$ -	$ 0.03	$ 0.03	$ 0.03
2009	$ 0.65	$ 0.53	$ 0.78	$ -	$ -	$ -	$ 0.04	$ -	$ 0.01	$ -	$ -	$ 0.70	$ 0.57	$ 0.83
2010	$ 0.65	$ 0.53	$ 0.78	$ 0.09	$ 0.08	$ 0.09	$ 0.04	$ -	$ -	$ -	$ -	$ 0.78	$ 0.64	$ 0.91
2011	$ 0.65	$ 0.53	$ 0.78	$ 0.18	$ 0.16	$ 0.19	$ -	$ -	$ -	$ 0.00	$ -	$ 0.83	$ 0.69	$ 0.98
2012	$ 0.65	$ 0.53	$ 0.78	$ 0.27	$ 0.25	$ 0.28	$ -	$ -	$ -	$ 0.02	$ -	$ 0.93	$ 0.79	$ 1.08
2013	$ 0.58	$ 0.48	$ 0.69	$ 0.35	$ 0.33	$ 0.38	$ -	$ -	$ -	$ 0.03	$ -	$ 0.97	$ 0.84	$ 1.10
2014	$ 0.55	$ 0.46	$ 0.65	$ 0.44	$ 0.41	$ 0.47	$ -	$ -	$ -	$ 0.03	$ -	$ 1.02	$ 0.89	$ 1.15
2015	$ 0.26	$ 0.22	$ 0.30	$ 0.52	$ 0.49	$ 0.56	$ -	$ -	$ -	$ 0.03	$ -	$ 0.81	$ 0.73	$ 0.89
2016	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2017	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2018	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2019	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2020	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2021	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2022	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2023	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2024	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2025	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2026	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2027	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2028	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63
2029	$ -	$ -	$ -	$ 0.57	$ 0.53	$ 0.61	$ -	$ -	$ -	$ 0.03	$ -	$ 0.59	$ 0.56	$ 0.63

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7c Projections of Stage 2 DBPR PWS Costs

(All Surface Water Systems)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.88	$ -	$ -	$ -	$ -	$ 0.88	$ 0.88	$ 0.88
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.22	$ 10.62	$ -	$ -	$ -	$ 11.84	$ 11.84	$ 11.84
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 22.98	$ 0.28	$ -	$ -	$ 23.26	$ 23.26	$ 23.26
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.79	$ 16.01	$ 0.64	$ -	$ -	$ 17.44	$ 17.44	$ 17.44
2009	$ 76.43	$ 54.66	$ 101.86	$ -	$ -	$ -	$ 0.71	$ -	$ 0.75	$ -	$ -	$ 77.88	$ 56.12	$ 103.32
2010	$ 76.43	$ 54.66	$ 101.86	$ 4.26	$ 3.86	$ 4.69	$ 0.61	$ -	$ -	$ -	$ -	$ 81.29	$ 59.13	$ 107.16
2011	$ 76.43	$ 54.66	$ 101.86	$ 8.51	$ 7.71	$ 9.38	$ -	$ -	$ -	$ 0.42	$ -	$ 85.36	$ 62.80	$ 111.67
2012	$ 76.43	$ 54.66	$ 101.86	$ 12.77	$ 11.57	$ 14.08	$ -	$ -	$ -	$ (0.75)	$ 0.06	$ 88.50	$ 65.54	$ 115.24
2013	$ 27.11	$ 20.60	$ 34.56	$ 17.02	$ 15.43	$ 18.77	$ -	$ -	$ -	$ (2.04)	$ 0.15	$ 42.24	$ 34.14	$ 51.44
2014	$ 15.44	$ 12.30	$ 18.94	$ 18.95	$ 17.15	$ 20.91	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 32.56	$ 27.62	$ 38.02
2015	$ 4.34	$ 3.74	$ 4.94	$ 20.27	$ 18.36	$ 22.35	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 22.78	$ 20.28	$ 25.47
2016	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2017	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2018	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2019	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2020	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2021	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2022	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2023	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2024	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2025	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2026	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2027	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2028	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04
2029	$ -	$ -	$ -	$ 20.76	$ 18.82	$ 22.87	$ -	$ -	$ -	$ (2.04)	$ 0.21	$ 18.93	$ 16.99	$ 21.04

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7d Projections of Stage 2 DBPR PWS Costs

(All Ground Water CWSs)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.31	$ 0.09	$ -	$ -	$ -	$ 3.40	$ 3.40	$ 3.40
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 48.03	$ 41.27	$ 54.80	$ -	$ -	$ -	$ 1.69	$ -	$ 1.74	$ -	$ -	$ 51.46	$ 44.70	$ 58.23
2010	$ 48.03	$ 41.27	$ 54.80	$ 3.88	$ 3.61	$ 4.16	$ 1.66	$ -	$ -	$ -	$ -	$ 53.57	$ 46.54	$ 60.62
2011	$ 48.03	$ 41.27	$ 54.80	$ 7.77	$ 7.21	$ 8.32	$ -	$ -	$ -	$ (0.11)	$ -	$ 55.69	$ 48.38	$ 63.02
2012	$ 48.03	$ 41.27	$ 54.80	$ 11.65	$ 10.82	$ 12.49	$ -	$ -	$ -	$ 0.83	$ -	$ 60.51	$ 52.92	$ 68.12
2013	$ 38.10	$ 32.43	$ 43.78	$ 15.54	$ 14.43	$ 16.65	$ -	$ -	$ -	$ 1.76	$ -	$ 55.39	$ 48.62	$ 62.19
2014	$ 31.06	$ 26.09	$ 36.05	$ 18.46	$ 17.14	$ 19.79	$ -	$ -	$ -	$ 1.76	$ -	$ 51.29	$ 45.00	$ 57.60
2015	$ 12.85	$ 10.62	$ 15.08	$ 20.79	$ 19.29	$ 22.29	$ -	$ -	$ -	$ 1.76	$ -	$ 35.40	$ 31.67	$ 39.14
2016	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2017	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2018	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2019	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2020	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2021	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2022	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2023	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2024	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2025	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2026	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2027	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2028	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07
2029	$ -	$ -	$ -	$ 21.73	$ 20.15	$ 23.31	$ -	$ -	$ -	$ 1.76	$ -	$ 23.49	$ 21.91	$ 25.07

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7e Projections of Stage 2 DBPR PWS Costs

(All Ground Water NTNCWSs)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.56	$ -	$ -	$ -	$ -	$ 0.56	$ 0.56	$ 0.56
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.00	$ 0.00	$ 0.00	$ -	$ -	$ 0.00	$ 0.00	$ 0.00
2009	$ 1.99	$ 1.68	$ 2.30	$ -	$ -	$ -	$ 0.28	$ -	$ 0.21	$ -	$ -	$ 2.48	$ 2.17	$ 2.79
2010	$ 1.99	$ 1.68	$ 2.30	$ 0.20	$ 0.18	$ 0.21	$ 0.28	$ -	$ -	$ -	$ -	$ 2.47	$ 2.14	$ 2.79
2011	$ 1.99	$ 1.68	$ 2.30	$ 0.40	$ 0.37	$ 0.43	$ -	$ -	$ -	$ 0.00	$ -	$ 2.39	$ 2.05	$ 2.73
2012	$ 1.99	$ 1.68	$ 2.30	$ 0.59	$ 0.55	$ 0.64	$ -	$ -	$ -	$ 0.36	$ -	$ 2.94	$ 2.58	$ 3.30
2013	$ 1.98	$ 1.67	$ 2.29	$ 0.79	$ 0.73	$ 0.86	$ -	$ -	$ -	$ 0.71	$ -	$ 3.49	$ 3.11	$ 3.86
2014	$ 1.97	$ 1.66	$ 2.28	$ 0.99	$ 0.91	$ 1.07	$ -	$ -	$ -	$ 0.71	$ -	$ 3.67	$ 3.28	$ 4.06
2015	$ 0.98	$ 0.83	$ 1.13	$ 1.19	$ 1.09	$ 1.28	$ -	$ -	$ -	$ 0.71	$ -	$ 2.88	$ 2.63	$ 3.12
2016	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2017	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2018	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2019	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2020	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2021	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2022	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2023	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2024	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2025	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2026	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2027	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2028	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10
2029	$ -	$ -	$ -	$ 1.28	$ 1.18	$ 1.39	$ -	$ -	$ -	$ 0.71	$ -	$ 2.00	$ 1.89	$ 2.10

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7f Projections of Stage 2 DBPR PWS Costs

(All Ground Water Systems)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ 0.18
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.87	$ 0.09	$ -	$ -	$ -	$ 3.96	$ 3.96	$ 3.96
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.09	$ 0.02	$ -	$ -	$ 1.11	$ 1.11	$ 1.11
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 6.66	$ 0.21	$ -	$ -	$ 7.01	$ 7.01	$ 7.01
2009	$ 50.02	$ 42.95	$ 57.11	$ -	$ -	$ -	$ 1.97	$ -	$ 1.95	$ -	$ -	$ 53.94	$ 46.87	$ 61.02
2010	$ 50.02	$ 42.95	$ 57.11	$ 4.08	$ 3.79	$ 4.38	$ 1.94	$ -	$ -	$ -	$ -	$ 56.04	$ 48.68	$ 63.42
2011	$ 50.02	$ 42.95	$ 57.11	$ 8.17	$ 7.58	$ 8.75	$ -	$ -	$ -	$ (0.11)	$ -	$ 58.08	$ 50.42	$ 65.75
2012	$ 50.02	$ 42.95	$ 57.11	$ 12.25	$ 11.37	$ 13.13	$ -	$ -	$ -	$ 1.18	$ -	$ 63.45	$ 55.51	$ 71.42
2013	$ 40.08	$ 34.10	$ 46.07	$ 16.33	$ 15.16	$ 17.50	$ -	$ -	$ -	$ 2.47	$ -	$ 58.88	$ 51.73	$ 66.04
2014	$ 33.03	$ 27.75	$ 38.33	$ 19.45	$ 18.06	$ 20.86	$ -	$ -	$ -	$ 2.47	$ -	$ 54.96	$ 48.28	$ 61.66
2015	$ 13.83	$ 11.45	$ 16.22	$ 21.98	$ 20.39	$ 23.57	$ -	$ -	$ -	$ 2.47	$ -	$ 38.28	$ 34.31	$ 42.26
2016	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2017	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2018	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2019	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2020	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2021	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2022	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2023	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2024	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2025	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2026	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2027	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2028	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16
2029	$ -	$ -	$ -	$ 23.01	$ 21.34	$ 24.69	$ -	$ -	$ -	$ 2.47	$ -	$ 25.48	$ 23.81	$ 27.16

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7g Projections of Stage 2 DBPR PWS Costs

(All Systems)

Preferred Alternative, SWAT Method

	Treatment Capital Costs			Treatment O&M Costs			Non-Treatment Costs					All Stage 2 DBPR Costs		
		90 Percent Confidence Bound			90 Percent Confidence Bound								90 Percent Confidence Bound	
Year	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Implementation	IDSE	Monitoring Plans	Monitoring	Operational Evaluation	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.06	$ -	$ -	$ -	$ -	$ 1.06	$ 1.06	$ 1.06
2006	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.09	$ 10.70	$ -	$ -	$ -	$ 15.80	$ 15.80	$ 15.80
2007	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24.07	$ 0.30	$ -	$ -	$ 24.36	$ 24.36	$ 24.36
2008	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.93	$ 22.67	$ 0.85	$ -	$ -	$ 24.45	$ 24.45	$ 24.45
2009	$ 126.45	$ 97.61	$ 158.96	$ -	$ -	$ -	$ 2.68	$ -	$ 2.70	$ -	$ -	$ 131.82	$ 102.99	$ 164.34
2010	$ 126.45	$ 97.61	$ 158.96	$ 8.34	$ 7.65	$ 9.07	$ 2.55	$ -	$ -	$ -	$ -	$ 137.33	$ 107.81	$ 170.58
2011	$ 126.45	$ 97.61	$ 158.96	$ 16.68	$ 15.29	$ 18.14	$ -	$ -	$ -	$ 0.32	$ -	$ 143.44	$ 113.22	$ 177.42
2012	$ 126.45	$ 97.61	$ 158.96	$ 25.02	$ 22.94	$ 27.20	$ -	$ -	$ -	$ 0.43	$ 0.06	$ 151.96	$ 121.05	$ 186.66
2013	$ 67.19	$ 54.71	$ 80.63	$ 33.35	$ 30.59	$ 36.27	$ -	$ -	$ -	$ 0.43	$ 0.15	$ 101.12	$ 85.87	$ 117.48
2014	$ 48.48	$ 40.05	$ 57.28	$ 38.40	$ 35.21	$ 41.76	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 87.53	$ 75.90	$ 99.68
2015	$ 18.17	$ 15.19	$ 21.16	$ 42.25	$ 38.75	$ 45.93	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 61.06	$ 54.58	$ 67.73
2016	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2017	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2018	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2019	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2020	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2021	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2022	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2023	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2024	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2025	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2026	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2027	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2028	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20
2029	$ -	$ -	$ -	$ 43.77	$ 40.15	$ 47.56	$ -	$ -	$ -	$ 0.43	$ 0.21	$ 44.41	$ 40.80	$ 48.20

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1f and Exhibits D.1 through D.6.

Exhibit J.7h Projections of Stage 2 DBPR Primacy Agency Costs

Preferred Alternative, SWAT Method

Year	Implementation Costs	IDSE Costs	Monitoring Plan Costs	Compliance Monitoring Costs	Operational Evaluation
2005	$ 3.88	$ -	$ -	$ -	$ -
2006	$ 3.88	$ 0.05	$ -	$ -	$ -
2007	$ -	$ 0.14	$ 0.02	$ -	$ -
2008	$ -	$ 2.03	$ 0.06	$ -	$ -
2009	$ -	$ -	$ 0.84	$ -	$ -
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ 1.59	$ 0.11
2012	$ -	$ -	$ -	$ 1.59	$ 0.11
2013	$ -	$ -	$ -	$ 1.59	$ 0.11
2014	$ -	$ -	$ -	$ 1.59	$ 0.11
2015	$ -	$ -	$ -	$ 1.59	$ 0.11
2016	$ -	$ -	$ -	$ 1.59	$ 0.11
2017	$ -	$ -	$ -	$ 1.59	$ 0.11
2018	$ -	$ -	$ -	$ 1.59	$ 0.11
2019	$ -	$ -	$ -	$ 1.59	$ 0.11
2020	$ -	$ -	$ -	$ 1.59	$ 0.11
2021	$ -	$ -	$ -	$ 1.59	$ 0.11
2022	$ -	$ -	$ -	$ 1.59	$ 0.11
2023	$ -	$ -	$ -	$ 1.59	$ 0.11
2024	$ -	$ -	$ -	$ 1.59	$ 0.11
2025	$ -	$ -	$ -	$ 1.59	$ 0.11
2026	$ -	$ -	$ -	$ 1.59	$ 0.11
2027	$ -	$ -	$ -	$ 1.59	$ 0.11
2028	$ -	$ -	$ -	$ 1.59	$ 0.11
2029	$ -	$ -	$ -	$ 1.59	$ 0.11

Note: All values in millions of year 2003 dollars.

Source: Derived from Exhibits J.1h and D.7.

Exhibit J.7i Present Value of Annual Capital Cost Projections at 3% Discount Rate

(All Systems and Primacy Agencies)

Preferred Alternative, SWAT Method

	Surface Water CWS			Surface Water NTNCWS			Disinfecting Ground Water CWS			Disinfecting Ground Water NTNCWS			Primacy Agencies	Total		
		90 Percent Confidence Bound			Operational Evaluation			90 Percent Confidence Bound			90 Percent Confidence Bound				90 Percent Confidence Bound	
	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Mean Value	Lower (5th %tile)	Upper (95th %tile)	Point Estimate	Mean Value	Lower (5th %tile)	Upper (95th %tile)
2005	$ 0.8	$ 0.8	$ 0.8	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.2	$ 0.2	$ 0.0	$ 0.0	$ 0.0	$ 3.7	$ 4.7	$ 4.7	$ 4.7
2006	$ 10.8	$ 10.8	$ 10.8	$ 0.1	$ 0.1	$ 0.1	$ 3.1	$ 3.1	$ 3.1	$ 0.5	$ 0.5	$ 0.5	$ 3.6	$ 18.1	$ 18.1	$ 18.1
2007	$ 20.6	$ 20.6	$ 20.6	$ 0.0	$ 0.0	$ 0.0	$ 1.0	$ 1.0	$ 1.0	$ 0.0	$ 0.0	$ 0.0	$ 0.1	$ 21.8	$ 21.8	$ 21.8
2008	$ 15.0	$ 15.0	$ 15.0	$ 0.0	$ 0.0	$ 0.0	$ 6.0	$ 6.0	$ 6.0	$ 0.0	$ 0.0	$ 0.0	$ 1.8	$ 22.9	$ 22.9	$ 22.9
2009	$ 64.6	$ 46.5	$ 85.8	$ 0.6	$ 0.5	$ 0.7	$ 43.1	$ 37.4	$ 48.8	$ 2.1	$ 1.8	$ 2.3	$ 0.7	$ 111.1	$ 87.0	$ 138.3
2010	$ 65.5	$ 47.6	$ 86.4	$ 0.6	$ 0.5	$ 0.7	$ 43.6	$ 37.8	$ 49.3	$ 2.0	$ 1.7	$ 2.3	$ -	$ 111.7	$ 87.7	$ 138.7
2011	$ 66.7	$ 49.0	$ 87.4	$ 0.7	$ 0.5	$ 0.8	$ 44.0	$ 38.2	$ 49.7	$ 1.9	$ 1.6	$ 2.2	$ 1.3	$ 114.6	$ 90.7	$ 141.4
2012	$ 67.1	$ 49.6	$ 87.5	$ 0.7	$ 0.6	$ 0.8	$ 46.4	$ 40.6	$ 52.2	$ 2.3	$ 2.0	$ 2.5	$ 1.3	$ 117.8	$ 94.1	$ 144.4
2013	$ 30.7	$ 24.8	$ 37.5	$ 0.7	$ 0.6	$ 0.8	$ 41.2	$ 36.2	$ 46.3	$ 2.6	$ 2.3	$ 2.9	$ 1.3	$ 76.5	$ 65.2	$ 88.7
2014	$ 22.8	$ 19.3	$ 26.6	$ 0.7	$ 0.6	$ 0.8	$ 37.1	$ 32.5	$ 41.6	$ 2.7	$ 2.4	$ 2.9	$ 1.2	$ 64.5	$ 56.1	$ 73.2
2015	$ 15.4	$ 13.7	$ 17.2	$ 0.6	$ 0.5	$ 0.6	$ 24.8	$ 22.2	$ 27.4	$ 2.0	$ 1.8	$ 2.2	$ 1.2	$ 44.0	$ 39.5	$ 48.7
2016	$ 12.5	$ 11.2	$ 13.9	$ 0.4	$ 0.4	$ 0.4	$ 16.0	$ 14.9	$ 17.1	$ 1.4	$ 1.3	$ 1.4	$ 1.2	$ 31.4	$ 28.9	$ 34.0
2017	$ 12.1	$ 10.9	$ 13.5	$ 0.4	$ 0.4	$ 0.4	$ 15.5	$ 14.5	$ 16.6	$ 1.3	$ 1.3	$ 1.4	$ 1.1	$ 30.5	$ 28.1	$ 33.0
2018	$ 11.8	$ 10.5	$ 13.1	$ 0.4	$ 0.4	$ 0.4	$ 15.1	$ 14.1	$ 16.1	$ 1.3	$ 1.2	$ 1.3	$ 1.1	$ 29.6	$ 27.3	$ 32.0
2019	$ 11.4	$ 10.2	$ 12.7	$ 0.4	$ 0.3	$ 0.4	$ 14.6	$ 13.7	$ 15.6	$ 1.2	$ 1.2	$ 1.3	$ 1.1	$ 28.7	$ 26.5	$ 31.1
2020	$ 11.1	$ 9.9	$ 12.3	$ 0.4	$ 0.3	$ 0.4	$ 14.2	$ 13.3	$ 15.2	$ 1.2	$ 1.1	$ 1.3	$ 1.0	$ 27.9	$ 25.7	$ 30.2
2021	$ 10.8	$ 9.7	$ 12.0	$ 0.3	$ 0.3	$ 0.4	$ 13.8	$ 12.9	$ 14.7	$ 1.2	$ 1.1	$ 1.2	$ 1.0	$ 27.1	$ 25.0	$ 29.3
2022	$ 10.5	$ 9.4	$ 11.6	$ 0.3	$ 0.3	$ 0.4	$ 13.4	$ 12.5	$ 14.3	$ 1.1	$ 1.1	$ 1.2	$ 1.0	$ 26.3	$ 24.2	$ 28.5
2023	$ 10.2	$ 9.1	$ 11.3	$ 0.3	$ 0.3	$ 0.4	$ 13.0	$ 12.1	$ 13.9	$ 1.1	$ 1.0	$ 1.2	$ 0.9	$ 25.5	$ 23.5	$ 27.6
2024	$ 9.9	$ 8.8	$ 11.0	$ 0.3	$ 0.3	$ 0.3	$ 12.6	$ 11.8	$ 13.5	$ 1.1	$ 1.0	$ 1.1	$ 0.9	$ 24.8	$ 22.8	$ 26.8
2025	$ 9.6	$ 8.6	$ 10.7	$ 0.3	$ 0.3	$ 0.3	$ 12.3	$ 11.4	$ 13.1	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 24.1	$ 22.2	$ 26.0
2026	$ 9.3	$ 8.3	$ 10.3	$ 0.3	$ 0.3	$ 0.3	$ 11.9	$ 11.1	$ 12.7	$ 1.0	$ 1.0	$ 1.1	$ 0.9	$ 23.4	$ 21.5	$ 25.3
2027	$ 9.0	$ 8.1	$ 10.0	$ 0.3	$ 0.3	$ 0.3	$ 11.6	$ 10.8	$ 12.3	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 22.7	$ 20.9	$ 24.6
2028	$ 8.8	$ 7.8	$ 9.7	$ 0.3	$ 0.3	$ 0.3	$ 11.2	$ 10.5	$ 12.0	$ 1.0	$ 0.9	$ 1.0	$ 0.8	$ 22.0	$ 20.3	$ 23.8
2029	$ 8.5	$ 7.6	$ 9.5	$ 0.3	$ 0.3	$ 0.3	$ 10.9	$ 10.2	$ 11.6	$ 0.9	$ 0.9	$ 1.0	$ 0.8	$ 21.4	$ 19.7	$ 23.1
Total	**$ 525.4**	**$ 427.9**	**$ 637.3**	**$ 9.5**	**$ 8.5**	**$ 10.5**	**$ 476.5**	**$ 428.8**	**$ 524.2**	**$ 31.8**	**$ 29.2**	**$ 34.4**	**$ 29.8**	**$ 1,072.9**	**$ 924.3**	**$ 1,236.3**
Ann.	**$ 30.2**	**$ 24.6**	**$ 36.6**	**$ 0.5**	**$ 0.5**	**$ 0.6**	**$ 27.4**	**$ 24.6**	**$ 30.1**	**$ 1.8**	**$ 1.7**	**$ 2.0**	**$ 1.7**	**$ 61.6**	**$ 53.1**	**$ 71.0**

Notes: Present values in millions of 2003 dollars. Estimates are discounted to 2005.
Detail may not add exactly to totals due to independent rounding.
Ann = value of total annualized at discount rate.

Source: Derived from Exhibits J.7a through h.

Appendix K
Description of Stage 2 Cost and Benefits Models

Appendix K
Description of Stage 2 Cost and Benefits Models

K.1 Summary

This appendix describes the SAS cost and benefits models used for the Stage 2 DBPR. A detailed description of the non-treatment cost model is provided in Appendix H of this document, and is therefore not included in this Appendix.

An overview flowchart is provided for each of the components of the cost and benefits models, followed by a detailed description of the input and output files used in each component. [Note to EPA: descriptions of the input and output files for CreateInput2.sas, TreatmentCostModelEndingTechnology.sas, and SmallPlantsAffordability.sas will be provided in the next draft.] This appendix is organized as follows:

Exhibit K.1	Flowchart of Stage 2 Cost Model
Exhibit K.2a	Flowchart of prog1.sas
Exhibit K.2b	Input/Output Files for prog1.sas
Exhibit K.2c	Description of Inputs to prog1.sas
Exhibit K.3a	Flowchart of CreateInput1.sas
Exhibit K.3b	Input/Output Files for CreateInput1.sas
Exhibit K.3c	Description of Inputs to CreateInput1.sas
Exhibit K.4a	Flowchart of Treatment Cost Model.sas
Exhibit K.4b	Input/Output Files for Treatment Cost Model.sas
Exhibit K.5a	Flowchart of CreateInput2.sas
Exhibit K.5b	Input/Output Files for CreateInput2.sas
Exhibit K.6a	Flowchart of HH.sas (Household Model)
Exhibit K.6b	Input/Output Files for HH.sas (Household Model)
Exhibit K.7a	Flowchart of SmallPlants.sas
Exhibit K.7b	Input/Output Files for SmallPlants.sas
Exhibit K.8a	Flowchart of Discounting.sas
Exhibit K.8b	Input/Output Files for Discounting.sas
Exhibit K.9a	Flowchart of TreatmentCostModelEndingTechnology.sas
Exhibit K.9b	Input/Output Files for TreatmentCostModelEndingTechnology.sas
Exhibit K.10a	Flowchart of CreateInput1Afford.sas
Exhibit K.10b	Input/Output Files for CreateInput1Afford.sas
Exhibit K.11a	Input/Output Files for Stage2Benefits_CasesAvoided.sas
Exhibit K.11b	Flowchart of Stage2Benefits_CasesAvoided.sas
Exhibit K.11c	Description of Inputs to Stage2Benefits_CasesAvoided.sas

Exhibit K.1 Flowchart of Stage 2 Cost Model

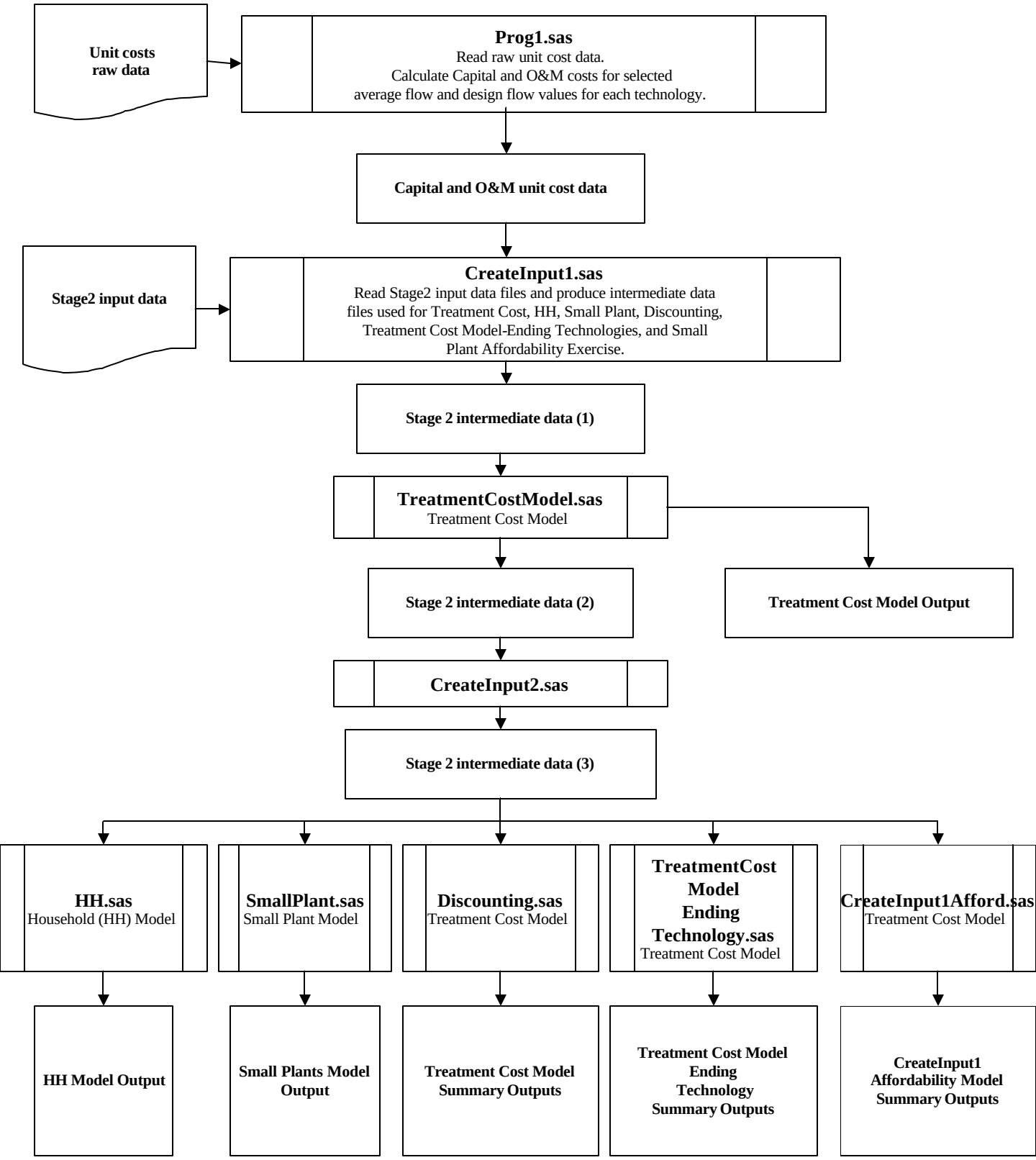


Exhibit K.2a Flowchart of prog1.sas

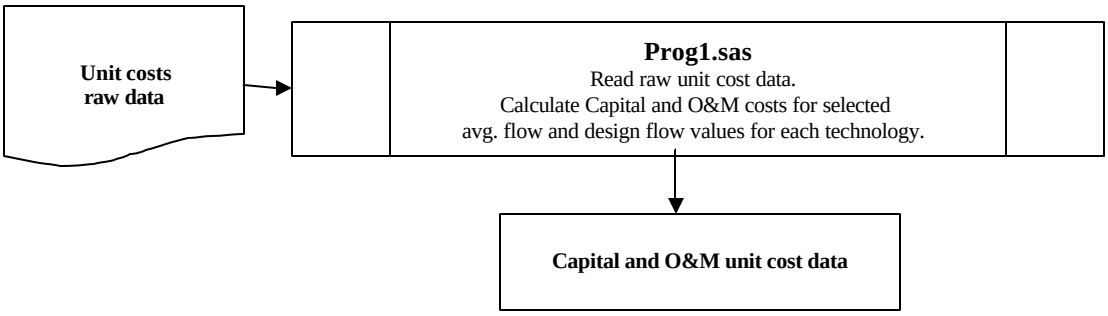


Exhibit K.2b Input/Output Files for prog1.sas

INPUT

Labor Rates.xls
Stage 2 Cost Summary_bag Filter.xls
Stage 2 Cost Summary_cartridge Filter.xls
Stage 2 Cost Summary_bci_history.xls
Stage 2 Cost Summary_cci_history.xls
Stage 2 Cost Summary_capital_cost_indices.xls
Stage 2 Cost Summary_technology_cost_base_year.xls
Stage 2 Cost Summary_convert_to_chloramines_0.xls.55NH3_dose.xls
Stage 2 Cost Summary_convert_to_chloramines_0.xls.15NH3_dose.xls
Stage 2 Cost Summary_GAC_EBCT_20_d240.xls
Stage 2 Cost Summary_GAC_EBCT_20_d90.xls
Stage 2 Cost Summary_GAC_EBCT_10_d360.xls
Stage 2 Cost Summary_nanofiltration.xls
Stage 2 Cost Summary_microfiltration.xls
Stage 2 Cost Summary_chlorinedioxide.xls
Stage 2 Cost Summary_Ozone_0.xls_5log.xls
Stage 2 Cost Summary_Ozone_1log.xls
Stage 2 Cost Summary_Ozone_2log.xls
Stage 2 Cost Summary_UV40MJ_CM2.xls

(see Exhibit K-1c for a description of input files to prog1.sas)

prog1.sas

This program uses data from various excel inputs and recalculates and re-creates outputs originally provided in the various input sheets. The program recreates the Stage 2 Cost Summary spreadsheets using SAS, and produces input files used by CreateInput1.sas

OUTPUT

Capital and O&M costs based on average and design flows are calc ulated and saved as the following files:

Unit Cost_BAG_FILTER.xls
Unit Cost_CARTRIDGE_FILTER.xls
Unit Cost_TECHNOLOGY_COST_BASE_YEAR.xls
Unit Cost_convert_to_chloramine_0.xls55NH3.xls
Unit Cost_convert_to_chloramine_0.xls15NH3.xls
Unit Cost_GAC_EBCT_20_240d.xls
Unit Cost_GAC_EBCT_20_90d.xls
Unit Cost_GAC_EBCT_10_360d.xls
UnitCost_NANOFILTRATION.xls
Unit Cost_MICROFILTRATION.xls
Unit Cost_CHLORINEDIOXIDE.xls
Unit Cost_OZONE_0.xls_5LOG.xls
Unit Cost_OZONE_1LOG.xls
Unit Cost_OZONE_2LOG.xls
Unit Cost_.UV40mJ_CM2.xls
Unit Cost_UV2X200MJ_CM2.xls

Exhibit K.2c
Description of Inputs to prog1.sas

Name of Input File	Description of Input File
Labor Rates.xls	Provides technical and managerial labor rates corresponding to average and design flow for the nine size categories.
Stage 2 Cost Summary_bag Filter.xls	Provides useful life and costs associated with bag filters corresponding to design and average flows.
Stage 2 Cost Summary_cartridge Filter.xls	Provides useful life and costs associated with cartridge filters corresponding to design and average flows.
Stage 2 Cost Summary_bci_history.xls	Provides monthly and annual BCI from 1915-2003.
Stage 2 Cost Summary_cci_history.xls	Provides monthly and annual CCI from 1915-2002. Only January CCI provided for 2003.
Stage 2 Cost Summary_capital_cost_indices.xls	Provides capital cost indices – month (annual), year (2003)
Stage 2 Cost Summary_technology_cost_base_year.xls	Provides month and year that costs were developed in for nine technologies
Stage 2 Cost Summary_convert_to_chloramines_0.xls.55NH3_dose.xls	Provides useful life and equations to figure out system chemical feed and various costs based on parameter values and average and design flow provided in spreadsheet.
Stage 2 Cost Summary_convert_to_chloramines_0.xls.15NH3_dose.xls	Provides useful life and equations to figure out system chemical feed and various costs based on parameter values and average and design flow provided in spreadsheet.
Stage 2 Cost Summary_GAC_EBCT_20_d240.xls	Provides useful life, operator training, and number of GAC contactors in use corresponding to average and design flow.
Stage 2 Cost Summary_GAC_EBCT_20_d90.xls	Provides useful life, operator training, and number of GAC contactors in use corresponding to average and design flow.
Stage 2 Cost Summary_GAC_EBCT_10_d360.xls	Provides useful life, operator training, and number of GAC contactors in use corresponding to average and design flow.
Stage 2 Cost Summary_nanofiltration.xls	Provides useful life and various parameter values corresponding to average and design flow.
Stage 2 Cost Summary_microfiltration.xls	Provides useful life and various parameter values corresponding to average and design flow.
Stage 2 Cost Summary_chlorinedioxide.xls	Provides useful life and various parameter values corresponding to average and design flow.
Stage 2 Cost Summary_Ozone_0.xls_5log.xls	Provides average and maximum dose transferred, useful life, and various parameter values corresponding to average and design flow.
Stage 2 Cost Summary_Ozone_1log.xls	Provides average and maximum dose transferred, useful life, and various parameter values corresponding to average and design flow.
Stage 2 Cost Summary_Ozone_2log.xls	Provides average and maximum dose transferred, useful life, and various parameter values corresponding to average and design flow.
Stage 2 Cost Summary_UV40MJ_CM2.xls	Provides number and size of reactors, and equations to figure out number of reactors, footprint, electrical costs, and various other costs based on parameter values and average and design flow provided in spreadsheet.

Exhibit K.3a Flowchart of CreateInput1.sas

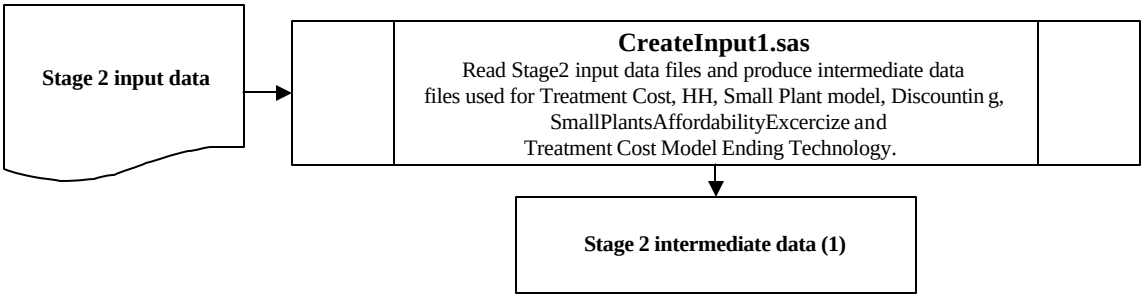


Exhibit K.3b Input/Output Files for CreateInput1.sas

INPUT

SDWIS Inventory.mdb
Common cost inputs_Percent Mixed Systems.xls
Common cost inputs_Other cost inputs.xls
Common cost inputs_Plants per System Treatment.xls
Common cost inputs_Percent Disinfecting.xls
Common cost inputs_Common Household Numbers.xls

(see Exhibit K-3c for a description of input files to CreateInput1.sas)

CreateInput1.sas

This program used the Stage2 input data files to produce intermediate data files used for the following models –

- Treatment Cost Model
- Household Cost Model
- Small Plant Model
- Discounting Model
- Treatment Cost Model- Ending Technologies
- CreateInput1Affordability Model

OUTPUT *[Description of files to be provided]*

Stage 2 Treatment Cost Model_Numbers of Plants.xls
Stage 2 Drivers Plantbaseline.xls
Stage 2 Drivers_Percentage_PublicPrivate.xls
Stage 2 Drivers_Households.xls
Stage 2 Flows.xls
CLM_GW_CWS_convert_to_chloramine_0.xls15nh3.xls
CLM_GW_CWS_flows.xls
CLM_GW_NTNCWS_convert_to_chloramine_0.xls15nh3.xls
CLM_GW_NTNCWS_flows.xls
CLM_SW_CWS_convert_to_chloramine_0.xls55nh3.xls
CLM_SW_CWS_flows.xls
CLM_SW_NTNCWS_convert_to_chloramine_0.xls55nh3.xls
CLM_SW_NTNCWS_flows.xls
CLX_SW_CWS_chlorinedioxide.xls
CLX_SW_CWS_flows.xls
CLX_SW_NTNCWS_chlorinedioxide.xls
CLX_SW_NTNCWS_flows.xls
GAC10_SW_CWS_GAC_EBCT_10_360d.xls
GAC10_SW_NTNCWS_flows.xls
GAC10_SW_NTNCWS_GAC_EBCT_10_360d.xls
GAC20_GW_CWS_flows.xls
GAC20_GW_CWS_GAC_EBCT_20_240d.xls
GAC20_GW_NTNCWS_flows.xls
GAC20_GW_NTNCWS_GAC_EBCT_20_240d.xls
GAC20_SW_CWS_flows.xls
GAC20_SW_CWS_GAC_EBCT_20_90d.xls
GAC20_SW_NTNCWS_flows.xls
GAC20_SW_NTNCWS_GAC_EBCT_20_90d.xls
Membranes_GW_CWS_flows.xls
Membranes_GW_CWS_nanofiltration.xls
Membranes_GW_NTNCWS_flows.xls
Membranes_GW_NTNCWS_nanofiltration.xls
Membranes_SW_CWS_flows.xls
Membranes_SW_CWS_nanofiltration.xls
Membranes_SW_NTNCWS_flows.xls
Membranes_SW_NTNCWS_nanofiltration.xls
MF_UF_SW_CWS_flows.xls
MF_UF_SW_CWS_microfiltration.xls
MF_UF_SW_NTNCWS_flows.xls
MF_UF_SW_NTNCWS_microfiltration.xls
O3_GW_CWS_flows.xls
O3_GW_CWS_Ozone_0.xls_5log.xls
O3_GW_NTNCWS_flows.xls
O3_GW_NTNCWS_Ozone_0.xls_5log.xls
O3_SW_CWS_flows.xls
O3_SW_CWS_Ozone_0.xls_5log.xls
O3_SW_NTNCWS_flows.xls
O3_SW_NTNCWS_Ozone_0.xls_5log.xls
Unit Cost_BAG_FILTER.xls
Unit Cost_BCI_HISTORY.xls
Unit Cost_CAPITAL_COST_INDICES.xls
Unit Cost_CARTRIDGE_FILTER.xls
Unit Cost_CCI_HISTORY.xls
Unit Cost_CFP_COSTS.xls
Unit Cost_CHLORINEDIOXIDE.xls
Unit Cost_convert_to_chloramine_0.xls15NH3.xls
Unit Cost_convert_to_chloramine_0.xls55NH3.xls
Unit Cost_COST_FACTOR_SUMMARY.xls
Unit Cost_GAC_EBCT_10_360d.xls
Unit Cost_GAC_EBCT_20_90d.xls
Unit Cost_GAC_EBCT_20_240d.xls
Unit Cost_MICROFILTRATION.xls
Unit Cost_NANOFILTRATION.xls
Unit Cost_OZONE_0.xls_5LOG.xls
Unit Cost_OZONE_1LOG.xls
Unit Cost_OZONE_2LOG.xls
Unit Cost_TECHNOLOGY_COST_BASE_YEAR.xls
Unit Cost_TWG_COSTS.xls
Unit Cost_UV2X200MJ_CM2.xls
Unit Cost_UV40MJ_CM2.xls
UV_GW_CWS_flows.xls
UV_GW_CWS_UV2X200MJ_CM2.xls
UV_GW_NTNCWS_flows.xls
UV_GW_NTNCWS_UV2X200MJ_CM2.xls
UV_SW_CWS_flows.xls
UV_SW_CWS_UV40MJ_CM2.xls
UV_SW_NTNCWS_flows.xls
UV_SW_NTNCWS_UV40MJ_CM2.xls
Stage 2 Treatment Cost Model_Unit Costs Forecast.xls
Stage 2 Treatment Cost Model_HH Annual.xls

Exhibit K.3c
Description of Inputs to CreatInput1.sas

Name of Input File	Description of Input File
SDWIS Inventory.mdb	Access DB providing system and population inventory, size categories, sellers with linked populations, purchasers with largest end seller, and purchasers to link to sellers.
Common cost inputs_Percent Mixed Systems.xls	Provides percent of surface water systems that are primarily groundwater for the nine size categories, split out by CWS and NTNCWS.
Common cost inputs_Other cost inputs.xls	Provides value, source, and spreadsheet source for labor rates, projection period, bounds on capital and O&M costs, people per household, and discount rates.
Common cost inputs_Plants per System Treatment.xls	Provides LT2 and Stage 2 plants per system for filtered and unfiltered CWS, TNCWS, and NTNCWS for the nine system categories.
Common cost inputs_Percent Disinfecting.xls	Provides percent of groundwater and surface water CWS and NTNCWSs that disinfect, split out by the nine size categories.
Common cost inputs_Common Household Numbers.xls	Provides public and private discount rates, and household usage rates for CWSs in the nine size size categories.

Exhibit K.4a Flowchart of TreatmentCostModel.sas

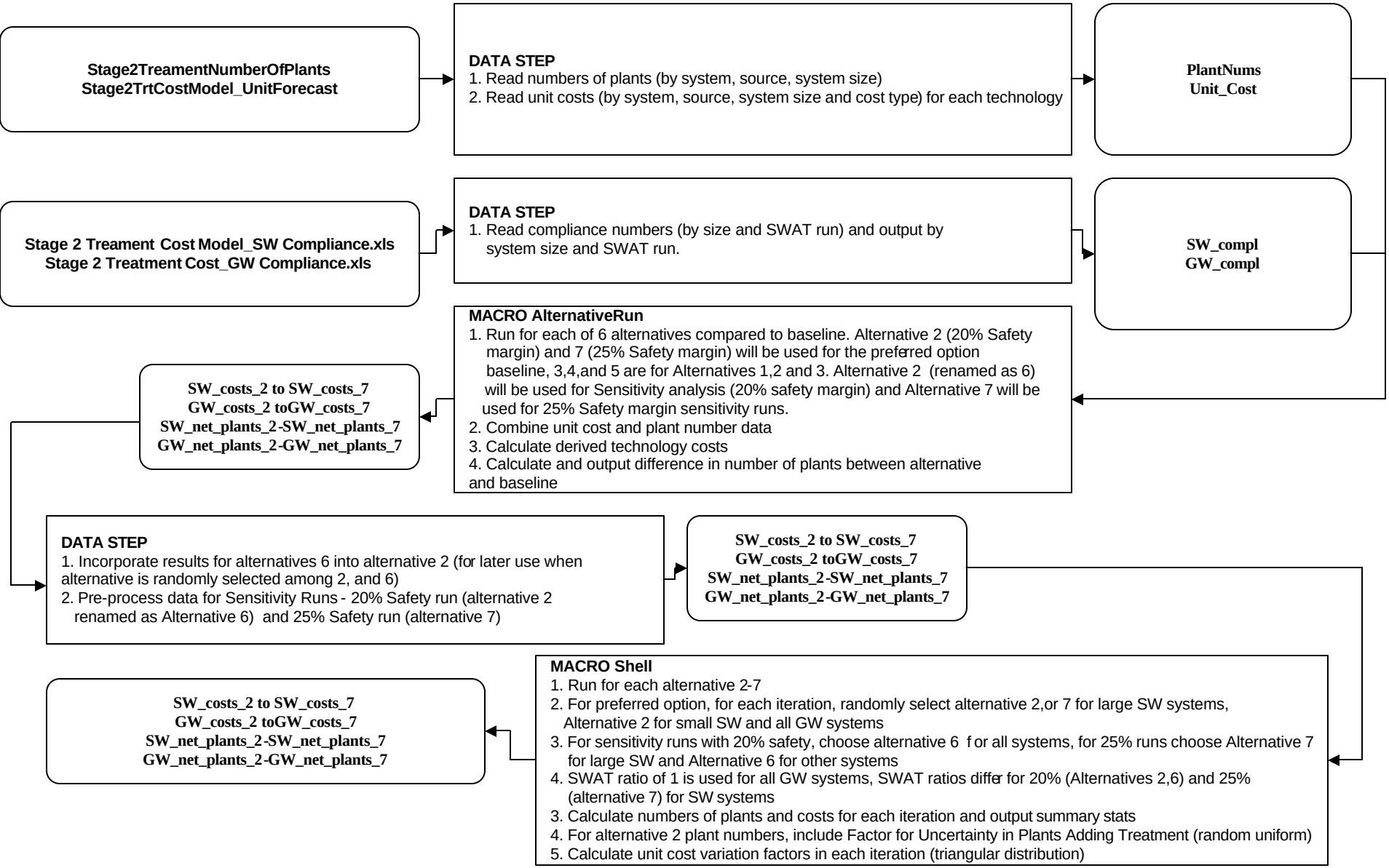


Exhibit K.4b Input/Output Files for TreatmentCostModel.sas

INPUT

Stage 2 Treatment Cost Model_SW Compliance.xls
Stage 2 Treatment Cost Model_GW Compliance.xls
Stage 2 Treatment Cost Model_Unit Cost Forecast.xls
Stage 2 Treatment_Numbers of Plants.xls

(see Exhibit K-4c for a description of input files to TreatmentCostModel.sas)

↓

TreatmentCostModel.sas

This program uses various inputs, including those created by CreateInput1.sas to generate the following for each alternative:

- unit costs for technologies used for Stage 2 compliance, and
- net number of plants using each technology.

↓

OUTPUT *[Description of files to be provided]*

Cost Uncertainty Results_(##MONYR)_Totals-Alternative 1.xls
Cost Uncertainty Results_(##MONYR)_Totals-Alternative 2.xls
Cost Uncertainty Results_(##MONYR)_Totals-Alternative 3.xls
Cost Uncertainty Results_(##MONYR)_Totals-Preferred Option.xls
Cost Uncertainty Results_(##MONYR)_Sensitivity Run- 20-Alternative 4.xls
Cost Uncertainty Results_(##MONYR)_Sensitivity Run- 25-Alternative 5.xls
Number Uncertainty Results_(##MONYR)_Totals-Alternative 1
Number Uncertainty Results_(##MONYR)_Totals-Alternative 2
Number Uncertainty Results_(##MONYR)_Totals-Alternative 3
Number Uncertainty Results_(##MONYR)_Totals-Preferred Option
Number Uncertainty Results_(##MONYR)_Sensitivity Run- 20 Alternative 4.xls
Number Uncertainty Results_(##MONYR)_Sensitivity Run- 25 Alternative 5.xks

Exhibit K.5a Flowchart of CreateInput2.sas

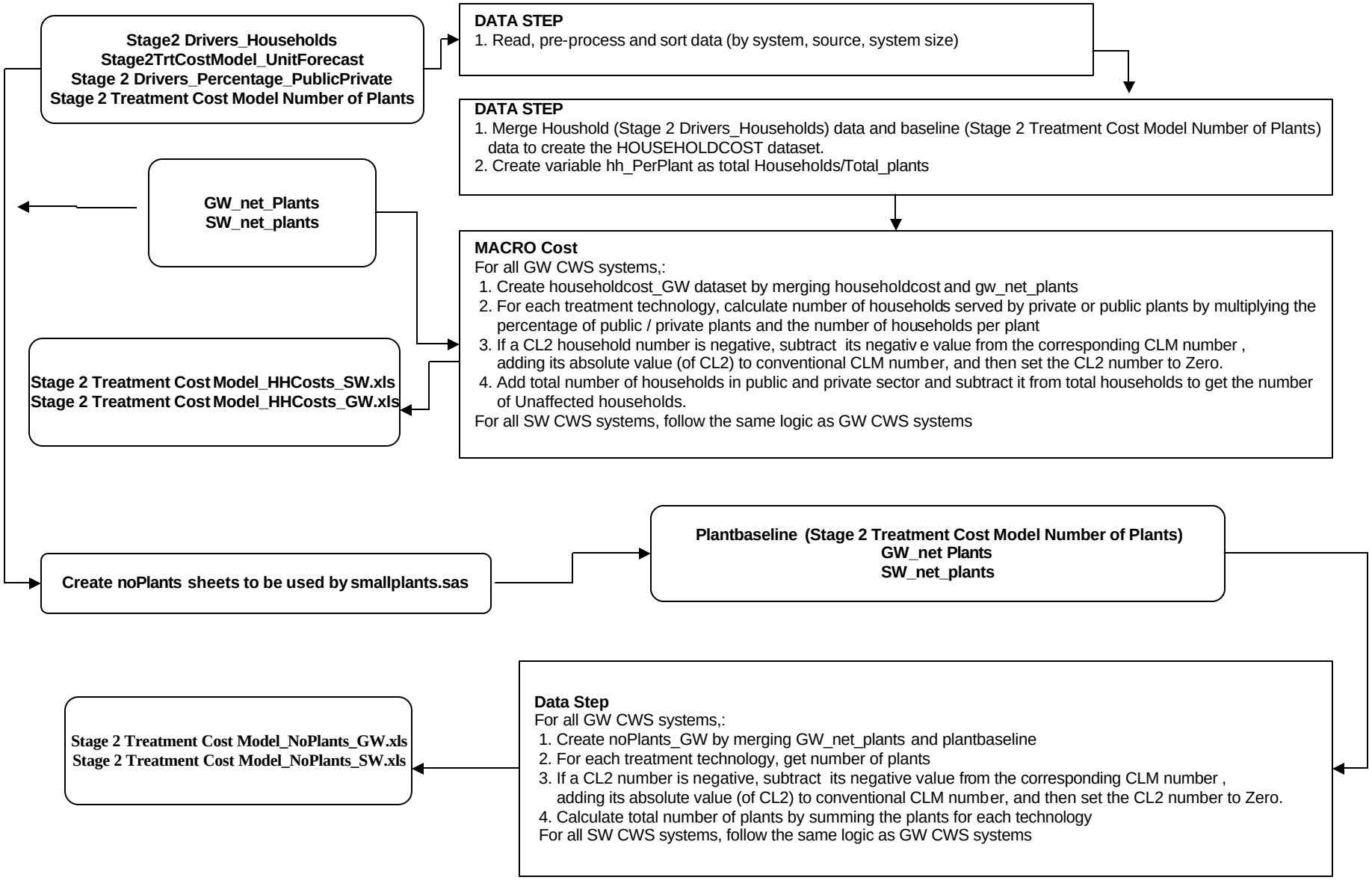


Exhibit K.5a Flowchart of CreateInput2.sas (cont'd)

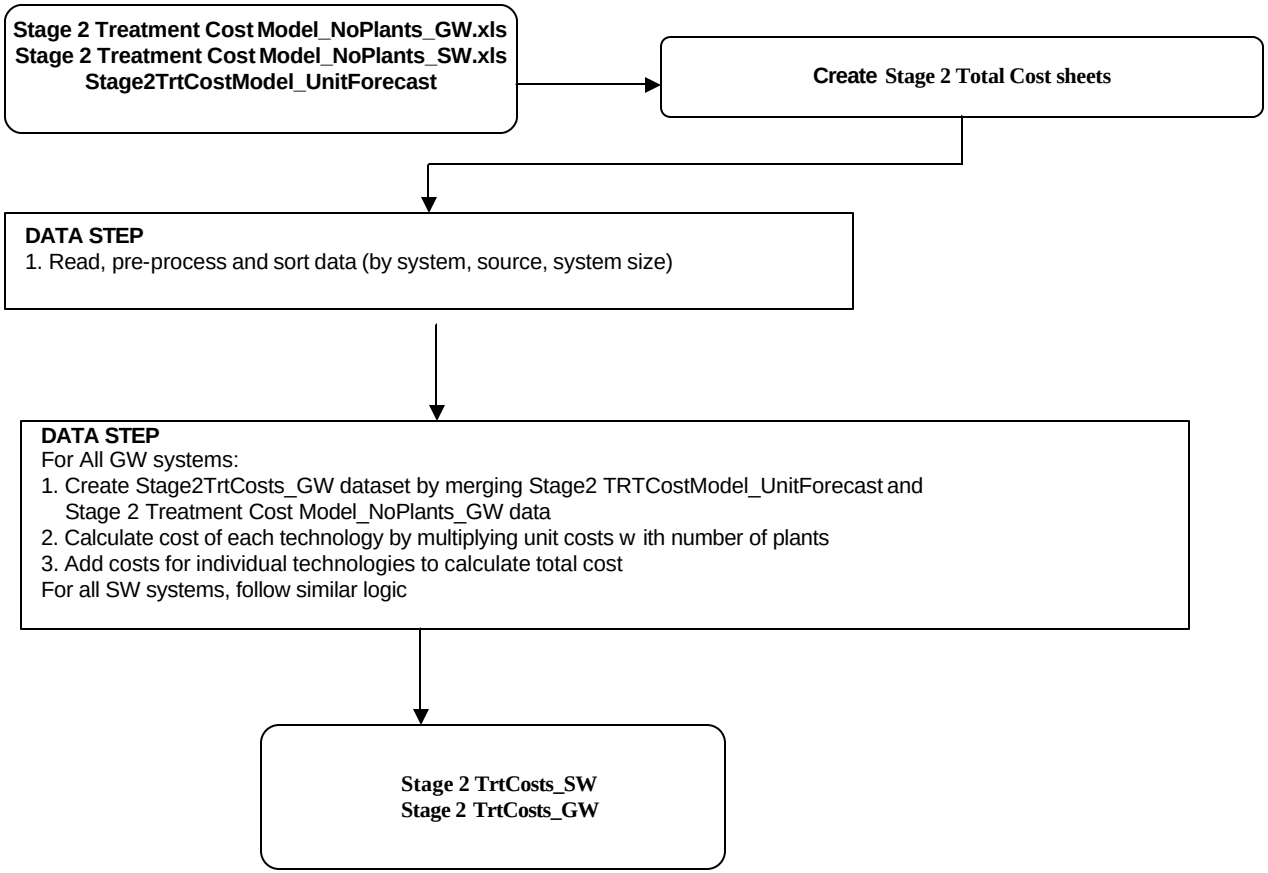


Exhibit K.5b Input/Output Files for CreateInput2.sas

INPUT

Stage 2 Drivers_Households.xls
Stage 2 Drivers_Percentage_PublicPrivate.xls
Stage 2 Treatment Cost Model_Numbers of Plants.xls
Stage 2 Treatment Cost Model_Unit Cost Forecast.xls

(see Exhibit K-5c for a description of input files to CreateInput2.sas)

↓

CreateInput2.sas

This program uses various inputs, including those created by the Treatment Cost Model to generate the number of households and the number plants making treatment changes. Results of provided for SW and GW systems, sorted by system type.

↓

OUTPUT *[Description of files to be provided]*

Stage 2 Treatment Cost Model_HHCosts_SW.xls
Stage 2 Treatment Cost Model_HHCosts_GW.xls
Stage 2 Treatment Cost Model_NOPlants_GW.xls
Stage 2 Treatment Cost Model_NOPlants_SW.xls

Exhibit K.6a Flowchart of HH.sas (Household Model)

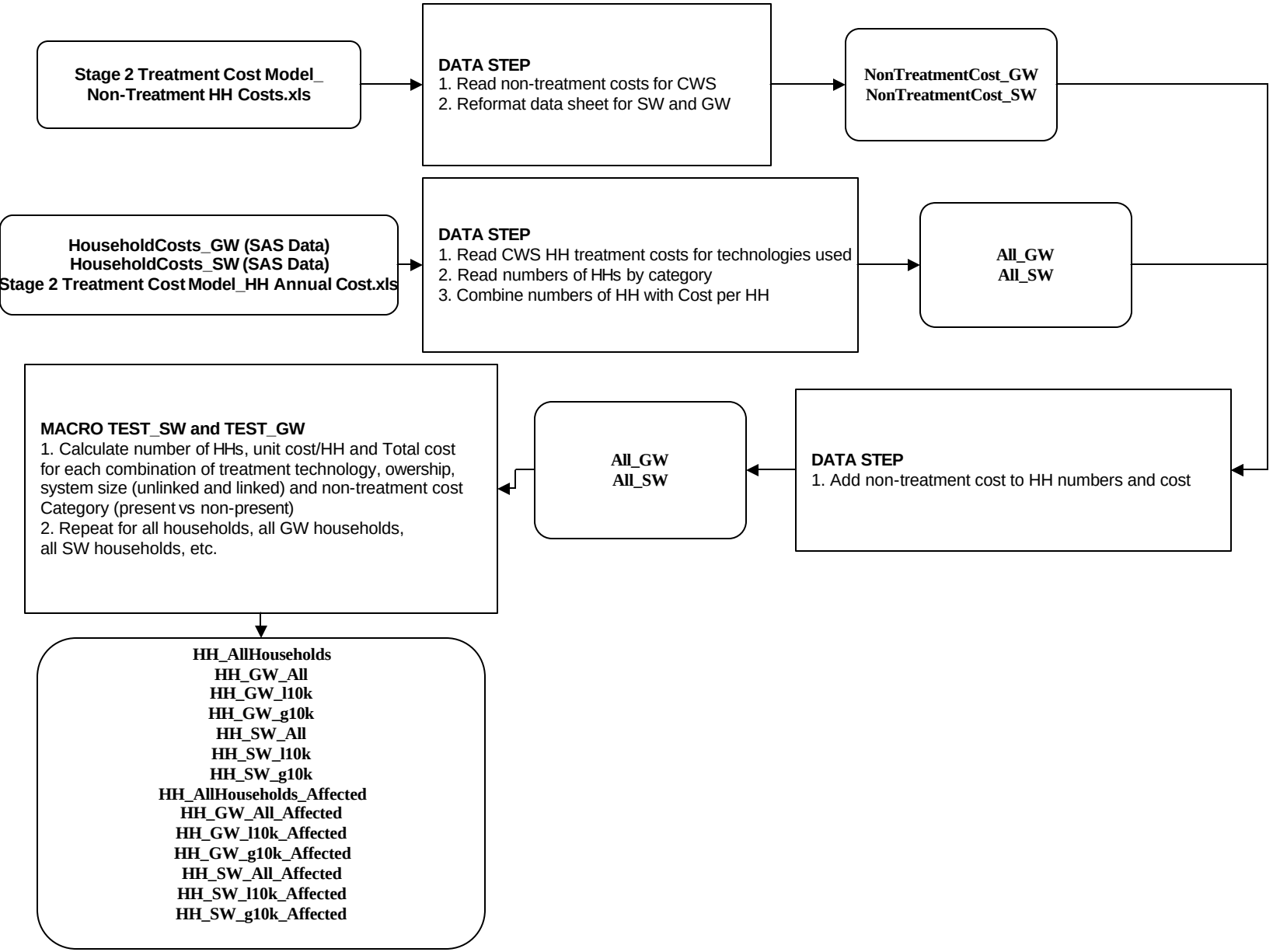


Exhibit K.6b Input/Output Files for HH.sas (Household Model)

INPUT

Stage 2 Treatment Cost Model_HH Costs_GW_CWS.xls
Stage 2 Treatment Cost Model_HH Annual Cost.xls
Stage 2 Treatment Cost Model_HHCosts_SW.xls
Stage 2 Treatment Cost Model_Non-Treatment HH Costs.xls

(see Exhibit K-6c for a description of input files to HH.sas)

↓

HH.sas

This program uses various input files, including those created by CreateInput2.sas and TreatmentCostModel.sas to generate unit costs and total costs for small and large systems sorted by ownership (public/private), source water (SW/GW), system type (CWS/NTNCWS), and size category (small/large). Costs are separately reported for households that are part of systems making treatment changes (affected households).

↓

OUTPUT *[Description of files to be provided]*

HH Results_(##MONYR)HH_AllHouseholds_Affectedxls
HH Results_(##MONYR)HH_AllHouseholdsxls
HH Results_(##MONYR)HH_GW_All_Affectedxls
HH Results_(##MONYR)HH_GW_Allxls
HH Results_(##MONYR)HH_GW_g10K_Affectedxls
HH Results_(##MONYR)HH_GW_g10Kxls
HH Results_(##MONYR)HH_GW_l10K_Affectedxls
HH Results_(##MONYR)HH_GW_l10Kxls
HH Results_(##MONYR)HH_SW_All_Affectedxls
HH Results_(##MONYR)HH_SW_Allxls
HH Results_(##MONYR)HH_SW_g10K_Affectedxls
HH Results_(##MONYR)HH_SW_g10Kxls
HH Results_(##MONYR)HH_SW_l10K_Affectedxls
HH Results_(##MONYR)HH_SW_l10Kxls

Exhibit K.7a Flowchart of SmallPlants.sas

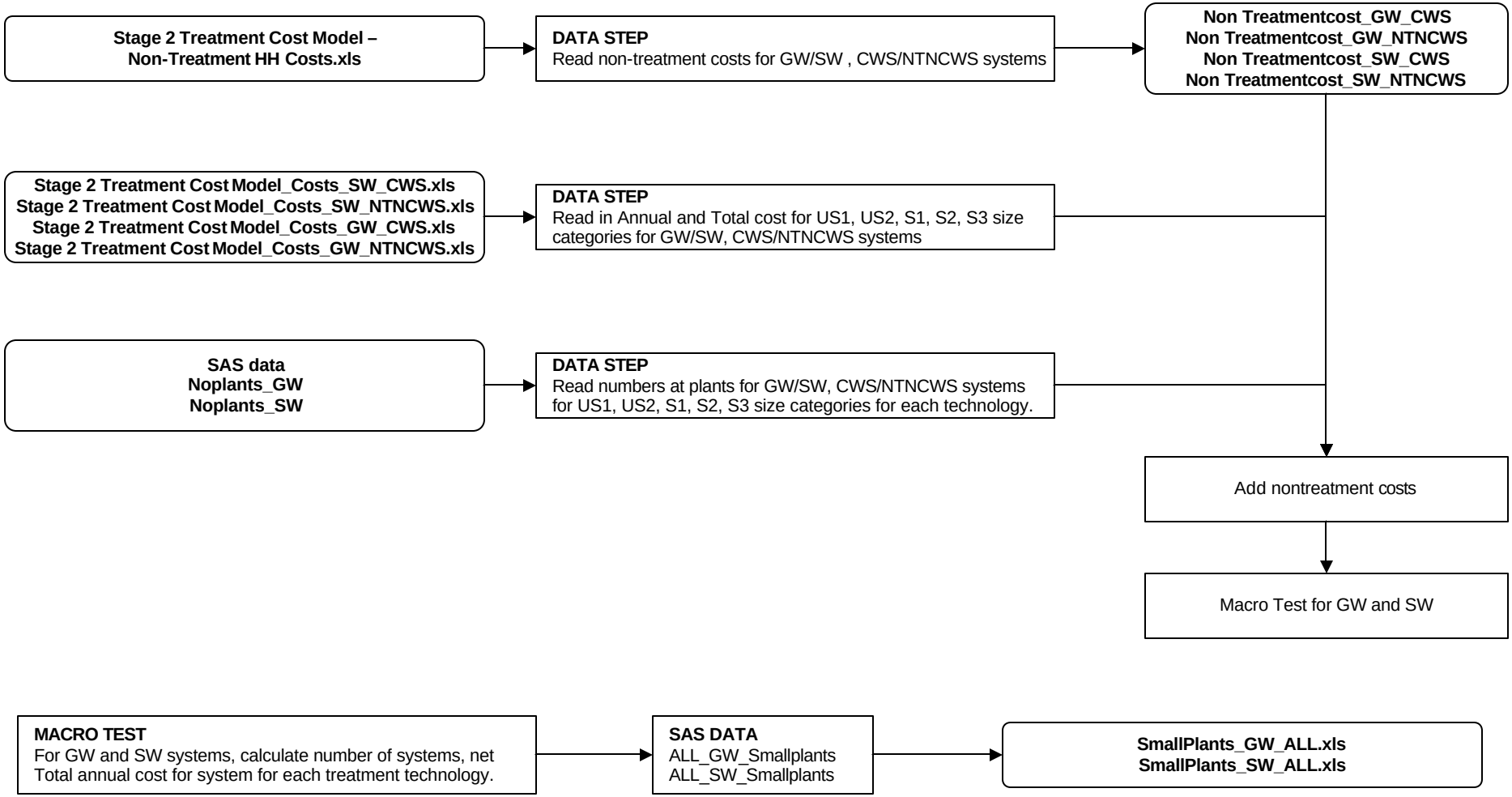


Exhibit K.7b Input/Output Files for SmallPlants.sas

INPUT

Stage 2 Treatment Cost Model_Non-Treatment HH Costs.xls
Stage 2 Treatment Cost Model_Costs_&srce._sys..xls
Stage 2 Treatment Cost Model_NOPlants&srce._sys..xls

(see Exhibit K-6c for a description of input files to SmallPlants.sas)

↓

SmallPlants.sas

This program uses data from various inputs, including those created by CreateInputs2.sas and the non-treatment cost model to calculate the total annual costs for small plants by technology and source water.

↓

OUTPUT *[Description of files to be provided]*

SmallPlants_GW_All_(##MONYR).xls
SmallPlants_SW_All_(##MONYR).xls

Exhibit K.8a Flowchart of Discounting.sas

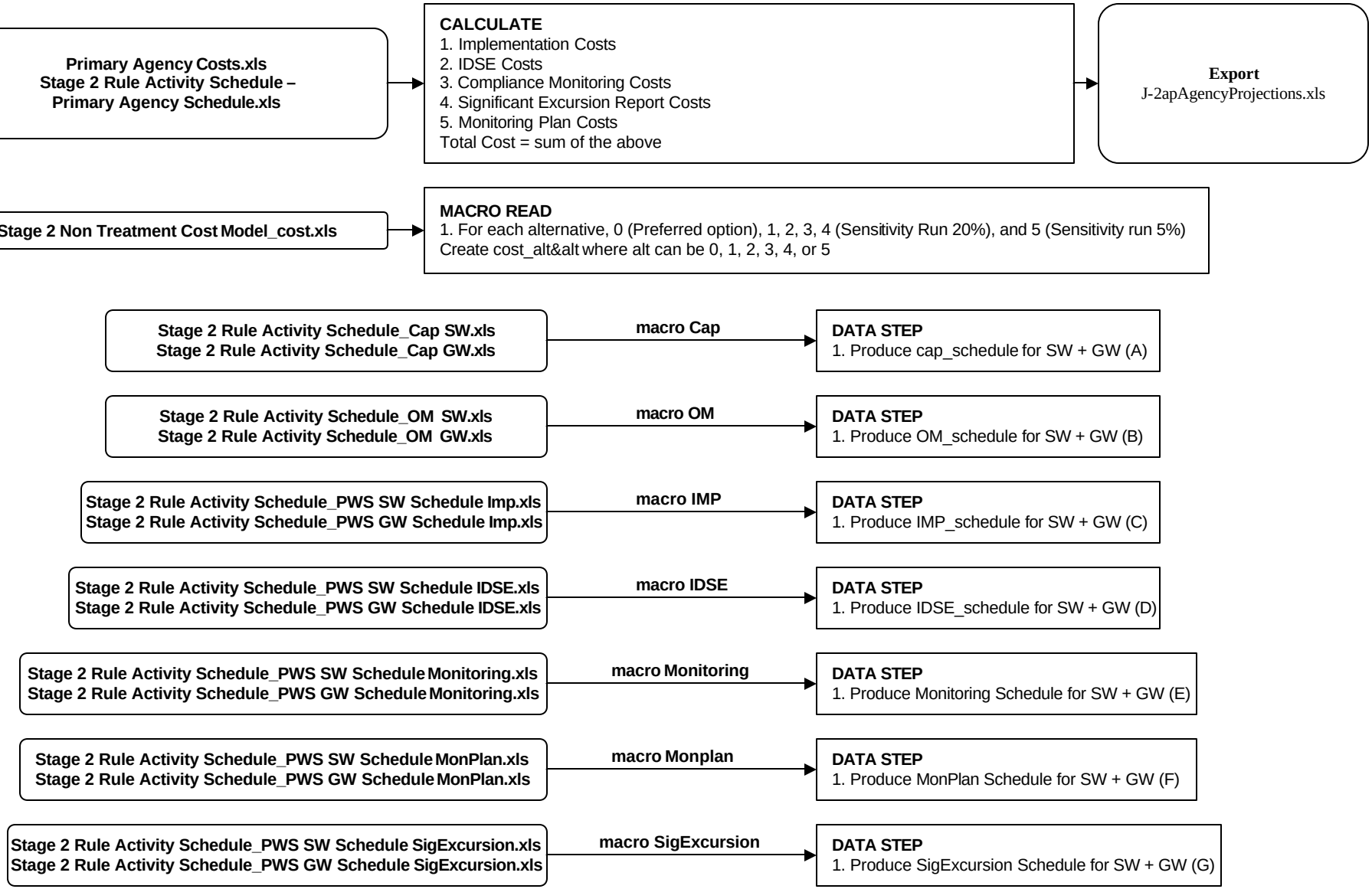


Exhibit K.8a Flowchart of Discounting.sas (cont'd)

MACRO RESULT
1. Run for each alternative 0 (Preferred), 1, 2, 3, 4, and 5

MACRO RESULT
2. Produces the following spreadsheets by merging (A), (B), (C), (D), (E), (F), and (G)

Projections of Stage 2 DBPR PWS Costs, for SW CWS, SW NTNCWS, GW CWS, GW NTNCWS Systems for each of the 9 population categories

Projections of the Stage 2 DBPR PWS costs for ALL SW CWS, ALL SW NTNCWS, ALL GW CWS, ALL GW_NTNCWS

Projections of Stage 2 DBPR PWS Costs for ALL SW, ALL GW

Produces GRAND TOTAL Present Value Spreadsheets for 3% and 7% discount rates for GW and SW systems as
Alt&alt.J.2as_Grandtotal_PV_3.xls
and **Alt&alt.J.2aw_Grandtotal_PV_7.xls**
where &alt can be 0, 1, 2, or 3

Produces Present Value Spreadsheets for CAPITAL and O&M costs using discount rates of 3% and 7% for GW and SW systems as
Alt&alt.J.2at_Grandtotal_Capital_PV_3.xls
Alt&alt.J.2ax_Grandtotal_Capital_PV_7.xls
Alt&alt.J.2aw_Grandtotal_OM_PV_3.xls
Alt&alt.J.2ay_Grandtotal_OM_PV_7.xls

Produces, using discount rates of 3% and 7% present value spreadsheets for non-treatment costs as
Alt&alt.J.2av_Grandtotal_Non-Treat_3.xls
Alt&alt.J.2az_Grandtotal_Non-Treat_7.xls

Produces Present Value Spreadsheets using discount rates of 3% and 7% for SW CWS, SW NTNCWS, GW CWS, and GW NTNCWS options as
Alt&alt.J.2ba_SW_CWS_PV_bysize_3.xls
Alt&alt.J.2be_SW_NTNCWS_PV_bysize_3.xls
Alt&alt.J.2bi_GW_CWS_PV_bysize_3.xls
Alt&alt.J.2bmGW_NTNCWS_PV_bysize_3.xls
Alt&alt.J.2bqSW_CWS_PV_bysize_7.xls
Alt&alt.J.2buSW_NTNCWS_PV_bysize_7.xls
Alt&alt.J.2by_GW_CWS_PV_bysize_7.xls
Alt&alt.J.2cc_GW_NTNCWS_PV_bysize_7.xls

Generate Present value spreadsheets for ALL systems for Total/Capital/O&M/Non-treatment costs, using discounted rates of 3% and 7%. Spreadsheets are:
Alt&alt.J.41_All_PV_bysize_3.xls
Alt&alt.J.42_All_PV_bysize_7.xls
Alt&alt.J.4k_All_PV_bysize_capital_3.xls
Alt&alt.J.4k_All_PV_bysize_capital_7.xls
Alt&alt.J4k_All_PV_bysize_OM_3.xls
Alt&alt.J4k_All_PV_bysize_OM_7.xls
Alt&alt.J4k_All_PV_bysize_Non-Trt_3.xls
Alt&alt.J4k_All_PV_bysize_Non-Trt_7.xls

Create SW/GW CWS/NTNCWS Capital/O&M cost present value spreadsheets using 3% and 7% discount rates as
Alt&alt.J.2bb_SW_CWS_PV_Cap_3.xls
Alt&alt.J.2bf_SW_NTNCWS_PV_Cap_3.xls
Alt&alt.J.2bj_GW_CWS_PV_Cap_3.xls
Alt&alt.J.2bn_GW_NTNCWS_PV_Cap_3.xls
Alt&alt.J.2bp_SW_CWS_PV_Cap_7.xls
Alt&alt.J.2bv_SW_NTNCWS_PV_Cap_7.xls
Alt&alt.J.2bz_GW_CWS_PV_Cap_7.xls
Alt&alt.J.2cd_GW_NTNCWS_PV_Cap_7.xls
Alt&alt.J.2bc_SW_CWS_PV_OM_3.xls
Alt&alt.J.2bg_SW_NTNCWS_PV_OM_3.xls
Alt&alt.J.2bk_GW_CWS_PV_OM_3.xls
Alt&alt.J.2bo_GW_NTNCWS_PV_OM_3.xls
Alt&alt.J.2bs_SW_CWS_PV_OM_7.xls
Alt&alt.J.2bw_SW_NTNCWS_PV_OM_7.xls
Alt&alt.J.2ca.GW_CWS_PV_OM_7.xls
Alt&alt.J.2.ce.GW_NTNCWS_PV_OM_7.xls

Exhibit K.8b Input/Output Files for Discounting.sas

INPUT

Primary Agency Costs.xls
Stage 2 Rule Activity Schedule_Primary Agency Schedule.xls
Stage2 Non-Treatment Cost Model_cost.xls
Cost Uncertainty Results_(##MONYR)_totals-Preferred Option.xls
Cost Uncertainty Results_(##MONYR)_Totals-Alternative 1.xls
Cost Uncertainty Results_(##MONYR)_Totals-Alternative 2.xls
Cost Uncertainty Results_(##MONYR)_Totals-Alternative 3.xls
Stage 2 Rule Activity Schedule_Cap SW Schedule.xls
Stage 2 Rule Activity Schedule_Cap GW Schedule.xls
Stage 2 Rule Activity Schedule_OM SW Schedule.xls
Stage 2 Rule Activity Schedule_OM GW Schedule.xls
Stage 2 Rule Activity Schedule_PWS SW Schedule.xls
Stage 2 Rule Activity Schedule_PWS GW Schedule.xls
Stage 2 Rule Activity Schedule_PWS SW Schedule IDSE.xls
Stage 2 Rule Activity Schedule_PWS GW Schedule IDSE.xls
Stage 2 Rule Activity Schedule_PWS SW Schedule Monitoring.xls
Stage 2 Rule Activity Schedule_PWS GW Schedule Monitoring.xls
Stage 2 Rule Activity Schedule_PWS SW Schedule Mon Plan.xls
Stage 2 Rule Activity Schedule_PWS GW Schedule Mon Plan.xls
Stage 2 Rule Activity Schedule_PWS SW Schedule Sig Excursion.xls
Stage 2 Rule Activity Schedule_PWS GW Schedule Sig Excursion.xls

(see Exhibit K-8c for a description of input files to Discounting.sas)

Discounting.sas

This program uses results from the non-treatment cost model, the rule activity schedule, and the treatment cost model to generate system and primacy agency costs. Cost summaries and projections are sorted by source water (SW/GW), system type (CWS/NTNCWS), size category, and discount rate (3% and 7%).

OUTPUT *[Description of files to be provided]*

Exhibit K.9a Flowchart of TreatmentCostModelEndingTechnology.sas

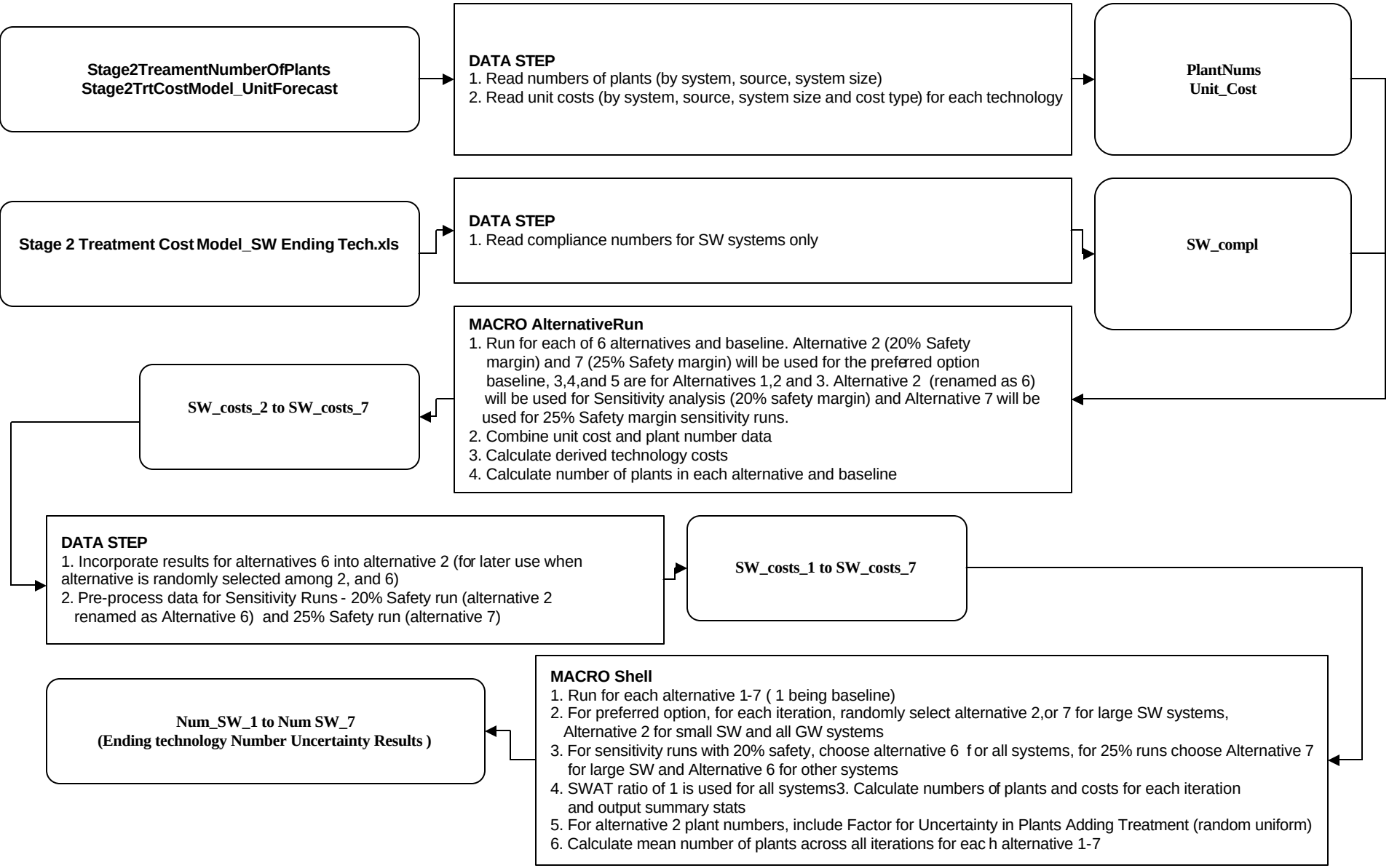


Exhibit K.9b Input/Output Files for TreatmentCostModelEndingTechnology.sas

INPUT

Stage 2 Treatment Cost Model_Unit Cost Forecast.xls
Stage 2 Treatment_Numbers of Plants.xls
Stage 2 Treatment Cost Model_SW Ending Tech.xls

(see Exhibit K-9c for a description of input files to TreatmentCostModelEndingTechology.sas)

↓

TreatmentCostModelEndingTechology.sas

This program uses results from SWAT to show which technologies will be in place for large systems once Stage 2 is implemented.

↓

OUTPUT *[Description of files to be provided]*

Ending Technology Number Uncertainty Results_(##MONYR)_Totals-Alternative 1.xls
Ending Technology Number Uncertainty Results_(##MONYR)_Totals-Alternative 2.xls
Ending Technology Number Uncertainty Results_(##MONYR)_Totals-Alternative 3.xls
Ending Technology Number Uncertainty Results_(##MONYR)_Totals-Preferred Option.xls
Ending Technology Number Uncertainty Results_(##MONYR)_Sensitivity Run- 20-Alternative 4.xls
Ending Technology Number Uncertainty Results_(##MONYR)_Sensitivity Run- 25-Alternative 5.xls
Ending Technology Number Uncertainty Results_(##MONYR)_Baseline.xls

Exhibit K.10a Flowchart of CreateInput1Afford.sas

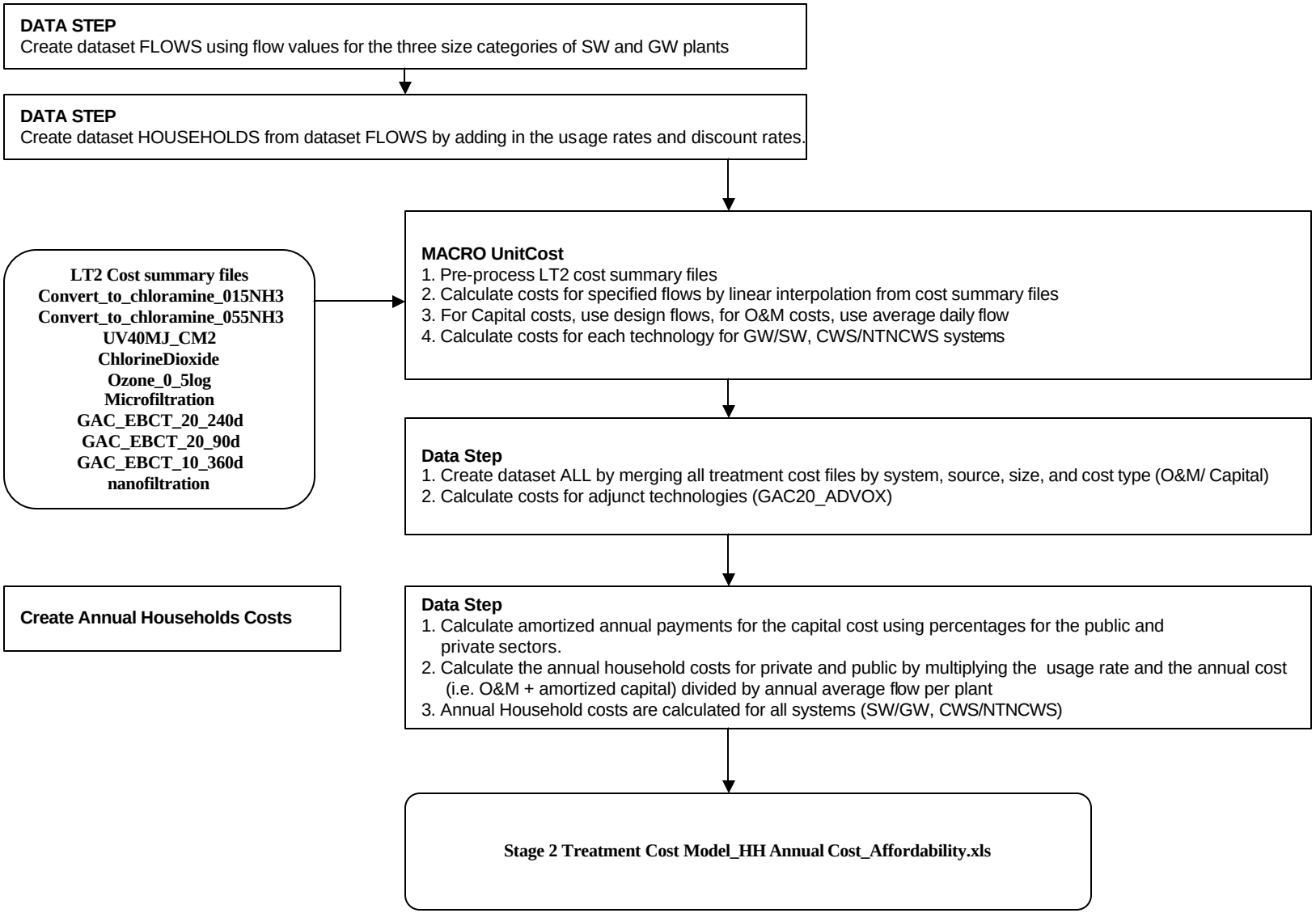


Exhibit K.10b Input/Output Files for CreateInput1Afford.sas

INPUT

Stage 2 Treatment Cost Model_Non-Treatment HH Costs.xls
Stage 2 Treatment Cost Model_Costs_&srce._sys..xls
Stage 2 Treatment Cost Model_NOPlants&srce._sys..xls

(see Exhibit K-10c for a description of input files to CreateInput1Afford.sas)

↓

CreateInput1Afford.sas

This program uses inputs from prog1.sas and generates annual and total treatment costs for each technology used for small SW and GW plants, by system type.

↓

OUTPUT *[Description of files to be provided]*

SmallPlants_GW_All_Afford_(##MONYR).xls
SmallPlants_SW_All_Afford_(##MONYR).xls

Exhibit K.11a Input/Output Files for Stage 2 Benefits Model for Bladder Cancer Cases Avoided

Input

Bladder Cancer Cases Avoided Inputs.txt
DBP Occurrence Inputs.xls
Populations data by 101 Ages.xls
params_pareto_bladder.xls
params_pareto_lung.xls
params_weibul_bladder.xls
params_weibul_lung.xls

Stage 2 Benefits_CasesAvoided.sas

The benefits SAS model calculates bladder cancer cases avoided due to the Stage 2 DBPR in the 100-year time period following rule promulgation. The SAS program calculates illnesses and deaths avoided for each rule alternative – with a 20% and 25% safety factor applied to the preferred alternative. A data set of PAR values is generated and multiplied by the baseline bladder cancer incidence data, which results in bladder cancer cases attributable to DBPs in drinking water. The SAS model then calculates the bladder cancer cases avoided in the years following rule promulgation using three cessation lag models—Smoking Lung, Smoking Bladder, and Arsenic Bladder. Each cessation lag model uses two distributions – Pareto and Weibull. Bladder cancer cases avoided are then presented for surface and groundwater systems, and for each size category.

Output*

CasesAvoided_Smoking Bladder_GW_1_0.xls	CasesAvoided_Smoking Lung_GW_1_0.xls	CasesAvoided_Arsenic Bladder_GW_1_0.xls
CasesAvoided_Smoking Bladder_GW_1_1.xls	CasesAvoided_Smoking Lung_GW_1_1.xls	CasesAvoided_Arsenic Bladder_GW_1_1.xls
CasesAvoided_Smoking Bladder_GW_1_2.xls	CasesAvoided_Smoking Lung_GW_1_2.xls	CasesAvoided_Arsenic Bladder_GW_1_2.xls
CasesAvoided_Smoking Bladder_GW_1_3.xls	CasesAvoided_Smoking Lung_GW_1_3.xls	CasesAvoided_Arsenic Bladder_GW_1_3.xls
CasesAvoided_Smoking Bladder_GW_1_4.xls	CasesAvoided_Smoking Lung_GW_1_4.xls	CasesAvoided_Arsenic Bladder_GW_1_4.xls
CasesAvoided_Smoking Bladder_GW_1_5.xls	CasesAvoided_Smoking Lung_GW_1_5.xls	CasesAvoided_Arsenic Bladder_GW_1_5.xls

*Shown above are sample outputs for one size category and sourcewater type.

Appendix K.11b. Flow Chart of Stage2Benefits_CasesAvoided.SAS

Bladder Cancer Cass Avoided Inputs.txt

Data Step
Create 1,000 factors from a triangular distribution of parameters (1.0725, 1.2, 1.4359) .

Populations data by 101 Ages.xls

Data Step
Read cancer incidence and population by age group data and preprocess it.

params_pareto_bladder.xls
params_weibul_bladder.xls
params_pareto_lung.xls
params_weibul_lung.xls

SQL Step
1. Create dataset Params1 for bladder.

SQL Step
1. Import lung parameters into Params1.
2. Create dataset Params2.

DBP Occurrence Inputs.xls

Macro beginprocess(alt)

1. Separate runs for the baseline (alt 0), Alternatives 1, 2, & 3 (alt 1, alt 2, & alt 3) and the Preferred Alternative's 20% and 25% sensitivity runs (alt 4 & alt 5, respectively).
2. Reads DBP reduction data for the appropriate alternative and preprocesses it. Merges DBP reduction data with parameters for the triangular distribution (Params2).
3. Reads proportions of cancer cases attributable to DBPs by source (GW/SW) and system size (<10,000 served or ≥ 10,000 served) for TTHM and HAA5, based on the alternative and model (1 = 20% safety run, 2 = 25% safety run).
   a. If alt = 0, randomly selects model 1 or model 2, and reads percentage of cases attributable to DBPs from the preferred alternative's sensitivity runs. (i.e., if model = 1, reads the proportion of c ancer cases attributable to DBPs for the Preferred Alternative, 20% safety factor).
   b. If alt = 4, model = 1 (20% safety factor).
   c. If alt = 5, model = 2 (25% safety factor).
   d. If alt = 1, 2, or 3, model = 1 (20% and 25% safety factors are the same.)
4. Creates a permanent dataset for each option (alt), merging DBP reduction data and population data by 101 age groups.
   a. Param_set_runs_0 c. Param_set_runs_2 e. Param_set_runs_4
   b. Param_set_runs_1 d. Param_set_runs_3 f. Param_set_runs_5
5. Modifies the permanent data set to calculate the following:
   a. Background cases (background_cases) = population by age groups x cancer incidence rates.
   b. Odds ratio (OR) = exp(par_slope * age)
   c. PAR = (ePE*(OR-1))/(1+(ePE*(OR-1))) where PE = population exposed.
   d. Cases attributed to DPBs by age (CAtt_Age) = background_cases * PAR
   e. Maximum Cases Avoided for Stage 1:
      i. CAVS1Max_Age_tthm = CAtt_age*s1_tthm (Stage 1 reduction for TTHM)
      ii. CAVS1Max_Age_haa5= CAtt_age*s1_haa5 (Stage 1 reduction, HAA5)
   f. Calculates Stage 2 DBP reductions (s2reduc_tthm and s2reduc_haa5) by selecting from a uniform distribution based on the minimum and maximum reduction in TTHM and HAA5 with a 20% or 25% safety factor (s2min20_tthm[haa5], s2max20_tthm[haa5], s2min25_tthm[haa5], s2max25_tthm[haa5])
   g. Calculate maximum cases avoided by age group (as a percentage) due to Stage 2:
      i. CAVS2Max_Age_tthm= (Catt_Age - CAVS1Max_Age_tthm)*s2reduc_tthm
      ii. CAVS2Max_Age_haa5= (Catt_Age – CAVS1Max_Age_haa5)*s2reduc_haa5
   h. Macro cesslag(run) *Detailed description on following page.
   i. Macro (genBenefits(run_des_source_cat) *Detailed description on following page.

Appendix K.11b. Flow Chart of Stage2Benefits_CasesAvoided.SAS (cont'd)

h. Macro cesslag(run)

1. Separate runs for each cessation-lag option:
   a. Run = 1 for Smoking Lung
   b. Run = 2 for Smoking Bladder
   c. Run = 3 for Arsenic Bladder
2. Separates cases avoided (CAVS2) into two groups, a and b, for TTHM and HAA5, depending on age years after rule. Calculates cases avoided for each age group for years 1 to 100 following rule promulgation
   a. Age groups younger than the rule only exposed to post-rule DBP levels.
      CAVS2_grpa_tthm[haa5] = CAVS2Max_Age_tthm[haa5]
   b. For age groups older than the rule, exposed to both pre- and post-rule DBP levels—apply cessation lag by multiplying maximum cases avoided by a calculated factor (lf). This factor is a function of years after rule and of parameters from a triangular distribution (Weibul or Pareto, depending on the safety factor used).
      CAVS2_grpb_tthm[haa5] = CAVS2Max_Age_tthm[haa5] * lf
      i. Run = 1 (Smoking Lung): if model = 1 (20% safety run), read pareto_lung parameters
         if model = 2 (25% safety run), read weibul_lung parameters
      ii. Run = 2 (Smoking Bladder): if model = 1, read pareto_bladder parameters
         if model = 2, read weibul_bladder parameters
      iii. Run = 3 (Arsenic Lung): for model = 1 and model = 2, use fixed inputs for pareto and weibul parameters.
3. Processes outputs and transposes them by source (GW/SW) and system size (<10,000 served or ≥ 10,000 served).
4. Further transposes cases avoided by source and system size, apportioning benefits into nine system size categories (cat. 1-9).

↓

i. Macro genBenefits(run_des_source_cat)

1. Separates and processes cases avoided by run, source and system size category.
2. Generates benefits and cases avoided, including the 5th and 95th percentile and mean cases avoided for both TTHM and HAA5.
3. Outputs cases avoided for the given option, run, source, and size category as a spreadsheet.
   1. Sheet TTHM Mean = Mean values for cases avoided for TTHM by age category and years after rule.
   2. Sheet HAA5 Mean = Mean values for cases avoided for HAA5 by age category and years after rule
   3. Sheet TTHM_p5 = 5th Percentile values for cases avoided for TTHM by age category and years after rule.
   4. Sheet HAA5_p5 = 5th Percentile values for cases avoided for HAA5 by age category and years after rule
   5. Sheet TTHM_p95 = 95th Percentile values for cases avoided for TTHM by age category and years after rule.
   6. Sheet HAA5_p95 = 95th Percentile values for cases avoided for HAA5 by age category and years after rule

↓

Output

CasesAvoided_Smoking Lung_1_1.xls	CasesAvoided_Smoking Bladder_1_1.xls	CasesAvoided_Arsenic Bladder_1_1.xls
CasesAvoided_Smoking Lung_2 _1.xls	CasesAvoided_Smoking Bladder_2 _1.xls	CasesAvoided_Arsenic Bladder_2 _1.xls
CasesAvoided_Smoking Lung_3 _1.xls	CasesAvoided_Smoking Bladder_3 _1.xls	CasesAvoided_Arsenic Bladder_3 _1.xls
CasesAvoided_Smoking Lung_4 _1.xls	CasesAvoided_Smoking Bladder_4 _1.xls	CasesAvoided_Arsenic Bladder_4 _1.xls
CasesAvoided_Smoking Lung_5 _1.xls	CasesAvoided_Smoking Bladder_5 _1.xls	CasesAvoided_Arsenic Bladder_5 _1.xls
CasesAvoided_Smoking Lung_6 _1.xls	CasesAvoided_Smoking Bladder_6 _1.xls	CasesAvoided_Arsenic Bladder_6 _1.xls
CasesAvoided_Smoking Lung_7 _1.xls	CasesAvoided_Smoking Bladder_7 _1.xls	CasesAvoided_Arsenic Bladder_7 _1.xls
CasesAvoided_Smoking Lung_8 _1.xls	CasesAvoided_Smoking Bladder_8 _1.xls	CasesAvoided_Arsenic Bladder_8 _1.xls
CasesAvoided_Smoking Lung_9 _1.xls	CasesAvoided_Smoking Bladder_9 _1.xls	CasesAvoided_Arsenic Bladder_9 _1.xls

*Note: Above is a sample output for benefits for Alternative 1. This is repeated 5 times to attain benefits for all alternatives.

Appendix K.11c. Description of Inputs for the Benefits Model

Input	Used By (Macro)	Description
Bladder Cancer Cass Avoided Inputs.txt	Beginprocess(alt)	Inputs model parameters for the generation of OR values used to calculate PAR.
Populations data by 101 Ages.xls	Beginprocess(alt)	U.S. population by 101 age groups (1 – 100, 101+) and bladder cancer incidence rates for each group from SEER cancer incidence data.
DBP Occurrence Inputs.xls	Beginprocess(alt)	Sheets Uncertainty Inputs, Uncertainty Inputs_1, Uncertainty Inputs_2, and Uncertainty Inputs_3 provide DBP reduction data as a percentage for Stage 1 and Stage 2. Inputs for proportion of cases attributed to DBPs by source (SW/GW) and system size (<10,000 served, ≥ 10,000 served).
params_pareto_bladder.xls	Cesslag(run)	Parameters for bladder for the Pareto triangular distribution (1,000 values) to calculate cancer cases avoided with a 20% safety factor.
params_weibul_bladder.xls	Cesslag(run)	Parameters for bladder for the Weibul triangular distribution (1,000 values) to calculate cancer cases avoided with a 25% safety factor.
params_pareto_lung.xls	Cesslag(run)	Parameters for lung for the Pareto triangular distribution (1,000 values) to calculate cancer cases avoided with a 20% safety factor.
params_weibul_lung.xls	Cesslag(run)	Parameters for lung for the Weibul triangular distribution (1,000 values) to calculate cancer cases avoided with a 25% safety factor.

Appendix L
Quality Assurance Supplemental Information

Appendix L
Quality Assurance Supplemental Information

Existing Data Source	Use for the Stage 2 DBPR Regulatory Development Effort	Level [1]	QA Plan? [2]	Peer Reviewed? [2]
1. Information Collection Rule (ICR)	Used to characterize occurrence of disinfectants, disinfection byproducts (DBPs), and DBP precursors (e.g., total organic carbon [TOC]) in large surface water (SW) and ground water (GW) systems. Used as input to SWAT and the ICR Ground Water Delphi process.	2	Yes	Yes
2. ICR Supplemental Survey	Used to compare TOC occurrence in small, medium and large SW systems.	1	Yes	Yes
3. National Rural Water Association (NRWA) Survey	Used to characterize operational characteristics, disinfection practices, DBP occurrence and occurrence of DBP precursors (e.g., TOC) for small SW systems. DBP and DBP precursor data were compared to that of large systems. Used to assess variability in TTHM and HAA5 occurrence in distribution systems of small SW systems.	1	Yes	No
4. Water Utility Survey (WATER:\STATS database)	Used to compare operational characteristics, disinfection practices, DBP occurrence, and DBP precursor occurrence of medium and large SW systems and medium and large ground water GW systems	1	Yes	Yes
5. Ground Water Supply Survey	Used to compare TOC occurrence between small, medium, and large GW systems	1	Yes	No
6. State Data	Used to compare TTHM occurrence on small GW systems to occurrence in large GW systems.	1	No	No

Notes:
1.Level 1 data are those data that provide background information or context for a particular assessment or discussion, but are not deemed to be influential in EPA's decision-making process. Level 2 data are those data that are deemed to be highly important or influential in EPA's decision-making process.
2. See Sections 1.4 and 1.5 in the Stage 2 DBPR Occurrence Document (USEPA 2005k) for a description of QA plans and/or peer review processes for each existing data source shown.

Appendix M

Ground Water Systems Adding Disinfection Under the Ground Water Rule

Appendix M
Ground Water Systems Adding Disinfection Under the Ground Water Rule

M.1 Introduction

This appendix presents an analysis of the potential increased risks caused by ground water systems that are adding disinfection under the Ground Water Rule (GWR). When a system moves from no disinfection to performing disinfection including chlorination or chloramination, there will be an increase in chlorination disinfection byproducts (DBPs). Based on analyses in this EA, this increase in DBPs may lead to a small increase in bladder cancer incidence.

The GWR was proposed in May 2000 but has not yet been finalized. Consequently, estimates of the impacts of the ground water rule, including estimates of the number of people expected to become exposed to chlorination disinfection byproducts as a result of the GWR, are not currently available. However, based on available data, EPA anticipates that the number of people served by community ground water systems expected to begin disinfecting as a result of the rule may be in the range of 1.0 to 1.5 million. Only community ground water systems are considered in this analysis since most people served by non-community systems would not have long term exposure.

M.2 Current Risk per Lifetime per μg DBPs

In order to quantify the potential increase in bladder cancer incidence from the addition of disinfection from the GWR, it is necessary to make a simplifying assumption that bladder cancer risk per unit DBP exposure is the same across all subpopulations. Based on the primary analysis in this EA, the estimated annual Pre-Stage 1 bladder cancer cases from all sources is 56,506 (see section E.2 of Appendix E). Using the Pre-Stage 1 PAR of 15.75% derived from the Villanueava et al. (2003) study as described in Appendix E , the cases attributable to DBPs are 8,900, and the cases attributable to other sources are 47,606 (by subtraction).

Two annual bladder cancer risk factors are computed using the Pre-Stage 1 bladder cancer cases information and the total population served by disinfecting systems. The annual risk from DBPs is:

8,900 / 263,024,518 = $\mathbf{3.38 \times 10^{-5}}$ annual cases per person.

The annual risk from all other sources is:

47,606/ 263,024,518 = $\mathbf{1.81 \times 10^{-4}}$ annual cases per person.

The DBP risk factor can be expressed in terms of DBP concentration (represented by TTHMs) by dividing by the Pre-Stage 1 average TTHM concentration (38.0 μg/L) to arrive at a value expressed in the units of annual cases per person per μg/L.

$3.38 \times 10^{-5} / 38.0 =$ $\mathbf{8.90 \times 10^{-7}}$ annual cases per person per μg/L.

This value can be interpreted as the Pre-Stage 1 unit risk from exposure to DBPs. Since there is no specific factor to relate to the unit risk from all other causes, for this group, the risk is expressed in only annual cases per person (1.81×10^{-4}).

M.3 Additional Risk for GW Populations Adding Disinfection

To estimate the potential added risk, the unit risk calculated in Section M.2 can applied to the population newly exposed from the addition of disinfection from the GWR. As noted in Section M.1, the number of people potentially newly exposed is 1.0 to 1.5 million . The estimated Post Stage 2 DBP concentration in ground water systems (as represented by TTHM) is 13.75 µg/L. Using a mid-point of 1.25 million people new exposed, the annual cases of bladder cancer from DBPs can therefore be calculated as follows:

$\mathbf{8.90 \times 10^{-7}} \times 13.75 \times 1{,}250{,}000 = \mathbf{15.3}$ cases.

The annual cases of bladder cancer in this population from other causes can be calculated as follows:

$1.81 \times 10^{-4} \times 1{,}304{,}927 = \mathbf{226.2}$ cases.

The total number of estimated cases in the newly exposed group at a steady-state is the sum of these two (241.5 cases). This total sum of cases from DBPs and from other causes is necessary in order to calculate a PAR for this newly exposed group. PAR is calculated as the number of cases attributable to DBPs divided by the total number of cases:

15.3 / 241.5 = 6.34%

It is not expected, however, that the 15.3 new annual cases attributable to DBPs will begin to occur immediately each year after these systems begin disinfecting as a result of the GWR. Rather, these would be the “steady-state”annual cases attributable, achieved once those individuals served by these systems have spent all or at least a substantial portion of their lives consuming water with these DBP levels present. The next section considers information on latency available from the Villanueva et al. (2003) study used to estimate the annual new cases each year following implementation of disinfection prior to reaching this steady state value.

M.4 Accounting for Latency

To account for latency, and the lower number of attributable cases per year in the period after disinfection begins, it is necessary to use exposure duration information from Villanueva et al. (2003) together with the PAR calculated in Section M.3. EPA assumes that the PAR for this group is the value attained at steady state, which in this analysis is assumed to be 100 years after rule promulgation. In order to calculate the rate at which risk increases with exposure duration, the following equation was used:

$$PAR_i = \frac{P_e\left(e^{slope * y} - 1\right)}{\left[P_e\left(e^{slope * y} - 1\right)\right] + 1} \qquad \text{(Equation M.1)}$$

Villanueva et al. (2003) modeled log odds ratio as a linear function of years exposure: ln(OR) = slope * years of exposure (Kogevinas et al, 2005). In Equation M.1. above, $e^{slope * y}$ is, therefore, the OR for *y* years exposure.

P_e, the fraction of the population exposed, is set to 1 since this equation is being applied to a subpopulation assumed to all be drinking the newly disinfected drinking water. Using the PAR of 6.34 % at 100 years (assuming steady state is reached at that point) from Section M.3 and $P_e = 1$, the slope is calculated as 6.55×10^{-4}, by rearranging Equation M.1 as:

$$slope = \frac{\ln\left(1/1 - 0.0634\right)}{100} = 6.55 \times 10^{-4} \qquad \text{(Equation M.2)}$$

Using this slope, the cases attributable to DBPs can be calculated from the year-based PARs using Equation M.1. As shown in Exhibit M.1, after consideration of latency, for the first 25 years following rule promulgation, the cases per year range from 0.15 to 3.73, for an average of less than 2 cases per year.

M.5 Conclusions

EPA believes that although there is a potential for increased risk from these systems, this risk is not significant. The addition of 2 cases per year will not have a significant effect on the benefits analysis performed in this economic analysis. This is approximately 0.02 percent of the pre-Stage 1 baseline of approximately 8,900 cases attributable to DBPs. For these reasons, EPA does not quantify this additional risk as part of the Stage 2 economic analysis.

Exhibit M.1 Total Annual Bladder Cancer Cases

Years after Rule Promulgation	Total Cases	Cases from DBPs	PAR	Years after Rule Promulgation	Total Cases	Cases from DBPs	PAR
0	226.24	0.00	0.00%	51	233.92	7.68	3.28%
1	226.39	0.15	0.07%	52	234.08	7.83	3.35%
2	226.54	0.30	0.13%	53	234.23	7.99	3.41%
3	226.69	0.44	0.20%	54	234.38	8.14	3.47%
4	226.84	0.59	0.26%	55	234.54	8.29	3.54%
5	226.98	0.74	0.33%	56	234.69	8.45	3.60%
6	227.13	0.89	0.39%	57	234.84	8.60	3.66%
7	227.28	1.04	0.46%	58	235.00	8.75	3.73%
8	227.43	1.19	0.52%	59	235.15	8.91	3.79%
9	227.58	1.34	0.59%	60	235.31	9.06	3.85%
10	227.73	1.49	0.65%	61	235.46	9.22	3.91%
11	227.88	1.63	0.72%	62	235.61	9.37	3.98%
12	228.03	1.78	0.78%	63	235.77	9.52	4.04%
13	228.18	1.93	0.85%	64	235.92	9.68	4.10%
14	228.33	2.08	0.91%	65	236.08	9.83	4.17%
15	228.48	2.23	0.98%	66	236.23	9.99	4.23%
16	228.62	2.38	1.04%	67	236.39	10.14	4.29%
17	228.77	2.53	1.11%	68	236.54	10.30	4.35%
18	228.92	2.68	1.17%	69	236.70	10.45	4.42%
19	229.07	2.83	1.24%	70	236.85	10.61	4.48%
20	229.22	2.98	1.30%	71	237.01	10.76	4.54%
21	229.37	3.13	1.37%	72	237.16	10.92	4.60%
22	229.52	3.28	1.43%	73	237.32	11.07	4.67%
23	229.67	3.43	1.49%	74	237.47	11.23	4.73%
24	229.83	3.58	1.56%	75	237.63	11.38	4.79%
25	229.98	3.73	1.62%	76	237.78	11.54	4.85%
26	230.13	3.88	1.69%	77	237.94	11.70	4.92%
27	230.28	4.03	1.75%	78	238.09	11.85	4.98%
28	230.43	4.18	1.82%	79	238.25	12.01	5.04%
29	230.58	4.34	1.88%	80	238.41	12.16	5.10%
30	230.73	4.49	1.94%	81	238.56	12.32	5.16%
31	230.88	4.64	2.01%	82	238.72	12.48	5.23%
32	231.03	4.79	2.07%	83	238.87	12.63	5.29%
33	231.18	4.94	2.14%	84	239.03	12.79	5.35%
34	231.33	5.09	2.20%	85	239.19	12.94	5.41%
35	231.49	5.24	2.26%	86	239.34	13.10	5.47%
36	231.64	5.39	2.33%	87	239.50	13.26	5.54%
37	231.79	5.55	2.39%	88	239.66	13.41	5.60%
38	231.94	5.70	2.46%	89	239.81	13.57	5.66%
39	232.09	5.85	2.52%	90	239.97	13.73	5.72%
40	232.24	6.00	2.58%	91	240.13	13.89	5.78%
41	232.40	6.15	2.65%	92	240.29	14.04	5.84%
42	232.55	6.31	2.71%	93	240.44	14.20	5.91%
43	232.70	6.46	2.78%	94	240.60	14.36	5.97%
44	232.85	6.61	2.84%	95	240.76	14.52	6.03%
45	233.01	6.76	2.90%	96	240.92	14.67	6.09%
46	233.16	6.92	2.97%	97	241.07	14.83	6.15%
47	233.31	7.07	3.03%	98	241.23	14.99	6.21%
48	233.46	7.22	3.09%	99	241.39	15.15	6.27%
49	233.62	7.37	3.16%	100	241.55	15.30	6.34%
50	233.77	7.53	3.22%	**Steady State**	**241.55**	**15.30**	**6.34%**

Appendix N
Cost Effectiveness Analysis Using a Quality-Adjusted Life Years Approach

Appendix N
Cost Effectiveness Analysis Using a Quality-Adjusted Life Years Approach

N.1.0 Introduction

This appendix provides a description and results of an experimental approach to developing a cost effectiveness analysis (CEA) for the Stage 2 Disinfectants and Disinfection Byproducts Rule (DBPR) using quality-adjusted life years (QALYs). A previous regulatory impact analysis for the Final Clean Air Interstate Rule (CAIR, Appendix G, 2005) also explored using QALYs. Significant language from that EPA report is used in this memorandum, even though the report is not always directly cited.

N.1.1 Cost-effectiveness analysis

Health-based CEA has been used to analyze numerous health interventions but has not been widely adopted as a tool to analyze environmental policies. The Office of Management and Budget (OMB) has issued Circular A-4 guidance on regulatory analyses, requiring federal agencies to

> … prepare a CEA for all major rulemakings for which the primary benefits are improved public health and safety to the extent that a valid effectiveness measure can be developed to represent expected health and safety outcomes.[1]

Environmental quality improvements may have multiple health and ecological benefits, making application of CEA more difficult. For the Stage 2 DBPR, CEA can provide a framework for analysis: nonhealth benefits are few, and all of the quantified benefits come from health effects. Therefore, EPA is including in the Stage 2 DBPR Economic Analysis (EA) a preliminary and experimental application of one type of CEA-a quality-adjusted life years (QALYs) approach.

Analyses of environmental regulations have typically used benefit-cost analysis (BCA) to characterize impacts on social welfare. BCA allows for aggregation of the benefits of reducing mortality and morbidity risks with other monetized benefits of increasing water quality. One of the great advantages of the benefit-cost paradigm is that a wide range of quantifiable benefits can be compared to costs to evaluate the economic efficiency of particular actions. However, an alternative paradigm such as CEA has also been used. CEA involves estimation of the costs per unit of benefit (e.g., lives or life years saved) and may incorporate preference-based measures of effectiveness, such as QALYs.

CEA has been used for comparing programs that have similar goals, for example, alternative medical interventions or treatments that can save a life or cure a disease. Specifically, QALY-based CEA has been widely adopted within the health economics literature (Neumann, 2003; Gold et al., 1996) and in the analysis of public health interventions (US FDA, 2004). In addition, the World Health Organization has adopted the use of disability-adjusted life years, a variant on QALYs, to assess the global burden of disease due to different causes, including environmental pollution (Murray et al., 2002; de Hollander et al., 1999). The U.S. Public Health Service Panel on Cost Effectiveness in Health and Medicine recommended using QALYs when evaluating medical and public health programs that primarily reduce both mortality and morbidity (Gold et al., 1996).

[1] Office of Management and Budget Circular A-4, September 17, 2003, page 9.

N.1.2 QALY methodology

When using a QALY rating system, health quality ranges from 0 to 1, where 1 may represent full health, 0 death, and numbers in between (e.g., 0.8) represent an impaired condition. QALYs assume that duration and quality of life are interchangeable, or "equivalent", so that 1 year spent in perfect health is equivalent to 2 years spent with quality of life half that of perfect health. QALYs can be used to evaluate environmental rules under certain circumstances, although some very strong assumptions (detailed below) apply.

The application of QALYs is predicated on the assumptions embedded in the QALY analytical framework. As noted in the QALY literature, QALYs are consistent with the utility theory that underlies most of economics only if one imposes several restrictive assumptions, including independence between longevity and quality of life in the utility function, risk neutrality with respect to years of life (which implies that the utility function is linear), and constant proportionality in trade-offs between quality and quantity of life (Pliskin, Shepard, and Weinstein, 1980; Bleichrodt, Wakker, and Johannesson, 1996). To the extent that these assumptions do not represent actual preferences, the QALY approach will not provide results that are consistent with a benefit-cost analysis based on the Kaldor-Hicks criterion.[2]

Even if the assumptions are reasonably consistent with reality, there are no guarantees that the option with the largest QALYs saved per dollar cost will satisfy the Kaldor-Hicks criterion (i.e., generate a potential Pareto improvement [Garber and Phelps, 1997]) because QALYs represent an average valuation of health states rather than the sum of societal willingness to pay (WTP).

However, benefit-cost analysis based on WTP is not without potentially troubling underlying structures as well because it incorporates ability to pay (and thus the potential for equity concerns) and the notion of consumer sovereignty (which emphasizes wealth effects). Exhibit N.1 compares the two approaches across a number of parameters. For the most part, WTP allows parameters to be determined empirically, while the QALY approach imposes some conditions a priori.

[2] The Kaldor-Hicks efficiency criterion requires that the "winners" in a particular case be potentially able to compensate the "losers" such that total societal welfare improves. In this case, it is sufficient that total benefits exceed total costs of the regulation. This is also known as a potential Pareto improvement, because gains could be allocated such that at least one person in society would be better off while no one would be worse off.

Exhibit N.1 Comparison of QALY and WTP Approaches

Parameter	QALY	WTP
Risk aversion	Risk neutral	Empirically determined
Relation of duration and quality	Independent	Empirically determined
Proportionality of duration/ quality trade-off	Constant	Variable
Treatment of time/age in utility function	Unit linear in time	Empirically determined
Preferences	Community/Individual	Individual
Source of preference data	Stated	Revealed and stated
Treatment of income and prices	Not explicitly considered	Constrains choices

This analysis accounts for the loss in quality of life without consideration of the initial health state and summarizes life years gained for the entire population. In some CEAs (Cohen, Hammitt, and Levy, 2003; Coyle et al., 2003), analysts have adjusted the number of life years gained to reflect the fact that 1) the general public is not in perfect health and thus "healthy" life years are less than total life years gained and 2) those affected by pollution may be in a worse health state than the general population and therefore will not gain as many "healthy" life years adjusted for quality, from a pollution reduction.

Such adjustments would raise a number of serious ethical issues. Proponents of QALYs have promoted the nondiscriminatory nature of QALYs in evaluating improvements in quality of life (e.g., an improvement from a score of 0.2 to 0.4 is equivalent to an improvement from 0.8 to 1.0), so the starting health status does not affect the evaluation of interventions that improve quality of life. However, for life-extending interventions, the gains in QALYs will be directly proportional to the baseline health state (e.g., an individual with a 30-year life expectancy and a starting health status of 0.5 will gain exactly half the QALYs of an individual with the same life expectancy and a starting health status of 1.0 for a similar life-extending intervention). This is troubling because it imposes an additional penalty for those already suffering from disabling conditions.

OMB (2003) has recognized this issue in its Circular A-4 guidance, which includes the following statement.

> When CEA is performed in specific rulemaking contexts, you should be prepared to make appropriate adjustments to ensure fair treatment of all segments of the population. Fairness is important in the choice and execution of effectiveness measures. For example, if QALYs are used to evaluate a lifesaving rule aimed at a population that happens to experience a high rate of disability (i.e., where the rule is not designed to affect the disability), the number of life years saved should not necessarily be diminished simply because the rule saves the lives of people with life-shortening disabilities. Both analytic simplicity and fairness suggest that the estimated number of life years saved for the disabled population should be based on average life expectancy information for the relevant age cohorts. More generally, when numeric adjustments are made for life expectancy or quality of life, analysts should prefer use of population averages rather than information derived from subgroups dominated by a particular demographic or income group. (p. 13)

Because of the fairness concerns discussed above, this analysis does not reduce the number of life years gained to reflect any differences in underlying health status; rather, it assumes that all direct gains in life years resulting from mortality risk reductions will be assigned a weight of 1.0. This estimate has been combined with the QALYs saved from avoided cases of morbidity to yield a total life years saved from avoided cases. The resulting effectiveness measure has been called "MILYs" (Morbidity Inclusive Life Years) in the regulatory impact analysis for the Final CAIR Rule (2005) and this analysis of the cost effectiveness of the Stage 2 DBPR uses the same terminology.

N.1.3 Concerns about the use of QALYs to evaluate environmental regulation

EPA is still evaluating the appropriate methods for application of CEA to environmental regulations. To summarize, benefit-cost analysis has been the preferred method of choosing among regulatory alternatives in terms of economic efficiency for environmental regulations. Most environmental regulations have multiple categories of benefits, and environmental economists have preferred to aggregate results in terms of monetary net benefits. QALY-based analyses also have not been as accepted in the environmental economics literature because of concerns about the theoretical consistency of QALYs with individual preferences (Hammitt, 2002), treatment of benefits other than human health, and a number of other factors (Freeman, Hammitt, and De Civita, 2002). Concerns with the standard QALY methodology include consistency of CEA indices across multiple contexts; the treatment of people with fewer years to live (the elderly); fairness to people with preexisting conditions that may lead to reduced life expectancy and reduced quality of life; and how the analysis should best account for nonhealth benefits.

As an illustration of one of the major issues in ensuring consistency across CEAs conducted in multiple contexts, it is useful to examine the degree of variability across QALY calibration methodologies. A study by Erik Nord examined differences in the health-state scores that would result by application of a wide range of multi-attribute utility instruments. As will be discussed later, one of these instruments, the Rosser Kind Health Status Index (RKI), served as the basis for the QALY scores used in this analysis. The results of the Nord study are summarized in Exhibit N.2 below (see Nord 1999 for further details).

One interpretation of the data in Exhibit N.2 is that the variability in QALY estimates across methods suggests that great care must be taken when comparing the results of CEAs that utilize different QALY scoring systems. An alternative view is that the scoring systems may themselves be ideally suited to specific types of effects, and therefore comparisons across scales are meaningless (e.g., some argue the Quality of Well Being Scale is best for acute effects because it specifically addresses symptoms, while other techniques may be better suited for injuries, life-threatening chronic conditions, and chronic conditions where severity may vary over time). There are likely other interpretations of these results as well. The main point is that comparisons to other CEAs must make explicit consideration of standardization issues such as the use of QALY estimation methods.

Exhibit N.2 Health-State Scores According to Rules of Thumb and Different Multi-Attribute Utility Instruments

Instrument	Problem Level		
	Severe	Considerable	Moderate
Rules of Thumb	.65 - .85	.90 - .94	.98 - .995
QWB	.45 - .55	.65 - .70	<.80
HUM 1	.10 - .20	.30 - .40	<.85
HUM 2	0.4	0.7	.90 - .94
EuroQol	0.2	0.6	0.7
York EuroQol (TTO)	.20 - .25	.40 - .50	0.8
IHQL (D) 3	.50 - .70	.75 - .85	.89 - .93
IHQL (complex)	.70 - .75	.80 - .90	.90 - .94
15 D	0.77	0.86	.91 - .93
Rosser-Kind	0.68	0.94	.97 - .98

Source: Nord (1999). Note that the estimates in this table represent health-state scores, rather than QALY decrements from a baseline health state.

Some concerns with QALY applications may be addressed by The Institute of Medicine (IOM) (a member institution of the National Academies of Science (NAS)), which has established the Committee to Evaluate Measures of Health Benefits for Environmental, Health, and Safety Regulation to assess the scientific validity, ethical implications, and practical utility of a wide range of effectiveness measures used or proposed in CEA .[3] This committee is expected to produce a report by the end of 2005; however, it is not clear that members will necessarily reach a consensus on how to contend with the problems associated with applying the QALY methodology to environmental regulations. In the interim, however, agencies are expected to provide CEAs for rules covered by Circular A-4 requirements.

Therefore, the Stage 2 DBPR EA includes the following MILY-based analysis to illustrate one potential approach for conducting a CEA. This is an experimental application, and EPA is still evaluating the appropriate methods for applying CEA to environmental regulations with multiple outcomes. The methodology presented in this section is not intended to stand as precedent for either future water quality regulations or other EPA regulations: the appropriateness of MILY- or QALY-based CEA should be evaluated on a case-by-case basis.

This analysis is based upon the estimated number of bladder cancer cases potentially avoided by implementation of the Stage 2 DBPR. As a sensitivity analysis, the Stage 2 DBPR EA calculates potentially avoided colon and rectal cancers for the Preferred Alternative only. Consistent with this approach, this Appendix presents the MILYs saved for avoided bladder cancer cases in section 2.0, and a sensitivity analysis based on potentially avoided colon and rectal cancers in section 3.0. Although a third health endpoint, fetal losses, was identified as a potential area of benefit in the EA, this benefit was not used as a sensitivity analysis in the EA and is not presented in this Appendix.

[3] National Academies of Science, Institute of Medicine website for the CEA project is found at http://www.iom.edu/project.asp?id=19739.

The remainder of this memorandum provides the step-by-step development of a MILY-based measure of the cost-effectiveness of the Stage 2 DBPR, including the following steps:

- Development of the MILY denominator. This includes determination of an appropriate QALY decrement and its application to cases of morbidity, calculation of life years saved from avoided cases of mortality, and integration of morbidity and mortality cases into a total life years saved denominator (MILY).

- Development of the cost numerator. Costs are composed of the regulatory costs minus the costs for medical treatment and time losses that are avoided by prevention of cases.

- Finally, integration of the numerator and denominator to yield a cost-per-MILY gained ratio.

N.2.0 Methods

The first step in the development of a cost-per-MILY ratio in this CEA is to determine the QALY decrement per case of bladder cancer avoided to be used in the MILYs denominator. A QALY decrement is the *time-equivalent* by which a person's years of life are reduced by the loss of quality of life due to illness. EPA reviewed the health literature to determine an appropriate QALY decrement, as described further in Section 2.1.1.1 of this appendix.

The QALY decrement is then used to derive the total quality-adjusted life years saved across the population from a reduction in morbidity related to bladder cancers caused by drinking water contaminated with disinfection byproducts[4] (Section 2.1.1.2). The QALYs saved are added to the life years saved from reductions in premature mortality from avoided fatal cases of such bladder cancers and are then termed MILYs. The MILYs are the effectiveness measure (denominator) in the cost-per-MILY ratio of this CEA.

The numerator of the cost-per-MILY gained measure is the cost of the regulation minus certain costs associated with the illness that will be avoided after implementation of the regulation. The process of determining these avoided costs and the resulting net cost numerator is described in Section 2.2 of this memorandum.

Sections 2.1 - 2.3 below describe how the denominator (MILY units) and the numerator (dollar units) are derived and used to calculate the cost effectiveness of the regulatory alternatives (net cost per MILY gained). The following discussion will focus on MILYs saved from avoided cases of bladder cancer, but will additionally present results based upon colon and rectal cancers that also may be avoided.

N.2.1 The CEA Denominator: Deriving MILYs

Promulgation of the Stage 2 DBPR is expected to achieve reductions in DBP concentration in drinking water and in the incidence of bladder cancers, thereby avoiding cases of illness and death and

[4] The derivation of cases to be avoided through promulgation of the Stage 2 DBPR is explained in detail in the EA (Chapter 6 and Appendix E). Briefly, the EA estimates DBP reductions to occur in response to the rule, and assumes that a 1 percent decrease in DBP concentration will result in a 1 percent decrease in the incidence of DBP-induced bladder cancers.

associated decrements to patients' quality of life. To capture these important benefits in the measure of cost effectiveness, illnesses must first be converted into a life year equivalent (QALYs) so that they can be combined with the direct gains in life expectancy from avoided premature mortality (Section 2.1.2 of this Appendix).

The QALY calculation for morbidity requires three elements:[5]

- the estimated change in incidence of the health condition
- the duration of the health condition (estimated time-in-state)
- the quality of life decrement due to the condition

The first element is derived using the health impact function approach, which requires computing an estimate of the number of bladder cancer cases avoided by reduction in DBP concentration through promulgation of the Stage 2 DBPR. The second element is based on the medical literature for each health condition. The third element is derived by one of three methods, as described in Section 2.1.1.1 below.

N.2.1.1 Equivalent life years saved from avoided cases of morbidity

Calculating life years saved from avoided cases of morbidity involves developing a QALY decrement and applying this to cases of morbidity. The QALY decrement converts a decrease in quality of life due to illness to a time-equivalent. In this CEA, cases of morbidity include bladder cancers that are ultimately fatal, but are preceded by a period of illness, and those that are non-fatal. Estimates of the number of life years lost among patients who contract an ultimately fatal case are calculated separately.

N.2.1.1.1 Developing the QALY decrement

There are multiple steps to developing the QALY decrement per case avoided in this CEA. First, the appropriate quality of life decrements for the health conditions associated with a case of bladder cancer are determined by the methods described in the next paragraph. Second, the Relative Survival Rate (RSR) data from the EPA *Cost of Illness Handbook* (1999) is used to determine the probability of an average case of bladder cancer resulting in one of three outcomes in each year over a 20-year period of illness: survival; death from bladder cancer; or death from other causes. Twenty years is an estimate provided by the National Cancer Institute (NCI) of the average duration of bladder cancer illness, and NCI estimates that 26 percent of patients will ultimately die from the disease. Third, the cumulative probabilities for each outcome over the 20-year period are multiplied by the time-in-state for each stage of the illness, and by the QALY decrement identified for the health conditions at each stage. The resulting QALY decrements for “survivors” and “non-survivors” represent a weighted average across all outcomes, durations of each stage of illness, and severity of each stage of illness, for fatal and non-fatal cases, respectively. The quality-of-life impacts are also discounted over the period of illness, back to the time of initial diagnosis, so the estimates can be applied on a per case basis at the point of diagnosis. The two final QALY decrements for survivors and nonsurvivors are then applied to the estimate of non-fatal and fatal cases avoided, respectively (calculated as 74 percent and 26 percent of total cases avoided).

[5] In some QALY calculations, two other elements are required: the quality of life weight with the health condition and the quality of life weight without the health condition (i.e., the baseline health state). These elements would be derived from the medical cost-effectiveness and cost-utility literature. In this CEA, however, these are immaterial because there is no adjustment of benefits for differing baselines of health in the population: the health gain is assumed the same for all individuals.

Determining the appropriate health endpoints and associated QALY decrements

There are three methods by which a decrease in quality of life due to illness is quantified in the form of a QALY decrement: "direct elicitation," "standardized questionnaire," and "database research." The first involves primary research, where subjects in a survey setting are asked to express preferences for specific health states expressed on the 0 to 1 interval, where 0 represents death and 1 represents perfect health. Most of these studies apply a time-tradeoff, standard gamble, or rating scale elicitation technique; sometimes multiple methods are applied. The more rigorous time-tradeoff and standard gamble techniques are typically considered to yield more reliable estimates than the rating scale technique (Gold, Stevenson, and Fryback, 2002). The direct elicitation method can be administered to samples of patients with a given condition, to the general population (known as "community" samples), or to expert panels.

The second method, "standardized questionnaire," also involves some primary survey work, but is simpler to implement than the direct elicitation approaches. This method involves administering a standardized set of questions that evaluate multiple aspects of an individual's health, including mobility, degree of pain, and ability to provide care to oneself, and then using the answers to generate a QALY score on the 0 to 1 scale. The QALY score is estimated using a formula, generated through prior calibration work, for translating specific combinations of questionnaire answers. The formula is questionnaire specific. This method can also be administered to different types of samples. Because of its ease of use, many applications of this technique are conducted as an integral part of clinical trials for specific treatment regimens. This facilitates calculating cost-effectiveness of various treatments of the patient populations that are the subjects of the clinical trial. Occasionally, the standardized questionnaire method is applied by study authors themselves, relying on their own expert judgment.

EPA adopted the third and simplest method, "database research," for use in this CEA, using values from existing literature and requiring no new primary research. Several databases have been developed to facilitate these literature searches; the most extensive is the Cost-Effectiveness Analysis database developed by researchers at Harvard University School of Public Health.[6] As noted below, EPA used this database, supplemented by broader literature searches, to identify studies that include QALY scores for the health effects of bladder cancer.

Using existing literature requires some care in documenting the technique used to conduct the study, the nature of the sample, and the match between the severity and duration of the health effect studied and the health effect linked to drinking water contamination. The preferred sources of quality of life weights are those based on community preferences, rather than patient or clinician ratings (Gold et al., 1996). Several methods are used to estimate quality of life weights. These include the rating scale, standard gamble, time trade-off, and person trade-off approaches (Gold, Stevenson, and Fryback, 2002). Only the standard gamble approach is completely consistent with utility theory. However, the time trade-off method has also been widely applied in eliciting community preferences (Gold, Stevenson, and Fryback, 2002).

EPA has not yet developed formal guidance for the development of cost-effectiveness analyses to support and evaluate regulatory actions. As noted elsewhere, EPA and other agencies are awaiting the completion of the deliberations of an NAS Institute of Medicine panel that is reviewing application of

[6] The Harvard CEA database is available online at the following URL: http://www.hcra.harvard.edu/pdf/preferencescores.pdf. Two versions of the database are available, containing citations with publication dates through 1997. (www.hsph.Harvard.edu/cearegistry/data/phase1preferenceweights.pdf), and containing citations with publication dates from 1998 through 2001 (www.hsph.Harvard.edu/cearegistry/data/phase2preferenceweights.pdf).

cost-effectiveness analysis to regulatory actions before developing its own specific guidance. As a result, for this economic analysis, EPA sought to rely on available literature for general guidance in selecting the most appropriate studies to apply. In general, the recommendations adopted for this analysis are consistent with recommendations made by the Panel on Cost-Effectiveness in Health and Medicine, a group of 13 nongovernment scientists and scholars with expertise in cost-effectiveness analysis that was convened by the U.S. Public Health Service in 1993 (Gold et al., 1996). That panel developed recommendations for methods to use in "Reference Case" CEAs in an effort to improve consistency across applications of CEA in the public health and medicine fields.

Relying heavily on the recommendations in Gold et al. (1996), the criteria used to select the highest-quality studies are the following:

1. Where available, reliance on studies administered to community-based samples. These samples best match the attributes of the general population that is exposed to and potentially at risk of health consequences from drinking water contaminants. Where community-based studies are not available, preference is for patient samples, followed by expert panels and author judgment (Gold et al., 1996).

2. Where available, reliance on directly administered time-trade-off or standard gamble studies over studies that administer a standardized questionnaire (Gold, Stevenson, and Fryback, 2002). In some cases, however, direct method studies have very small sample sizes or other major methodological shortcomings. In these cases, usage of judgment to select a study that provides the most reliable estimate, or looking for consistency of results across several studies.

3. Selection of studies with the best match of health effect to the health endpoint of interest. In cases where the match is not good because of differences in severity or duration of effect, for example, preference is for use of studies providing sufficient documentation to adjust the estimates to better match the severity and duration of interest. Note that Gold et al. (1996) discuss the need for clarifying the health effect of interest, and implicitly recommend that analysts seek a good match in health effect definition. This criterion is derived from the health benefits guidance for benefit valuation in EPA Guidelines for Preparing Economic Analyses (USEPA 2000, p. 64).

The development of the QALY decrement as described above is shown in diagram form in Exhibit N.3.

The QALY decrements applied in this CEA are based on pre-existing results from a standardized questionnaire known as the Rosser Kind Health Status Index (Exhibit N.4), which was administered to 70 participants (doctors, nurses, and patients). The survey is general in that it focuses on the level of disability and distress rather than symptoms specific to any one disease, and the patients who participated were not necessarily cancer patients. The values were derived in Mauskopf and French (1991), and were based on two conditions: 1) 2 years of curative treatment for nonfatal bladder cancer; and 2) 2 years of treatment for fatal bladder cancer. Using this method, each health status stage is assigned two values to quantify the degree of distress and the degree of disability associated with each illness stage. There are eight possible levels of disability and four levels of distress (Exhibit N.3). Every distress and disability combination corresponds to a scaled utility index score determined by a panel of doctors, nurses, and

patients.[7] Mauskopf and French multiply the QALY score (which is 1 minus the decrement) for each health state by an estimate of the number of days spent in that state in the first 2 years of treatment.

For example, Mauskopf and French estimate that patients who are eventually cured of bladder cancer will receive 1 day of radiation (a distress-disability score of 0.90*1 day), while those who die will receive 21 days of radiation (a distress-disability score of 0.90*21 days). They perform the same type of calculation for other types of treatment experienced by bladder cancer patients, such as chemotherapy and time spent in the hospital. Mauskopf and French calculate that, over the course of 2 years, bladder cancer patients with an ultimately non-fatal case spend 548 days in some form of distress and disability; these days receive a lower utility score relative to days without distress or disability. As a result of these calculations, cured patients receive an average QALY score of 0.967 for each of the 2 years of treatment. In contrast, Mauskopf and French assume that patients with fatal bladder cancer spend every day of the 2-year period in some form of distress or disability. The authors also assume that at the end of 2 years of treatment, the 51 percent of patients with incurable cancer die (utility score 0.0), while the remaining 49 percent of patients go into complete remission (utility score 1.0).

This CEA utilizes the decrements developed by Mauskopf and French (1991) for specific distress and disability states, but not the time-in-state or fatal risk assumptions (Exhibit N.4). The QALY decrements derived from the study, however, have some clear limitations. First, the authors derive QALY scores based on a combination of patient responses and clinical surveys, rather than generating the scores directly from patient or community responses. Second, the study makes a number of simplifying assumptions that may not accurately match the modeled scenario, such as assuming that after 2 years all bladder cancer patients move to the extremes of either death or perfect health. Other simplifying assumptions that do not match the modeled scenario for the Stage 2 analysis include the 51 percent mortality rate; the lack of any maintenance period beyond two years from diagnosis; and the implicit assumption that treatment from diagnosis differs for fatal versus non-fatal cases. Fortunately, these assumptions in the Mauskopf and French analysis are very well documented, facilitating adjustments to match our modeled scenario. These limitations are addressed in greater detail in a discussion of time-in-state in subsequent paragraphs and in Section 2.2, in a discussion of time loss calculations. An extensive search has not located other studies that assess bladder cancer with which to corroborate their QALY decrement findings.

Bladder cancer is an unusual illness, as reported in the EPA Cost of Illness Handbook, for the tendency of patients to experience elevated mortality (beyond background rates for non-patient cohorts) beyond the 20-year period of illness that usually includes most fatalities. This analysis does not address illness beyond the 20 years, but does address co-morbidities occurring within the 20 year period as a result of treatment. This analysis adopts the direct medical costs from the Handbook, which are sourced from Baker et al. (1979 and 1981) and which include all medical costs for cancer patients, minus usual background medical costs. The Handbook states that “this incremental approach allows for the inclusion of medical costs that are associated with treatment and side effects” (p. II.8-4).

[7] For more information on the Rosser and Kind methodology, see Ian McDowell and Claire Newell, Measuring Health: A Guide to Rating Scales and Questionnaires (Oxford University Press: New York, 1996), pp. 476-479.

Exhibit N.3 QALY Decrement Development

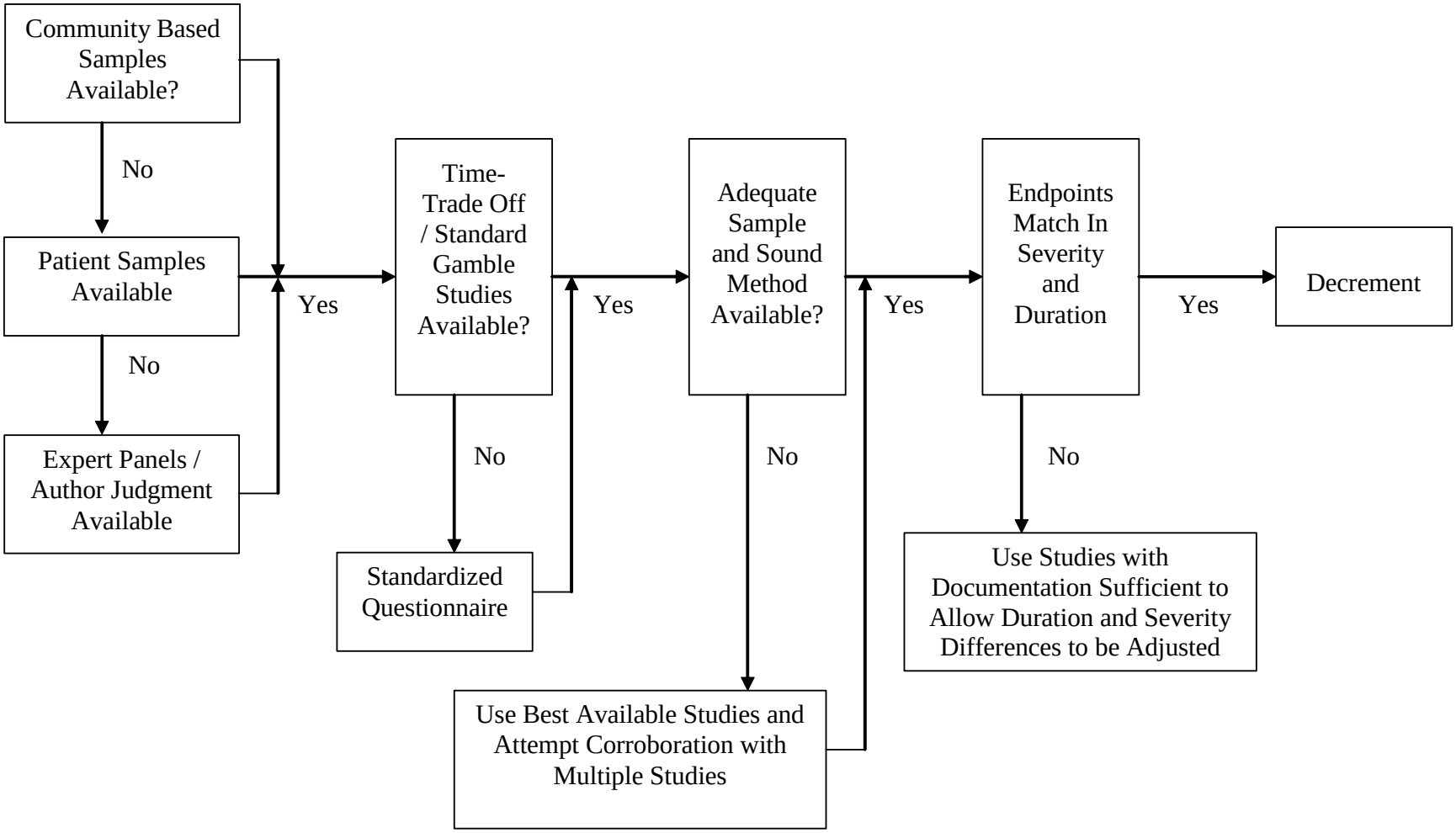


Exhibit N.4 The Rosser and Kind Disability Index

Disability Level	Disability Description
8	Unconscious
7	Not in 8 but confined to bed
6	Not in 7 but confined to chair or wheelchair or able to move around in the home only with support from an assistant
5	Not in 6 but unable to undertake any paid employment. Unable to continue any education. Elderly people confined to home except for escorted outings and short walks and unable to do shopping. Housewives only able to perform a few simple tasks.
4	Not in 5 but choice of work or performance at work very severely limited. Housewives and the elderly able to do light housework only, but able to go out shopping.
3	Not in 4 but severe social disability and/or slight impairment of performance at work. Able to do all housework except very heavy tasks.
2	Not in 3 but slight social disability.
1	No disability.

"Adapted from Rosser RM. A health index and output measure. In: Walker SK, Rosser RM, eds. Quality of life assessment and application. Lancaster MTP Press. 1987: Table 7.1."

Estimating Time-in-State

Most risk assessments provide only limited information on the time frame over which a nonfatal effect is experienced or, in the case of a fatal effect, the period between diagnosis and mortality. In addition, virtually no information is provided on the typical treatment course. This and other information on the natural history of the disease is typically not critical to the completion of a benefit-cost analysis, although there are exceptions, such as when a carefully constructed cost-of-illness estimate is developed from a detailed natural history of typical disease progression.

Assessing the time-in-state for a "typical" case is also complicated by the wide range of courses a disease can take. For consistency, estimates of QALY-based effectiveness in this analysis adopt a year-by-year natural history that is consistent with that used to develop the medical cost-of-illness estimates that are subtracted from the regulatory cost estimates in section 2.2 of this Appendix. The EPA *Cost of Illness Handbook* (1999) provides these estimates. The estimate of the probability of death from bladder cancer used by Mauskopf and French (1991) is inconsistent with that estimated in the *Handbook* for bladder cancer. Mauskopf and French assume that 51 percent of patients with bladder cancer die after 2 years of treatment, while 49 percent go into complete remission after 2 years of treatment. The Handbook cites data from NCI that 26 percent of individuals diagnosed with bladder cancer will eventually die from the illness at some point over a period of 20 years, while the remaining 74 percent will survive or die of other causes during the 20 years following diagnosis.

As noted above, the Agency has chosen to use the QALY decrement estimates derived from Mauskopf and French, but to adjust them to reflect a path of progression for the disease that is consistent with that developed in the Handbook. The *Handbook* discusses three stages of treatment: an initial treatment period of three months duration following initial diagnosis that applies for both fatal and non-fatal cases; a "maintenance" level of treatment that applies for the period following the initial period

and continues until remission (20 years after diagnosis) or up to the terminal phase in a fatal case of bladder cancer; and a six-month intense treatment period that immediately precedes death from bladder cancer (or, in the case of deaths from other causes, a maintenance period up to the time of death).

To characterize the first year after diagnosis, a QALY decrement of 0.065 was derived. For the purpose of this analysis, the first 3 months of treatment are assumed to be similar in level of distress and disability to that described by Mauskopf and French; all of the first year treatment days outlined by Mauskopf and French are included in the initial 3-month treatment period of this analysis. The QALY score for the first 3 months, 0.819, is the result of a weighted average of the Mauskopf and French QALY score for non-fatal cancer and for fatal cancer, assuming that 26 percent of cases will be fatal. This weighting reflects our assumption, derived from the *Handbook*, that during the initial treatment period there is no ability to distinguish between ultimately fatal and non-fatal cases, but also recognizes that the Mauskopf and French analysis is likely attempting to reflect different levels of treatment for different severity levels of the disease. The second assumption is that the next 9 months of treatment will be similar to Mauskopf and French's second year of treatment for non-fatal cases (with a QALY score of 0.973 for all days, which translates to an implied QALY decrement of 0.027 from a perfect health baseline).

For subsequent years, QALY estimates are provided for the last 6 months of treatment before death as well as for maintenance treatment for cases that do not end in death in any year. The QALY score for this period is based on Mauskopf and French's estimate of the quality of life in the second year of treatment in incurable patients (0.565), which the Agency believes is a good characterization of the level of intense treatment and palliative care that occurs in the six-month period just prior to death. The most severe treatment days outlined by Mauskopf and French are included in the 6-month period prior to death from bladder cancer, and the analysis yields a QALY decrement of 0.435 that applies to all days in that 6-month period. For all years of treatment not ending in death, Mauskopf and French's second year of treatment for curable patients, which translates into a QALY decrement of 0.027, is used. As described in the introduction to Section 2.1.1.1, the RSR (relative survival rate) is used to determine the probability that a patient will follow either of the three outcomes in a given year (survival, death from bladder cancer, or death from other causes), and a calculation is performed separately for both survivors and non-survivors (who have different RSRs and conditional probabilities of experiencing each outcome).

The time in state, associated QALY scores, and adaptation of both to the *Handbook's* 20 year disease progression are presented in Exhibit N.5a-d.

Exhibit N.5a Derivation of Time in State and QALDs Lost[1] for Bladder Cancer Cases

Health State/ Treatment	Non-Fatal							Fatal						
	Time in State over 2 years of disease progression as defined by M&F		Disability Index	QALY Score[1] for Health State	QALY Decrement[2]	QALDs Lost in 2 years of disease progression as defined by M&F		Time in State over 2 years of disease progression as defined by M&F		Disability Index	QALY Score[1] for Health State	QALY Decrement[2]	QALDs Lost in 2 years of disease progression as defined by M&F	
	Year 1	Year 2				Year 1	Year 2	Year 1	Year 2				Year 1	Year 2
	A	B	C	D	E = 1 - D	F = A * E	G = B * E	H	I	J	K	L = 1- K	M = H * L	N = I * L
Hospital days	10	7	7	0.000	1.000	10.00	7.00	18	35	7	0.000	1.000	18.00	35.00
Days hospital recovery	8	6	6	0.680	0.320	2.56	1.92	14	28	6	0.680	0.320	4.48	8.96
Chemo days	0	0	5	0.900	0.100	0.00	0.00	3	24	6	0.680	0.320	0.96	7.68
Days chemo recovery	0	0	4	0.956	0.044	0.00	0.00	3	24	5	0.900	0.100	0.30	2.40
Radiation days	1	0	5	0.900	0.100	0.10	0.00	7	14	6	0.680	0.320	2.24	4.48
Days radiation recovery	1	0	4	0.956	0.044	0.04	0.00	3	7	5	0.900	0.100	0.30	0.70
Mild distress days[4]	71.5	170	1	0.995	0.005	0.36	0.85	43.5	0	1	0.995	0.005	0.22	0.00
Nursing home days	0					0.00	0.00	0	7	7	0.000	1.000	0.00	7.00
Partial disability days[5]	0					0.00	0.00	0	2.5	4	0.956	0.044	0.00	0.11
Total disability days	0					0.00	0.00	0	41	6	0.680	0.320	0.00	13.12
Total[3]	**91.5**	**183**				**13.06**	**9.77**	**91.5**	**182.5**				**26.50**	**79.45**

Footnotes: 1) Mauskopf & French (1991) (M&F) present QALY scores from previous work by Rosser and Kind. The QALY score represents the degree of wellness experienced while in a given health state, i.e., M&F show that for days in the hospital a person has zero wellness on a scale of 0 to 1.0, with 1.0 being perfect health. 2) The QALY decrement is equal to the decrease in wellness from the patients' initial state prior to illness to health state caused by the illness. In Mauskopf & French, Table IV (p. 624) rates the initial state at 1.0, or perfect health, when the person is not experiencing the effects of the illness. Therefore, the decrement is 1.0 minus the QALY score that M&F present. 3) QALDs are "Quality Adjusted Life Days." 4) Year 1 Mild Distress Days - reduced from 345 to 90 (non-fatal case) and from 317 to 43.5 (fatal case) to reflect the length of time spent in a given state to which this score was applied (1st yr M&F became first 3 months of Handbook disease progression) and to subtract from that time period the number of days spent in greater distress during that period so as not to double count the lack of wellness in a given period.

5) For "Partial Disability Days" for a fatal case in the 2nd yr as defined by M&F (Column I), the exhibit shows 2.5 days; this was 41 days in M&F, but was minimized here so as not to exceed the number of days in the period (total 182.5). Similarly, M&F presents 144 Mild distress days in the 2nd year of fatal illness, which are shown as "0" in this exhibit so as not to exceed the total number of days in the terminal period of 6 months (182.5 days, all at some level of distress as shown above).

Source: Mauskopf & French (1991)

Exhibit N.5b QUALY Decrement Derivation for Bladder Cancer Cases Based on 10 Year Disease Progression[1]

1) 1 - 3 Months Post Diagnosis	**Non-Fatal**	**Fatal**
QALY decrement = QALDs lost/days in period = 13.06 / 91.5 days (non-fatal) and 26.50 / 91.5 days (fatal) =	0.14	0.29
Wtd. Avg. QALY decrement[2] = ((non-fatal QALDs * .74) + (fatal QALDs * .26)) =	0.181	
2) Maintenance Year (based on M&F 2nd yr of non-fatal):	**Non-Fatal and Fatal**	
Annual maintenance decrement = QALDs / days in period = (8.92 QALDs / 365 days) =	0.027	
3) First Year (wtd avg of first 3 months' QALY decrement and 9 months of Maintenance Year QALY decrement)	**Non-Fatal and Fatal**	
QALY decrement Months 1 - 3 = (0.181 * .25 yr) =	0.045	
QALY decrement Months 4 - 12 = (.027 * .75 yr) =	0.020	
Total QALY decrement Year 1 = .045 + .020 =	0.065	
4) Terminal 6 mos.	**Fatal**	
QALY decrement for terminal yr = QALDs lost / days in period = (79.45 days / 182.5 days) =	0.435	
Terminal 6 mos. decrement = (decrement for terminal year) * 0.5 = (.435 * 0.5) =	0.218	

Footnotes: 1) 20 year disease progression is from the EPA *COI Handbook* (1998), and is considered a more reasonable approximation of bladder cancer disease progress than the 2 years described in Mauskopf & French (1991) (M&F). In this exhibit, M&F's time in state and estimates of QALD's lost (Exhibit N.5a) are compressed or expanded to fit the 20 year disease progression, as described in the 4 steps detailed above. 2) Based on 74% survival rate, from EPA *COI Handbook* (1998)

Source: Exhibit N.5a, Mauskopf & French (1991)

Exhibit N.5c QUALY Decrement Derivation for Bladder Cancer Cases Based on 10 Year Disease Progression[1]

	Yr 1, Months 1-3	Yr 1, Months 4-12, and Yrs. 2 – 20	Yr 1 Total	0.5 Yrs. Prior to Death
Non-Fatal				
Presenteeism	1 day * .5 = .5 day	0 days	.50 days .5 days * .25	N/A
Days Lost	19 total days from M&F, Yr. 1 (19 + 0.5 days) * 0.74	13 total days from M&F, Yr. 2	39.91 total lost days 13.23 total lost days if die of other causes ((39.91 days * .25) + (13 days * .25) = 13.23)	
Fatal				
Presenteeism	0 days	Same as Non-Fatal up until the last 6 months of life; (see ".5 Yrs. Prior to Death" column at far right).	.50 days .13 days if die of other causes (.5 days * .25 = .13 days)	2.5 days * .5 = 1.25 days
Days Lost	48 days in M&F, Yr. 1 48 * 0.26		39.91 days 13.23 days if die of other causes ((39.91 days * .25)+(13 days*.25) = 13.23)	180 days in M&F, Yr. 2 180 + 1.25 = 181.25
Wtd Avg				
Presenteeism		N/A	N/A	N/A
Days Lost	(19.5 * .74) + (48 * .26) = 26.91			

Notes: Days lost and Presenteeism days are derived from Mauskopf & French (year) and the Rosser Kind Disability Index scale on which M&F based their QALY decrements for bladder cancer (Exhibit N.5a). Days indexed at 5 – 10 are considered lost days to the patient, and days indexed at 3 or 4 are considered days of presenteeism. For the first 3 months after diagnosis, a weighted avg of days lost is used to reflect that the status of the case (non-fatal or fatal) is not known at that time. The 20 year total per average case is calculated using the probability matrix based on relative survival rates from the EPA COI Handbook (Exhibits N.5d).

Exhibit N.5d Application of Probabilities of Outcomes1 to QALY Decrements

Years post-diagnosis (*n*)	Non-Fatal Bladder Cancer, Conditional Probability of Surviving through the *n* th year	Non-Fatal Bladder Cancer,Conditional Probability of Dying of some other cause in the *n* th year	QALY decrement associated with survival, undiscounted	QALY decrement associated with survival, discount 3%	QALY decrement associated with survival, discount 7%	Annual QALY loss, undiscounted	Annual QALY loss, discount 3%	Annual QALY loss, discount 7%
0								
1	0.966	0.034	0.065 [2]	0.065	0.065	0.06455	0.065	0.065
2	0.934	0.033	0.027 [3]	0.026	0.025	0.02566	0.025	0.024
3	0.900	0.034	0.027	0.025	0.024	0.02476	0.023	0.022
4	0.865	0.035	0.027	0.025	0.022	0.02383	0.022	0.019
5	0.828	0.036	0.027	0.024	0.021	0.02284	0.020	0.017
6	0.791	0.037	0.027	0.023	0.019	0.02186	0.019	0.016
7	0.752	0.039	0.027	0.023	0.018	0.02083	0.017	0.014
8	0.713	0.040	0.027	0.022	0.017	0.01979	0.016	0.012
9	0.672	0.041	0.027	0.021	0.016	0.01870	0.015	0.011
10	0.631	0.041	0.027	0.021	0.015	0.01759	0.013	0.010
11	0.589	0.042	0.027	0.020	0.014	0.01647	0.012	0.008
12	0.546	0.043	0.027	0.020	0.013	0.01532	0.011	0.007
13	0.503	0.043	0.027	0.019	0.012	0.01416	0.010	0.006
14	0.459	0.044	0.027	0.018	0.011	0.01299	0.009	0.005
15	0.415	0.044	0.027	0.018	0.010	0.01180	0.008	0.005
16	0.376	0.039	0.027	0.017	0.010	0.01068	0.007	0.004
17	0.341	0.035	0.027	0.017	0.009	0.00968	0.006	0.003
18	0.309	0.032	0.027	0.016	0.009	0.00878	0.005	0.003
19	0.281	0.028	0.027	0.016	0.008	0.00797	0.005	0.002
20	0.255	0.025	0.027	0.015	0.007	0.00722	0.004	0.002
		Total QALY loss for Non-Fatal cases of bladder cancer				**0.375**	**0.312**	**0.255**

Footnotes: 1) Each diagnosed case has a probability in a given year in the 20 year illness horizon to experience 1 of 3 potential outcomes: survival, death from bladder cancer, and death from other causes, based on the relative survival rates. 2) Non-Fatal cases 1st year = (wtd avg of fatal / nonfatal for months 1 - 3) + (9 months of a Maintenance Year for months 4 - 12) = (.181 QALYs/yr * .025 yr) + (.027 QALYs/yr * .075 yr) = .065 QALYs. 3) Non-Fatal cases Yrs 2 - 19 (inclusive) will be Maintenance Yrs., equal to decrement for 2nd year of Non-Fatal in M&F = .027.

Exhibit N.5d *continued* Application of Probabilities of Outcomes1 to QALY Decrements

Years post-diagnosis (*n*)	Fatal Bladder Cancer, Conditional Probability of Surviving through the *n* th year	Fatal Bladder Cancer, Conditional Probability of Dying of bladder cancer in the *n* th year	QALY decrement associated with death in year *n*, undiscounted	QALY decrement associated with death in year *n*, discount 3%	QALY decrement associated with death in year *n*, discount 7%	QALY loss for fatal cases, undiscounted	QALY loss for fatal cases, discount 3%	QALY loss for fatal cases, discount 7%
0								
1	0.494	0.506	0.154 [4]	0.154	0.154	0.11	0.11	0.11
2	0.451	0.043	0.218 [5]	0.212	0.204	0.02	0.02	0.02
3	0.410	0.041	0.218	0.205	0.190	0.02	0.02	0.02
4	0.371	0.039	0.218	0.200	0.178	0.02	0.02	0.02
5	0.334	0.037	0.218	0.194	0.166	0.02	0.02	0.01
6	0.299	0.035	0.218	0.188	0.155	0.02	0.01	0.01
7	0.266	0.033	0.218	0.183	0.145	0.01	0.01	0.01
8	0.234	0.031	0.218	0.177	0.136	0.01	0.01	0.01
9	0.205	0.030	0.218	0.172	0.127	0.01	0.01	0.01
10	0.177	0.028	0.218	0.167	0.119	0.01	0.01	0.01
11	0.151	0.026	0.218	0.162	0.111	0.01	0.01	0.00
12	0.127	0.024	0.218	0.157	0.104	0.01	0.01	0.00
13	0.105	0.022	0.218	0.153	0.097	0.01	0.01	0.00
14	0.085	0.020	0.218	0.148	0.090	0.01	0.00	0.00
15	0.067	0.018	0.218	0.144	0.085	0.01	0.00	0.00
16	0.051	0.016	0.218	0.140	0.079	0.00	0.00	0.00
17	0.036	0.015	0.218	0.136	0.074	0.00	0.00	0.00
18	0.023	0.013	0.218	0.132	0.069	0.00	0.00	0.00
19	0.011	0.012	0.218	0.128	0.064	0.00	0.00	0.00
20	0.000	0.011	0.218	0.124	0.060	0.00	0.00	0.00
		Total QALY loss for Fatal cases of bladder cancer				**0.310**	**0.274**	**0.241**

4) Fatal cases Yr. 1 = First 3 mos. Spent in diagnositics (same as Survivors, because at that point don't know case is fatal). Months 4 - 6 spent in terminal phase. (.181/yr * .25 yr) + (.435/yr * .25 yr) = 0.154. 5) Assume fatality occurs halfway through year: 0.435/yr * 0.5 yr = .218.

Sources: Probabilities are from the EPA *COI Handbook* (1998). The *Handbook* develops these estimates based on a cohort diagnosed at age 70, which is the mean age of diagnosis. Decrements are adapted from Mauskopf & French (1991).

Using the information and methods described above, this analysis calculates the weighted average QALY loss per case of morbidity associated with fatal and non-fatal bladder cancer (Exhibit N.6).

Exhibit N.6 QALY Loss Due to Morbidity for an Average Case (Fatal and Non-Fatal) of Bladder Cancer at 3 Percent and 7 Percent Discount Rates

	Undiscounted	3 Percent	7 Percent
Non-Fatal	0.375	0.312	0.255
Fatal	0.310	0.274	0.241

Sources: QALY estimates used to generate this table were developed based on Mauskopf and French (1991). Decrements shown are for a weighted average case, calculated using probabilities of survival that are taken from The EPA *Cost of Illness Handbook* (p. II.8-27, downloaded at http://www.epa.gov/oppt/coi/ in January 2005). The *Handbook* presents 20 years as a reasonable approximation of the period over which most fatalities in a given cohort will occur.

Note: The QALY loss associated with morbidity is greater for survivors than nonsurvivors because they live longer, and endure the illness longer, on average.

The next section of this appendix applies the bladder cancer QALY decrement to all estimated cases of bladder cancer morbidity that the Stage 2 DBPR is expected to prevent.

N.2.1.1.2 Applying the QALY decrement to cases of morbidity

An estimate of the number of bladder cancer cases that are predicted to be avoided by promulgation of the Stage 2 DBPR is developed in the EA of this rule. This estimate is based upon the smoking/lung cancer cessation lag model which accounts for the lapse in time following the reduction in DBPs exposure prior to realization of the full benefit of the rule. The full benefit is realized in the population when enough time has lapsed so that the reduced concentration of DBPs in drinking water has achieved its maximal potential reductive effect on the number of bladder cancer cases being diagnosed in the population. This improved state is called the new “steady state” of the level of bladder cancer cases diagnosed that are caused by accumulated exposure to public drinking water. This model uses Total Trihalomethanes (TTHMs) as an indicator for DBPs in drinking water.

The number of cases to be avoided as shown in this Appendix is less than the numbers shown in the main EA of the Stage 2 DBPR. This is because the EA performs a discounting of the results in the valuation step, whereas this Appendix discounts the cases prior to valuation (from the diagnosis back to rule implementation) to make presentation of the methods for this analysis clearer. The QALY decrement and avoided medical costs are both discounted only over the period of illness, so the discounting can be thought of as occurring in two separate and subsequent phases for a given case avoided.

The sequence of events that are modeled and the discounting procedure used in this analysis is as follows:

1. The rule is promulgated, leading to reductions in exposures in all years following promulgation. For example, after rule promulgation in 2005, exposures to disinfection by-products in some systems are reduced in the year 2010.
2. As a result of the exposure reduction in 2010, some bladder cancer cases are avoided right away, in 2010. Others take time to manifest as benefits of the reduced exposure - that is, the benefit is realized after a cessation time lag. For example, some benefits won't be realized until 2015.
3. A case that would have been diagnosed in 2015, but is prevented by the rule, would have resulted in treatment for up to the next 20 years - that is, the 20 year follow-up period that we use to model the effects on quality of life.

The procedure used in this analysis is designed to recognize time delays associated with steps 2 and 3 above. Discounting is performed at the same rates (3 and 7 percent), but in separate procedures, for these two sequential time delays.

Standard economic theory suggests that benefits occurring in future years should be discounted relative to benefits occurring in the present. In Circular A-4, OMB presents the following discussion:

> When future benefits or costs are health-related, some have questioned whether discounting is appropriate, since the rationale for discounting money may not appear to apply to health. It is true that lives saved today cannot be invested in a bank to save more lives in the future. But the resources that would have been used to save those lives can be invested to earn a higher payoff in future lives saved. People have been observed to prefer health gains that occur immediately to identical health gains that occur in the future. Also, if future health gains are not discounted while future costs are, then the following perverse result occurs: an attractive investment today in future health improvement can always be made more attractive by delaying the investment. For such reasons, there is a professional consensus that future health effects, including both benefits and costs, should be discounted at the same rate. This consensus applies to both BCA and CEA. (p. 34)

In applying QALY decrements, discounting of the decrement is necessary only if participants in the QALY elicitation process considered years gained in the future to be of equal value to those gained in the present. This analysis assumes that respondents to the Rosser Kind Health Status Index survey did not incorporate any discounting in their responses (note that the Mauskopf and French analysis assumes only two year follow-up period, for example), although the factors that respondents took into account cannot now be determined. Whether a QALY decrement has embedded discounting is unclear in the literature, and may vary with the method of elicitation used. For example, QALY decrements based upon the time-trade off method of elicitation "…implicitly assume that additional years of life are valued equally, that is, there is no discounting of health years" (Boardman et al, 1996). Similarly, OMB states that the QALY survey process "implicitly assumes that the fraction of remaining lifespan an individual would give up for an improvement in health-related quality of life does not depend on the remaining lifespan" (OMB, 2003). The NAS/IOM panel on CEA is currently considering this and other issues, on which it may (or may not) reach consensus by publication of its report, expected in late 2005.

Because implementation and monitoring costs occur before any health benefits begin and the costs to install technology are assumed in the analysis to be incurred the year before benefits accrue, the overall CEA results are sensitive to the discount rate used. EPA and OMB guidance documents suggest discount rates of 3 and 7 percent. A 3 percent discount rate reflects the accepted "social rate of time preference" and is consistent with recommendations of both the U.S. Public Health Service Panel on Cost Effectiveness in Health and Medicine and the NAS panel on CEA (Gold et al., 1996). To examine the impact of the choice of discount rate, EPA also calculates all values of this CEA using a 7 percent rate, consistent with an "opportunity cost of capital" concept to reflect the time value of resources directed to meet regulatory requirements, as recommended by OMB guidance. Further discussion of this topic appears in Chapter 7 of Gold et al. (1996) and in Chapter 6 of the EPA Guidelines for Economic Analysis.

As described previously in the third paragraph of this section, the discount rates (3 percent and 7 percent) are applied to the period between rule promulgation and diagnosis by discounting the cases; and to the period after diagnosis by discounting the QALY decrement throughout the 20 years of illness.

Finally, using the equations below, which illustrate the calculation for a 7 percent discount rate, the annualized estimate of bladder cancer cases to be avoided is multiplied by the QALY decrement per case of bladder cancer to yield a total estimated number of QALYs saved (Exhibit N.7).

(0.255 QALYs per case) X (annualized non-fatal bladder cancer cases)
(0.241 QALYs per case) X (annualized fatal bladder cancer).

The morbidity (QALY decrement) per case is higher for survivors because morbidity is, on average, experienced for a longer time by that group. As mentioned earlier in this Appendix, approximately 26 percent of patients will not survive the estimated 20-year period of illness.

Exhibit N.7 QALYs Saved for Morbidity Related to Fatal and Non-Fatal Cases of Bladder Cancer Avoided, by Rule Alternative, 3 and 7 Percent Discount Rates

Rule Alternative	Cases Avoided	Non-Fatal Cases[1]	Fatal Cases[1]	Morbidity-Related QALYs[2]		Morbidity-Related QALYs, Fatal and Non-Fatal Cases
				Non-Fatal Cases	Fatal Cases	
	A	B = A * 0.74	C = A * 0.26	D = B * .312 QALYs/case (3%) D = B * .255 QALYs/case (7%)	E = C * .274 (3%) E = C * .241 (7%)	F = D + E
3 Percent						
Preferred	238	176	62	55	17	72
Alternative 1[3]	215	159	56	50	15	65
Alternative 2	806	596	210	186	57	243
Alternative 3	1,112	823	289	257	79	336
7 Percent						
Preferred	189	140	49	36	12	47
Alternative 1[3]	171	126	44	32	11	43
Alternative 2	640	474	166	121	40	161
Alternative 3	883	654	230	167	55	222

Sources: Column A: Exhibits E 17, 19-21(d) in Appendix E

Notes: Estimates are discounted and annualized. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 26 percent of cases are fatal, 74 percent are non-fatal (USEPA 1999a). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnotes: 1) Per the EPA *COI Handbook* , 20 years captures most deaths that result from bladder cancer, and the mortality rate over that period is 26%. As modeled in the relative survival rate analysis used in the *Handbook* , the age of the individual does not affect the mortality rate for bladder cancer, but does affect the mortality rate for death from all other causes, consistent with standard life tables. 2) QALY decrements derived using QALY scores from Mauskopf and French and duration, stages of illness, and relative survival rates from the *Handbook* . 3) Alternative 1 appears to have fewer benefits than the Preferred Alternative because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

N.2.1.2 Life years saved from avoided cases of premature mortality from bladder cancer

As shown in the previous section, the denominator of the CEA ratio includes QALYs saved (in the form of life year equivalents) from avoided morbidity in non-fatal cases of bladder cancer. Additionally, it includes life years saved that are associated with the pre-death morbidity for avoided fatal cases. A different method applies for calculating life years saved from avoided premature mortality, as this section will show. This computation, which does not involve a QALY decrement, is simply the aggregate number of projected life years saved for individuals in the population who would die prematurely from bladder cancer without the regulation.

According to the *Handbook* (1999), the average age of onset is 70. This analysis uses the relative survival rates that are developed in the *Handbook* which are based on a cohort diagnosed at the mean age of 70. A more detailed analysis would consider the distribution of age of onset, and model RSR for each cohort, but that would require significantly more resources and is not likely to add significantly to the precision of our CEA results.

This analysis computes the number of years of life expectancy preserved for cases avoided through implementation of the Stage 2 DBPR that would have ultimately been fatal. For each single-year cohort aged 70 to 90, Exhibit N.8 shows the life expectancy for the general population (National Vital

Statistics Reports[8]). Each cohort aged 70 to 90 is associated with an estimated probability of survival through the end of that year, based on the condition that one has survived until that year. The conditional probability of dying of bladder cancer in the nth year (n = 1 to 20, or age 70 to 90) for bladder cancer nonsurvivors is then multiplied by the number of remaining years of life expectancy for each given cohort. The resulting product is the life expectancy for each cohort that is proportional to the probability that a case will be fatal in that cohort. These proportions are summed across the 20 cohorts, yielding a weighted average life expectancy per fatal case avoided. The annualized number of fatal cases avoided is then multiplied by this average weighted life expectancy to produce an annualized number of life years saved for avoided mortality (Exhibit N.9). Because this analysis assumes that all cases are diagnosed at the age of 70, it will likely underestimate the number of years of life expectancy preserved across the population by promulgation of the rule.

[8] National Vital Statistics Reports, Vol. 51, No. 3, December 29, 2002, "Life table for the total population: United States, 2000."

Exhibit N.8 Life Years Saved Per Fatal Case of Bladder Cancer Avoided

Age *X*	Percent of patients who die of bladder cancer in period *X*	Life Expectancy at age *X*	Undiscounted life years saved, per fatal case	Life years saved, per fatal case (3%)	Life years saved, per fatal case (7%)
A	B	C	D= B * C	E = D / (1.03^(X-70))	F = D / (1.07^(X-70))
70					
71	50.6%	13.8	6.98	6.78	6.53
72	4.3%	13.1	0.56	0.53	0.49
73	4.1%	12.5	0.51	0.47	0.42
74	3.9%	11.9	0.46	0.41	0.35
75	3.7%	11.3	0.42	0.36	0.30
76	3.5%	10.7	0.37	0.31	0.25
77	3.3%	10.2	0.34	0.27	0.21
78	3.1%	9.6	0.30	0.23	0.17
79	3.0%	9.1	0.27	0.21	0.15
80	2.8%	8.6	0.24	0.18	0.12
81	2.6%	8.1	0.21	0.15	0.10
82	2.4%	7.6	0.18	0.13	0.08
83	2.2%	7.2	0.16	0.11	0.07
84	2.0%	6.7	0.13	0.09	0.05
85	1.8%	6.3	0.11	0.07	0.04
86	1.6%	6.0	0.10	0.06	0.03
87	1.5%	5.6	0.08	0.05	0.03
88	1.3%	5.3	0.07	0.04	0.02
89	1.2%	5.0	0.06	0.03	0.02
90	1.1%	4.7	0.05	0.03	0.01
	1.0		11.62	10.53	9.44

Notes: Based on Table II.8-6, EPA *Cost of Illness Handbook* . Estimates are discounted and annualized. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: 70 years of age is the mean age of diagnosis, and is used in the *Handbook* as the age of diagnosis for a cohort for whom mortality was tracked. In the absence of information on mortality for cohorts diagnosed at other ages, the *Handbook* estimates of Relative Survival Rates are the basis of calculations of the mortality rate applied to all cases (and all age cohorts) considered in this analysis . According to the *Handbook* , 43.4% of all bladder cancers are diagnosed before the age of 70 (p. II.8-4).

Source: Column C: National Vital Statistics Reports, Vol. 51, No. 3, December 29, 2002, "Life table for the total population: United States, 2000

Exhibit N.9 Total Life Years Saved for Fatal Cases of Fatal Bladder Cancer Avoided, by Rule Alternative

Regulatory Alternative	Fatal Cases	Life Years Saved
	A	**B = A * 10.53**
3% Discount Rate		
Preferred Alternative	62	653
Alternative 1[1]	56	588
Alternative 2	210	2,205
Alternative 3	289	3,043
7% Discount Rate		
	A	**B = A * 9.44**
Preferred Alternative	49	463
Alternative 1[1]	44	419
Alternative 2	166	1,572
Alternative 3	230	2,168

Notes: Estimates are discounted and annualized over the 25 year period of analysis. Notes: Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 26 percent of cases are fatal, 74 percent are non-fatal (USEPA 1999a). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibits E.38a, E40.a - E.41a
Column B: Exhibit N.8

N.2.1.3 MILYs saved from reduced morbidity and premature mortality for avoided cases of bladder cancer

The use of QALYs allows for integration of life year equivalents gained from avoided morbidity (QALYs) with life years gained by avoidance of premature mortality (life years). As mentioned in the Introduction to this Appendix, this measure is referred to in this CEA and in the RIA for the Final Clean Air Interstate Rule (CAIR, 2005) as "Morbidity Inclusive Life Years" (MILYs). As in the CAIR analysis, this analysis assumes that all individuals start with a baseline quality of life equal to 1.0: there is no deduction from life years gained to account for individual differences in baseline health or functionality in the population.

In this CEA, MILYs (Exhibit N.10 below, Column C) are calculated as follows (all values are annualized):

MILYs = (QALYs saved from avoided morbidity) + (life years saved from avoided mortality)

for each regulatory alternative.

Based on a 3 percent discount rate, the MILYs saved are highest in the most stringent alternative and would normally be lowest in the least stringent alternative. However, the Preferred Rule captures more benefits than Alternative 1 in spite of the greater stringency of Alternative 1, which is the result of incorporating the IDSE[9]. This comparison using a 7 percent discount rate exhibits the same pattern (Exhibit N.10).

Exhibit N.10 MILYs for Fatal and Non-Fatal Cases of Bladder Cancer, by Rule Alternative, 3 and 7 Percent Discount Rate

Rule Alternative	Morbidity-Related QALYs, Fatal and Non-Fatal Cases	Life-Years Saved from Avoided Premature Mortality	MILYs
	A	B	C
	–	–	A + B
3% Discount Rate			
Preferred	72	653	725
Alternative 1[1]	65	588	652
Alternative 2	243	2,205	2,449
Alternative 3	336	3,043	3,379
7% Discount Rate			
Preferred	47	463	510
Alternative 1[1]	43	419	462
Alternative 2	161	1,572	1,733
Alternative 3	222	2,168	2,390

Notes: All numbers are discounted and annualized. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibit N.7, Column F
Column B: Exhibit N.9, Column B

[9] Alternative 1 appears to have fewer benefits than the Preferred Alternative because it does not incorporate the IDSE, as explained in Chapter 4 of the Stage 2 DBPR EA. Furthermore, the EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

N.2.2 The CEA Numerator: Deriving Net Cost

N.2.2.1 Identifying costs to be subtracted from the numerator

The numerator in any cost-effectiveness calculation is an estimate of the relevant costs to achieve the change in health state characterized by the effectiveness measure. For environmental decision-making, regulatory costs of particular options are the appropriate starting point for defining the numerator in a cost-effectiveness assessment of environmental improvement options.

In medical CEAs, net costs of disease treatment are included in the numerator for those interventions involving treatment. In the environmental protection context, the handling of disease treatment costs depends on the scope of the effectiveness measure. If the QALY score reflects a health state after treatment is administered, then the costs of treatment necessary to achieve that health state must be subtracted from the regulatory costs to yield the net cost of avoiding a QALY decrement.[10] In the context of the Stage 2 DBPR, the appropriate measure of costs in the numerator includes the regulatory costs to prevent bladder cancer, net of any costs incurred as a consequence of contracting bladder cancer that are reasonably expected not to be reflected in the QALY denominator. This analysis assumes that lost time and medical costs ought to be subtracted from the cost numerator, as done in the analysis performed for the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) and in the CAIR RIA.

As will be explained further in the section on Valuing time losses, costs in this analysis are calculated based on two approaches: Enhanced Cost of Illness (ECOI) and Traditional Cost of Illness (TCOI). As defined in the LT2ESWTR, ECOI places a value on lost leisure time and non-market work time, a calculation which produces a value that is about 60% of the rate at which it values market work time. In comparison, TCOI does not value lost leisure time and values non-market work time at half of the rate under the Enhanced approach. The remaining exhibits will present computations for both approaches.

Estimating medical costs over the disease progression

Medical costs are taken from Chapter II.8 of the EPA Cost of Illness Handbook (1999) and follow the natural history of disease progression presented in the Handbook over the estimated 20 year period of illness (initial period costs in the first year, maintenance costs for subsequent years, and terminal costs in the final year of fatal cases). Medical costs are discounted over this progression, and this stream is computed as a net present value that is assigned to the first year of the avoided illness (the year of diagnosis). This is applied to cases avoided in each of the 25 years of analysis. For each subsequent year after the first year, the net present value (NPV) of the medical cost stream is discounted by 3 percent and 7 percent to account for time preferences for normal goods. Medical costs, shown in Exhibits N.14a-b, are the same for the ECOI and TCOI approaches.

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[10] Subtracting costs from the numerator is not appropriate when the same costs are considered by participants (elicitees) in the QALY elicitation process. If the costs are already reflected as a component of the QALY decrement, the denominator of the dollars-per-MILY measure will also account for them, and subtracting them from regulatory costs in the numerator would in effect be double-counting the cost avoidance. Therefore, selection of appropriate costs to subtract from the numerator requires careful consideration of the QALY decrement used in the analysis.

Estimating patient time losses over the disease progression

Time losses associated with cases of bladder cancer may include (1) a reduction in time (hours) engaged in normal activities and (2) an additional loss of productivity (or effectiveness) that occurs even when the ill individual continues to engage in normal activities. Reductions in time (or hours) would result, for example, when an ill individual spends time on doctor visits, bed rest, or in the hospital rather than engaging in normal market and non-market work. Time losses due to reduced productivity while on the job are discussed later in this Appendix.

To be consistent with the estimation of medical costs used in this analysis, the number of days lost (as presented in Mauskopf and French (1991) in their development of QALY decrements for bladder cancer) are adapted to be consistent with the same disease progression. This method was explained further in section 2.1.1.1 of this Appendix (Exhibit N.5a). For time losses, this analysis compresses the authors' first year's time loss for fatal and non-fatal cases each into 3 months and takes the weighted average of time losses for fatal and non-fatal cases; the result is applied to the first 3 months of intense diagnosis and treatment in this CEA. The time losses for the second year of a non-fatal case are applied to the last 9 months of the first year and to all maintenance years in this CEA, and the authors' report of losses in the second year for a fatal case are used to characterize the last 6 months of a fatal case in this analysis (Exhibit N.5c). This analysis uses the definitions of disability (presented in the Rosser and Kind index in Exhibit N.4 of this Appendix and in Exhibit N.12 below) for determining which treatment days presented by the authors qualified as lost work days. Those days indexed at a level of 5 or 6 (on a scale of 8, with 8 meaning the patient is unconscious) are by definition non-work days. Those days indexed at 4 are defined as days of reduced productivity (presenteeism).

The resulting number of days lost per year of illness is modified using the same probability matrix that is used to calculate the QALY decrements per average case avoided, as described in Section 2.1.1.1 of this Appendix. This matrix incorporates the relative probabilities for the various outcomes (survival, death from bladder cancer, and death from other causes) and discounts the decrement over the progression of the disease. As with medical costs, this stream of time loss over the disease progression is computed as a NPV and assigned to the first year in the period of analysis (to apply to all cases diagnosed in that year). For each subsequent year after the first year of the 25-year analysis period, the NPV of the time loss streams are discounted by 3 percent and 7 percent to account for time preferences for normal goods or benefits. Exhibits N.11a-c show the assumptions used in this analysis based on the Rosser Kind Index (Exhibit N.11a), the application of time losses from Mauskopf & French (Exhibit N.5a) to the 20 year disease progression described in the EPA COI Handbook (Exhibit N.11b), and the use of the Handbook-derived probabilities of outcomes to these time losses (N.11c) for patient time losses. The calculations for caregiver and presenteeism time losses, described in subsequent paragraphs, are not shown below but were derived by the same method.

Estimation of productivity lost as presenteeism

Additional losses occur when the individual continues to engage in normal activities, but is less productive or finds them less enjoyable due to illness. In the work setting, reduced productivity is termed "presenteeism." After calculating the mean duration of illness, data on the days with lost productivity (i.e., work is done but with reduced productivity) can be derived by subtracting the mean number of days lost (where no work is done) from the mean duration of illness. In the absence of information specific to bladder cancer, this analysis assumes a 9% productivity loss[11] for an average case of "any cancer," as shown in Goetzel et al. (2004). Consistent with the method of application in the LT2ESWTR EA, this analysis assumes that the dollar value (i.e., the utility loss, estimated based on opportunity costs) of this

[11] Goetzel et al. estimate that for presenteeism in the average case of "any cancer," 0.7 hrs. are lost per day for a 240-day year: 0.7/8.0 = .0875, or approximately 9%.

reduction is equal to the reduction in productivity multiplied by the relevant dollar-per-hour value (from Exhibit N.11). As in the QALY analysis of Appendix U of the LT2ESWTR, presenteeism is accounted for only in the Enhanced COI, not in the Traditional COI approach.

Estimation of caregiver time losses

In calculating caregiver time losses, as with patient time losses, the Rosser Kind disability index provides a basis for determining when a patient will require a caregiver's assistance. This CEA assumes that for hospital time no caregiver is needed (professional help is provided). For a Disability Index of 6, a caregiver is, by definition, needed (Exhibit N.11a). For an index of 5, a caregiver is needed an estimated 50% of the time, consistent with the assumption that half of the days spent at home for a post hospital recuperation will be assisted by a caregiver. For an index of 4, this CEA estimates that a patient will be off work and at home 50% of the time, as the definition states that "choice of work or performance at work severely limited" (interpreted here to mean the choice of whether to work was limited). This analysis also assumes that less caregiving is needed at an index of 4 than at 5: instead of having assistance 1/2 of the time an assumption of 1/4 is used, which combined with the assumption that half of the time is spent at home yields a net caregiver time allocation of 1/8 (1/4 * 1/2 = 1/8 = 12.5%).

Exhibit N.11a Rosser Kind Index and Determination of Time Losses

Disability Level	Disability Description	Patient Time Loss (% of patient day)	Caregiver Time Loss (% of caregiver day)	Presenteeism (% of patient day)
8	Unconscious	100%	none (assumed to be in hospital receiving professional care)	none
7	Not in 8 but confined to bed	100%	100%	none
6	Not in 7 but confined to chair or wheelchair or able to move around in the home only with support from an assistant	100%	100%	none
5	Not in 6 but unable to undertake any paid employment. Unable to continue any education. Elderly people confined to home except for escorted outings and short walks and unable to do shopping. Housewives only able to perform a few simple tasks.	100%	50% (Assume half of days spent at home for post-hospital recuperation will be assisted by caregiver)	none
4	Not in 5 but choice of work or performance at work very severely limited. Housewives and the elderly able to do light housework only, but able to go out shopping.	50%	12.5% (Assume ¼ of days spent at home will be assisted by caregiver; and assume half of the patients' days are spent at home.	9% of 50% of days (patient is assumed to work half the time, and 9% of that time is assumed lost to presenteeism)
3	Not in 4 but severe social disability and/or slight impairment of performance at work. Able to do all housework except very heavy tasks.	n/a	n/a	n/a
2	Not in 3 but slight social disability.	n/a	n/a	n/a
1	No disability.	none	none	none

"Adapted from Rosser RM. A health index and output measure. In: Walker SK, Rosser RM, eds. Quality of life assessment and application. Lancaster MTP Press. 1987: Table 7.1."
Note: "n/a" indicates that this distress/disability level is not applied by Mauskopf & French to their QALY derivation for bladder cancer patients.

Exhibit N.11b Patient Time Losses Adapted from Mauskopf & French (1991)

Time Loss Category	Calculation	No. Days Lost
Year 1, First 3 Months (weighted average between fatal and nonfatal cases, includes all missed days for Year 1)		
Patient Days	19 days at DI=5,6,7 and 1 day at DI = 4 Non-fatal cases 48 days at DI=5,6,7 and 0 days at DI = 4 Fatal cases ((19+.5)*0.74)+(48*0))	26.91
Presenteeism	0.50 is half of the missed days at DI = 4	0.50
Maintenance Year (second year of non-fatal)		
Patient Days	13 days at DI=5,6,7	13.00
Presenteeism	0 days at DI=4	0.00
Year 1 Total: Diagnostic Period + 3/4 Maintenance Year		
Lost Days	26.91 + (.75 * 13)	36.66
Lost Days When Die of Other Causes	Yr 1 First 3 Months + .25 * Maintenance Period = 26.91 + (.75 * 13)	30.16
Presenteeism	= 0.5 + 0	0.50
Presenteeism When Die of Other Causes	.50 + (.25*0)	0.50
Terminal 6 Months (second year of fatal)		
Lost Days	180 days (DI=5,6,7) + (0.50 * 3 days at DI=4)	181.50
Presenteeism	180 of 183 days in the last 6 months are lost days; only 3 of the 41 days at DI = 4 experienced in the last year are then counted, and only 50% are presenteeism days (0.5 * 3 = 1.5).	1.50

Source for days lost: Mauskopf and French (1991) (see Exhibit N.5a)

Notes: 1. Using the Disability Scale from Rosser, disability of 5 and above will mean day of absense; Disability of 4 will mean absence 50% of the time, and presenteeism the other 50% of the time. For days of presenteeism, assume a 9% loss of productivity based on Goetzel's estimates (average hours lost per 8 hour day = 0.7). 2. This analysis assumes fatalities occur halfway through the year and that the first 6 months of the fatal year includes the entire 2nd year of lost days presented by Mauskopf and French for a fatal case.

Exhibit N.11c Total Patient Time Loss for a Non-Fatal Case of Bladder Cancer

Years post-diagnosis (*n*)	Non-fatal cases, Conditional Probability of Surviving through the *n* th year	Non-fatal cases, Conditional Probability of Dying of some other cause in the *n* th year	Time loss associated with survival	Time loss associated with survival, discount 3%	Time loss associated with survival, discount 7%	Annual time loss, undiscounted[1]	Annual time loss, 3 percent discount	Annual time loss, 7 percent discount
A	B	C	D	E = D / 1.03^(n-1)	F = D / 1.07^(n-1)	G=(B*D)+(C*D*.5)	H=G/1.03^(n-1)	I=G/1.07^(n-1)
0								
1	0.966	0.034	36.66	36.66	36.66	36.44	36.04	36.04
2	0.934	0.033	13.00	12.62	12.15	12.36	12.00	11.55
3	0.900	0.034	13.00	12.25	11.35	11.92	11.24	10.41
4	0.865	0.035	13.00	11.90	10.61	11.47	10.50	9.36
5	0.828	0.036	13.00	11.55	9.92	11.00	9.77	8.39
6	0.791	0.037	13.00	11.21	9.27	10.52	9.08	7.50
7	0.752	0.039	13.00	10.89	8.66	10.03	8.40	6.68
8	0.713	0.040	13.00	10.57	8.10	9.53	7.75	5.93
9	0.672	0.041	13.00	10.26	7.57	9.00	7.11	5.24
10	0.631	0.041	13.00	9.96	7.07	8.47	6.49	4.61
11	0.589	0.042	13.00	9.67	6.61	7.93	5.90	4.03
12	0.546	0.043	13.00	9.39	6.18	7.38	5.33	3.50
13	0.503	0.043	13.00	9.12	5.77	6.82	4.78	3.03
14	0.459	0.044	13.00	8.85	5.39	6.25	4.26	2.59
15	0.415	0.044	13.00	8.59	5.04	5.68	3.76	2.20
16	0.376	0.039	13.00	8.34	4.71	5.14	3.30	1.86
17	0.341	0.035	13.00	8.10	4.40	4.66	2.90	1.58
18	0.309	0.032	13.00	7.87	4.12	4.23	2.56	1.34
19	0.281	0.028	13.00	7.64	3.85	3.84	2.25	1.13
20	0.255	0.025	13.00	7.41	3.59	3.48	1.98	0.96
			Total time loss for non-fatal cases of bladder cancer			**186.14**	**155.39**	**127.96**

Notes: 1) The Annual time loss includes time loss associated with both survival of the bladder cancer and death from other causes. For the percentage of cases that result in death from other causes, just 1/2 of a year is lived. The first year losses include the time loss associated with the initial diagnostic period.
Sources: Columns B,C - Based on Relative Survival Rates from the EPA COI Handbook (1998); Column D - Exhibit N.11b.

Exhibit N.11c (*continued*) Total Patient Time Loss for a Fatal Case of Bladder Cancer

Years post diagnosis (*n*)	Fatal Cases, Conditional Probability of Surviving through the *n* th year	Fatal Cases, Conditional Probability of Dying of bladder cancer in the n the *n* th year	Time loss associated with survival in year *n*	Time loss associated with survival in year *n* , 3 percent	Time loss associated with survival in year *n* , 7 percent	Time loss associated with death in year *n*	Time loss associated with death in year *n* , 3 percent[2]	Time loss associated with death in year *n* , 7 percent	Time loss for fatal cases, undiscounted	Time loss for fatal cases, 3 percent	Time loss for fatal cases, 7 percent
J	K	L	M = D	N=M/1.03^(n-1)	O=M/1.07^(n-1)	P	Q=P/1.03^(n-1)	R=P/1.07^(n-1)	S=N+P	T=S/1.03^(n-1)	U=S/1.07^(n-1)
0											
1	0.494	0.506	36.66	36.66	36.66	117.66	117.66	117.66	77.65	77.65	77.65
2	0.451	0.043	13.00	12.62	12.15	181.50	176.21	169.63	13.67	13.27	12.77
3	0.410	0.041	13.00	12.25	11.35	181.50	171.08	158.53	12.77	12.04	11.16
4	0.371	0.039	13.00	11.90	10.61	181.50	166.10	148.16	11.90	10.89	9.72
5	0.334	0.037	13.00	11.55	9.92	181.50	161.26	138.47	11.06	9.82	8.44
6	0.299	0.035	13.00	11.21	9.27	181.50	156.56	129.41	10.24	8.83	7.30
7	0.266	0.033	13.00	10.89	8.66	181.50	152.00	120.94	9.45	7.91	6.30
8	0.234	0.031	13.00	10.57	8.10	181.50	147.58	113.03	8.67	7.05	5.40
9	0.205	0.030	13.00	10.26	7.57	181.50	143.28	105.63	8.11	6.40	4.72
10	0.177	0.028	13.00	9.96	7.07	181.50	139.10	98.72	7.38	5.66	4.02
11	0.151	0.026	13.00	9.67	6.61	181.50	135.05	92.27	6.68	4.97	3.40
12	0.127	0.024	13.00	9.39	6.18	181.50	131.12	86.23	6.01	4.34	2.85
13	0.105	0.022	13.00	9.12	5.77	181.50	127.30	80.59	5.36	3.76	2.38
14	0.085	0.020	13.00	8.85	5.39	181.50	123.59	75.32	4.74	3.22	1.96
15	0.067	0.018	13.00	8.59	5.04	181.50	119.99	70.39	4.14	2.74	1.60
16	0.051	0.016	13.00	8.34	4.71	181.50	116.50	65.78	3.57	2.29	1.29
17	0.036	0.015	13.00	8.10	4.40	181.50	113.10	61.48	3.19	1.99	1.08
18	0.023	0.013	13.00	7.87	4.12	181.50	109.81	57.46	2.66	1.61	0.84
19	0.011	0.012	13.00	7.64	3.85	181.50	106.61	53.70	2.32	1.36	0.69
20	0.000	0.011	13.00	7.41	3.59	181.50	103.51	50.19	2.00	1.14	0.55
					Total time loss for fatal cases of bladder cancer				**211.55**	**186.94**	**164.11**

Notes (continued): 2) The diagnostic period is included in the first year for a fatal case, so only 1/2 of the 6 month terminal period time loss is included in the first year.

Sources: Columns K, L - Based on Relative Survival Rates from the EPA COI Handbook (1998); Column P - Exhibit N.11b.

Valuing time losses

Conceptual discussion

Time losses are assigned a value so that they can be combined with medical costs. As in the LT2ESWTR, this analysis employs two approaches to value time losses. One approach, the Traditional Cost of Illness (COI), is based on the human capital approach typically applied in COI studies, focusing on the effect of illness on labor productivity (as measured by work time lost). Another approach, the Enhanced COI, attempts to provide a more complete estimate of the social welfare impacts of time losses due to illness based on the existing data and literature.

In the Enhanced COI estimate, these values are applied to both complete losses of time (time spent in illness-related activities rather than normal activities), as well as to partial losses (time spent in normal activities that are less productive or pleasurable than in the absence of illness). In the Traditional COI estimate, these values are applied only to complete losses of time (time spent in illness-related activities rather than normal activities), because less productive time is not included.

In a social welfare context, the value of marginal changes in market work time has two components: (1) the value of the time loss to that individual, and (2) any additional value to the rest of society. In this analysis, lost market work is valued at the median gross (pre-tax) wage rate plus benefits, also referred to as total compensation or employer's costs.[12] This approach is most representative of the full social impact of lost work time because it incorporates both the loss to the individual in terms of lost income and the loss to society in terms of reduced tax revenue or decreased production of goods and services.

This approach recognizes that, when an individual misses work or is less productive due to illness, he or she loses the associated utility. This loss, in part, is measured by income, which the individual can trade for goods and services. However, income is an incomplete measure of value, because the individual may derive utility from working that exceeds post-tax wages or take home pay. Hence the post-tax wage rates provide a lower bound estimate of the value of paid work time from the individual perspective.

This approach also recognizes that the employer (and society) loses the value of the individual's productivity, and that this value exceeds the value of the post-tax wages received by the employee. From the employer's perspective, the value of the individual's productivity is equal at minimum to his or her total compensation (pre-tax wages plus benefits). This perspective is similar to that of the human capital approach, which assumes that an employer would not pay more to an employee, in salary plus benefits, than that employee is worth to the company (i.e., the value of the employee's marginal product) and hence to society.[13] Some of this value is reflected in the employee's take home pay, and the remainder accrues

[12] Embedded in this approach are a number of assumptions regarding the operations of the labor market and the factors that influence individual choice. In addition, the actual effect of missed work time will vary depending on how individuals are compensated; e.g., on whether they are salaried or hourly employees and on whether they receive sick leave or disability payments. For example, if the individual has access to paid sick leave, a marginal loss of work time (within certain limits) will not result in an immediate loss of income. However, a loss will accrue to the employer, who must pay wages without the benefit of the worker's productivity. The individual also has the ability to save this sick leave for another time.

[13] A number of COI studies use lost earnings to estimate indirect costs. For example, the total compensation approach is used in Buzby et al. (1996), Rice et al. (1992), and Waitzman et al. (1996).

in terms of taxes paid and reflects the value of product created above and beyond what is reflected in pre-tax wages.[14]

The value of productivity losses associated with the health effectiveness measure (i.e., avoided cases) is one of the additional issues related to the estimation of "net costs" for a given rule alternative. In 1997, the Panel on Cost-Effectiveness in Health and Medicine published, in the journal Health Economics,[15] a paper supporting that lost paid work time that is a loss *to the individual* (e.g., lost market compensation, lost ability to complete uncompensated work, and lost leisure time) might best be assumed to be reflected in a full and complete QALY score. In other words, elicitees, or experts assessing quality of life for patients, are likely to have considered these effects in the quality of life score they report.

However, there is still some debate about whether the costs borne by society that are related to lost paid work time are fully considered in the elicitation process, and whether these costs should be subtracted from the CEA numerator. The literature is unclear as to whether respondents were asked to consider the cost of lost paid work time (including losses to the patient and society at large) when determining patients' QALY losses, so in this CEA, lost paid work time is subtracted in the numerator from regulatory costs as described above. This is consistent with the level of disability described in the Rosser Kind index on which Mauskopf & French based their QALY loss estimates. It does seem reasonable to assume that respondents would have considered QALY loss due to non-market work time and leisure time losses. This decision is also consistent with the analysis for the CAIR RIA and with the approach used in the CEA of the LT2ESWTR. Whether lost paid work time is fully accounted for in QALY decrements is another issue that may be addressed by the NAS/IOM panel on CEA. This issue may be difficult to resolve, however, in light of the variety of QALY losses computed by various instruments (see Nord et al. in Exhibit N.2 of this Appendix).

The U.S. Census Bureau compiles data on weekly hours worked, and loss of work hours is a key loss category used in this analysis. For the year 2002, that figure was 39.2 hours per week for the civilian noninstitutional population 16 years old or older who are working full or part-time.[16] This figure excludes those employed but not working because of vacations, illness, strikes, etc.; noncivilians; institutionalized persons; and those in the labor pool but unemployed. This group of workers includes

[14] For a recent discussion that indicates that illness-related losses of work time can substantially exceed the wage rate, see: Pauley et al. (2002).

[15] See Milton C. Weinstein, Joanna E. Siegel, Alan M. Garber, Joseph Lipscomb, Bryan R. Luce, Willard G. Manning, Jr., and George W. Torrance, Productivity Costs, Time Costs and Health-related Quality of Life: A Response to the Erasmus Group, Health Economics, 6:505-510, 1997.

[16] Based on annual average of monthly figures, U.S. Census Bureau, Statistical Abstract of the United States, 2003, Table No. 602, sourced to U.S. Bureau of Labor Statistics, Employment and Earnings, monthly, January 2003 issue, and based on the Current Population Survey.

about 60.3 percent of the population in this age range.[17] Over the whole population, the average lost work hours per day of illness is, therefore, about 3.4 hours.[18]

Developing hourly values for lost work time (lost patient days, caregiver days and presenteeism)

In this analysis, lost market work time is valued at the pre-tax wage rate plus benefits. There are numerous sources of U.S. compensation data, each of which focuses on somewhat different data elements and uses different approaches to data collection. The estimates developed for this analysis are based on well-established and frequently cited sources of national data, relying largely on year 2000 data included in the *Statistical Abstract of the United States*.

The starting point for the development of these estimates is median weekly earnings for the year 2002 for full-time workers ($609 per week), as reported by the United States Bureau of Labor Statistics (United States Census Bureau, November 2003, Table 642). This value is derived from the Current Population Survey and includes wages and salaries, but not other costs (e.g., benefits) paid by the employer.

This analysis uses median rather than average earnings as the starting point, consistent with other EPA analyses.[19] The distribution of income in the United States is highly skewed due to the small number of people who are extremely highly compensated; hence average income is significantly higher than the median. Use of the median reflects the notion that the small fraction of the U.S. population affected by this rulemaking are likely to be better represented by the median than by the mean value.

The next step is to convert median weekly earnings to earnings per hour. According to the Bureau of Labor Statistics, individuals usually working at paid, full-time jobs averaged 42.9 hours per week[20] at work in 2002 (United States Census Bureau, November 2003, Table 602). This means that median earnings per hour averaged about $14.20 ($609/42.9).

For market work time, the measure of opportunity costs used in this analysis is total pre-tax compensation from the perspective of the employer. The earnings number reported above does not reflect employer-paid benefits. To adjust this estimate upwards to reflect total compensation, the analysis uses the ratio of average wages and salaries to average total compensation, as reported by the Bureau of Labor Statistics for private industry workers for 2002 (United States Census Bureau, December 2003, Table 646). These data show that total compensation per hour averages about 1.41 times wages and salaries for full time workers. Using these data to adjust median hourly earnings (as reported above) leads to an

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[17] Derived from the estimate of 131,019 thousand people at work (year 2002, based on annual average of monthly figures, U.S. Census Bureau, Statistical Abstract of the United States, 2003, Table No. 602, sourced to U.S. Bureau of Labor Statistics, Employment and Earnings, monthly, January 2003 issue, and based on the Current Population Survey) of the 217,570 thousand people in this age range (year 2002, based on annual average of monthly figures, U.S. Census Bureau, Statistical Abstract of the United States, 2003, Table No. 587, sourced to U.S. Bureau of Labor Statistics, Bulletin 2307 and Employment and Earnings, monthly, January issues; Monthly Labor Review, November 2001; and based on the Current Population Survey). 131,091 thousand/ 217,570 thousand = 60.3 percent.

[18] 39.2 hours/week ÷ 7 days/week x (131,091 thousand persons working/ 217,570 thousand persons of working age)=3.4 hours/day.

[19] See, for example, Final Heavy Duty Engine/Fuel Rule: Air Quality Planning and Standards.

[20] The number of average hours per week (42.9) differs from the previous estimate cited (39.2 value) because the weekly earnings estimate is derived from a different source (specified in text).

estimate of about $20.02 per hour for total compensation. The value is then updated to 2003 dollars ($20.82) using the Employment Cost Index (ECI) (United States Bureau, 2004).

These values and the type of time losses included in costs to be subtracted from the CEA numerator are shown in Exhibit N.12. These losses include: lost paid work time, lost caregiver time, and reduced productivity while on the job (presenteeism; applicable to the ECOI approach only). The qualified costs do not include: unpaid lost market work time, lost leisure time, or lost non-market productivity.

Exhibit N.12 Weighted Average[1] Value of Time

Time Loss Category	Hours spent on avg. in each time category	Per-Hour Value	Per-Day Value for Patient[2]	Per-Day Value for Caregiver[3]
A	B	C	D = B * C	
ECOI				
Market Work Time	3.4	$ 20.82	$ 70.79	$ 70.79
Nonmarket Work Time	2.3	$ 12.46	(incl. in QALY decrement)	$ 28.66
Nonmarket Leisure Time	10.3	$ 12.46		$ 128.34
Total	16		$ 70.79	$ 227.78
TCOI				
Market Work Time	3.4	$ 20.82	$ 70.79	$ 70.79
Nonmarket Work Time	2.3	$ 6.23	(incl. in QALY decrement)	$ 14.33
Nonmarket Leisure Time	10.3	$ -		$ -
Total	16		$ 70.79	$ 85.12

Note: Values are in 2003$.

Footnotes: 1) The weighted average value of time accounts for the average hours spent by all persons (formal and nonformal sector employment) over the course of a year. It excludes those who are unemployed, those of non-employment age, and those employed but not working because of vacation, illness, strike, etc. 2) In this CEA, the QALY decrement should account for lost nonmarket work time and nonmarket leisure time for the patient, therefore, it is not valued as an additional cost here. 3) Caregiver time losses using the Enhanced approach are the sum of values for lost market work, nonmarket work, and leisure days; using the Traditional approach, they are the sum of values for lost market and nonmarket work days.

Source: Values per hour were originally derived in the Long Term 2 Enhanced Surface Water Treatment Rule Economic Analysis (See Ch. 5 and Appendix K). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Summary of estimation and valuation of lost time

The costs that would normally be incurred and which rule implementation is expected to avoid should be subtracted from the regulatory costs which compose the numerator. This includes medical costs associated with bladder cancer and certain time losses for patients and caregivers. The QALY decrement used in this analysis did not include consideration of caregiver time or presenteeism, so subtraction of these time losses in the numerator is consistent with the denominator. Additionally, Weinstein et al. support the inclusion of presenteeism in the costs subtracted from regulatory costs in the numerator (Weinstein, 1997). As in the CEA of the LT2ESWTR, presenteeism is estimated only in the approach based upon the Enhanced Cost of Illness approach (ECOI), and is omitted from the Traditional Cost of Illness approach (TCOI). Caregiver time losses in the Traditional approach exclude leisure time losses and value non-market work time at ½ that of the Enhanced approach.

The costs to be used in the numerator therefore reflect the following calculation:

Net Cost = C_n - ($I_{bc,n}$ x COI_{bc})

Where Cn = Total compliance cost of rule alternative *n*
Ibc,n = Number of cases of bladder cancer avoided by rule alternative n
COIbc = The sum of the medical cost of illness for bladder cancer and lost time costs per case avoided as defined in the prior paragraphs.

Exhibit N.13 below multiplies these dollar-per-hour values by the time allocations to determine the average value of time per day. The application of these medical costs and time loss values to the analysis is described further in Section 2.2.2 of this Appendix.

Exhibit N.13 Time Loss Value[1] Per Case of Avoided Bladder Cancer, Year 2003$

Loss Category	Per Day $Value	Time Loss Value Per Fatal Case		Time Loss Value Per Non-Fatal Case	
		Number of Days Lost	Total $Value Per Case	Number of Days Lost	Total $Value Per Case
	A	B	C = A * B	D	E = A * D
		3% Discount Rate, ECOI			
Lost Paid Work Days	$ 70.79	186.94	$ 13,233	155.39	$ 10,999
Lost Caregiver Days	$ 227.78	80.58	$ 18,355	37.58	$ 8,560
Lost Work Productivity (Presenteeism)	$ 70.79	2.95	$ 209	0.48	$ 34
Total ECOI			$ 31,797		$ 19,594
		3% Discount Rate, TCOI			
Lost Paid Work Days	$ 70.79	186.94	$ 13,233	155.39	$ 10,999
Lost Caregiver Days	$ 85.12	80.58	$ 6,859	37.58	$ 3,199
Lost Work Productivity (Presenteeism)	$ 70.79	2.95	$ 209	0.48	$ 34
Total TCOI			$ 20,301		$ 14,232
		7% Discount Rate, ECOI			
Lost Paid Work Days	$ 70.79	164.11	$ 11,617	127.96	$ 9,058
Lost Caregiver Days	$ 227.78	72.43	$ 16,499	31.25	$ 7,118
Lost Work Productivity (Presenteeism)	$ 70.79	2.68	$ 190	0.48	$ 34
Total ECOI			$ 28,306		$ 16,210
		7% Discount Rate, TCOI			
Lost Paid Work Days	$ 70.79	164.11	$ 11,617	127.96	$ 9,058
Lost Caregiver Days	$ 85.12	72.43	$ 6,165	31.25	$ 2,660
Lost Work Productivity (Presenteeism)	$ 70.79	2.68	$ 190	0.48	$ 34
Total TCOI			$ 17,972		$ 11,752

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Footnote 1: Time loss in this exhibit is unadjusted for income growth

Notes: Values are in 2003$. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Sources:
Column A: Values per hour were originally derived in the Long Term 2 Enhanced Surface Water Treatment Rule Economic Analysis (See Ch. 5 and Appendix K).
Column B: Hours lost per day are estimated to be 8 in the absence of information supporting an alternative.
Lost Work Productivity (Presenteeism) valued at 0.7 hours per day of presenteeism, as proposed in Goetzel at al (2004) for "any cancer".

N.2.2.2 Calculating costs by year to be subtracted from regulatory costs

The value of lost time can increase or decrease over time, depending on the change in real income. Using data on income growth from the Bureau of Labor Statistics, the income lost over the 25-year period of analysis is increased to reflect that real income growth. Benefits derived from medical costs are not adjusted for changes in real income over time, because medical costs do not necessarily have a direct or indirect link with income.

The cost adjustment per case is calculated for each year using the following equation.

Yearly Cost Adjustment Per Case =

$[(B + 1)_i \text{ x } (\text{Lost Time Costs})_{i-1}] + \$203{,}973$

Where B is the real income increase factor,
i = year 1 to 25,
Lost Time Costs = Lost time portion of Cost Adjustment and
$203,973 = Medical portion of the Cost Adjustment[21].

Medical costs are then discounted by 3 and 7 percent, and each year's discounted lost time costs, adjusted for increases in real income, are then added to the medical costs estimate to yield a total Cost Adjustment per case that is specific to each year. Exhibits N.14a-b show the results of these calculations.

N.2.2.3 Deriving total cost adjustment to regulatory costs based upon cases of bladder cancer avoided

Having developed a Cost Adjustment to the numerator (Exhibits N.14a-b) on a per-case per year basis, Exhibits N.15a-d apply this value to the cases avoided for the 25-year period of analysis to yield a Total Cost Adjustment for the numerator.

First, the annualized number of cases for fatal and non-fatal cases (derived in Appendix E) are calculated using the fatality rate of 0.26 published in the EPA *Cost of Illness Handbook*. Next, fatal and non-fatal cases are multiplied by the Cost Adjustment per case:

$\text{Total Cost Adjustment} = (\text{Cases}_{i,n} \text{ x Cost Adjustment}_i)_F + (\text{Cases}_{i,n} \text{ x Cost Adjustment}_i)_{NF}$

for i = year 1 to 25,
n = regulatory alternative,
F = fatal, and
NF = non-fatal.

Last, the Cost Adjustment for fatal and non-fatal cases is summed to produce a Total Cost Adjustment for each rule alternative, at 3 and 7 percent discount rates. Alternative 3 is the most stringent alternative and reduces risk to the largest extent; therefore, it has the highest cost adjustment, which reflects its potential for avoided lost time and medical costs.

[21] The cost of illness (COI) is taken from the EPA COI Handbook (p. II.8-33) for a weighted average between fatal and non-fatal cases of bladder cancer ($156,670 in 1996$) and increased using the U.S. Dept. of Labor Consumer Price Index for All Urban Consumers to 2003$ (271.1 / 228.2 * $156,670 = $203,973). This differs from the Stage 2 DBPR EA in that the EA used a COI estimated for only fatal cases, which was $93,927 in 1996$. The COI in fatal cases is less on average than in non-fatal cases because survivors tend to incur medical costs for a longer period of time.

Exhibit N.14a Cost Adjustment Per Case of Bladder Cancer Avoided, Real Dollars Adjusted Annually for Income Growth[1], 3 Percent Discount Rate

Year	%Change in Income (Real GDP per Capita)	Lost Time w/Growth Factor (Fatal)		Lost Time w/Growth Factor (Non-Fatal)		Direct Medical Costs[2]	Cost Adjustment (Undiscounted) (Fatal)		Cost Adjustment (Undiscounted) (Non-Fatal)	
		ECOI	TCOI	ECOI	TCOI		ECOI	TCOI	ECOI	TCOI
A	B	C,D,E,F = (B+1) * Previous Year Cost Adjustment per Case				G	I=C+G	J=D+G	K=E+G	L=F+G
2005	Base Year	$ 31,797.42	$ 20,301.03	$ 19,593.62	$ 14,232.39	$ 203,973	$ 235,770	$ 224,274	$ 223,567	$ 218,205
2006	2.4%	$ 32,562.56	$ 20,789.53	$ 20,065.10	$ 14,574.87	$ 203,973	$ 236,536	$ 224,763	$ 224,038	$ 218,548
2007	2.4%	$ 33,350.69	$ 21,292.72	$ 20,550.75	$ 14,927.63	$ 203,973	$ 237,324	$ 225,266	$ 224,524	$ 218,901
2008	2.4%	$ 34,161.90	$ 21,810.64	$ 21,050.62	$ 15,290.73	$ 203,973	$ 238,135	$ 225,784	$ 225,024	$ 219,264
2009	2.4%	$ 34,996.16	$ 22,343.26	$ 21,564.69	$ 15,664.14	$ 203,973	$ 238,969	$ 226,316	$ 225,538	$ 219,637
2010	2.3%	$ 35,784.33	$ 22,846.47	$ 22,050.36	$ 16,016.92	$ 203,973	$ 239,757	$ 226,819	$ 226,023	$ 219,990
2011	2.3%	$ 36,592.60	$ 23,362.51	$ 22,548.42	$ 16,378.70	$ 203,973	$ 240,566	$ 227,336	$ 226,521	$ 220,352
2012	2.3%	$ 37,421.74	$ 23,891.88	$ 23,059.34	$ 16,749.82	$ 203,973	$ 241,395	$ 227,865	$ 227,032	$ 220,723
2013	2.3%	$ 38,270.66	$ 24,433.87	$ 23,582.44	$ 17,129.79	$ 203,973	$ 242,244	$ 228,407	$ 227,555	$ 221,103
2014	2.3%	$ 39,138.04	$ 24,987.65	$ 24,116.92	$ 17,518.03	$ 203,973	$ 243,111	$ 228,961	$ 228,090	$ 221,491
2015	2.3%	$ 40,024.84	$ 25,553.82	$ 24,663.37	$ 17,914.95	$ 203,973	$ 243,998	$ 229,527	$ 228,636	$ 221,888
2016	2.3%	$ 40,932.15	$ 26,133.10	$ 25,222.46	$ 18,321.06	$ 203,973	$ 244,905	$ 230,106	$ 229,195	$ 222,294
2017	2.3%	$ 41,861.16	$ 26,726.22	$ 25,794.91	$ 18,736.88	$ 203,973	$ 245,834	$ 230,699	$ 229,768	$ 222,710
2018	2.3%	$ 42,812.68	$ 27,333.71	$ 26,381.24	$ 19,162.78	$ 203,973	$ 246,786	$ 231,307	$ 230,354	$ 223,136
2019	2.3%	$ 43,787.67	$ 27,956.20	$ 26,982.03	$ 19,599.18	$ 203,973	$ 247,761	$ 231,929	$ 230,955	$ 223,572
2020	2.3%	$ 44,787.30	$ 28,594.41	$ 27,598.00	$ 20,046.61	$ 203,973	$ 248,760	$ 232,567	$ 231,571	$ 224,020
2021	2.3%	$ 45,812.62	$ 29,249.03	$ 28,229.81	$ 20,505.54	$ 203,973	$ 249,786	$ 233,222	$ 232,203	$ 224,479
2022	2.3%	$ 46,864.75	$ 29,920.76	$ 28,878.13	$ 20,976.47	$ 203,973	$ 250,838	$ 233,894	$ 232,851	$ 224,949
2023	2.3%	$ 47,942.64	$ 30,608.93	$ 29,542.33	$ 21,458.93	$ 203,973	$ 251,916	$ 234,582	$ 233,515	$ 225,432
2024	2.3%	$ 49,045.44	$ 31,313.02	$ 30,221.88	$ 21,952.54	$ 203,973	$ 253,018	$ 235,286	$ 234,195	$ 225,926
2025	2.3%	$ 50,173.77	$ 32,033.40	$ 30,917.15	$ 22,457.57	$ 203,973	$ 254,147	$ 236,006	$ 234,890	$ 226,431
2026	2.3%	$ 51,328.69	$ 32,770.75	$ 31,628.82	$ 22,974.51	$ 203,973	$ 255,302	$ 236,744	$ 235,602	$ 226,948
2027	2.3%	$ 52,510.54	$ 33,525.31	$ 32,357.08	$ 23,503.50	$ 203,973	$ 256,484	$ 237,498	$ 236,330	$ 227,477
2028	2.3%	$ 53,720.77	$ 34,297.98	$ 33,102.82	$ 24,045.20	$ 203,973	$ 257,694	$ 238,271	$ 237,076	$ 228,018
2029	2.3%	$ 54,960.40	$ 35,089.42	$ 33,866.68	$ 24,600.05	$ 203,973	$ 258,933	$ 239,062	$ 237,840	$ 228,573
						NPV 3%	$ 4,265,387	$ 4,007,393	$ 3,991,518	$ 3,871,205
						Annualized 3%	$ 244,952	$ 230,136	$ 229,224	$ 222,315

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: Values are in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnotes: 1) Lost Time costs include an annual income growth factor which is not applied to medical costs. 2) Direct medical costs are taken from the COI Handbook (p. II.8-33) and increased from 1996$ to 2003$ using the U.S. Dept. of Labor Consumer Price Index for All Urban Consumers (297.1 /228.2 * $156,670).

Sources: "Base Year" of Columns C - F: Exhibit N.14a, Columns E, G

Exhibit N.14b Cost Adjustment Per Case of Bladder Cancer Avoided, Real Dollars Adjusted Annually for Income Growth[1], 7 Percent Discount Rate

Year	%Change in Income (Real GDP per Capita)	Lost Time w/Growth Factor (Fatal)		Lost Time w/Growth Factor (Non-Fatal)		Direct Medical Costs	Cost Adjustment (Undiscounted) (Fatal)		Cost Adjustment (Undiscounted) (Non-Fatal)	
		ECOI	TCOI	ECOI	TCOI		ECOI	TCOI	ECOI	TCOI
A	B	C,D,E,F = (B+1) * Previous Year Cost Adjustment per Case				G	I=C+G	J=D+G	K=E+G	L=F+G
2005	Base Year	$ 28,306.06	$ 17,972.22	$ 16,210.07	$ 11,751.91	$ 203,973	$ 232,279	$ 221,945	$ 220,183	$ 215,725
2006	2.4%	$ 28,987.19	$ 18,404.68	$ 16,600.13	$ 12,034.70	$ 203,973	$ 232,960	$ 222,378	$ 220,573	$ 216,008
2007	2.4%	$ 29,688.78	$ 18,850.14	$ 17,001.91	$ 12,325.98	$ 203,973	$ 233,662	$ 222,823	$ 220,975	$ 216,299
2008	2.4%	$ 30,410.93	$ 19,308.65	$ 17,415.46	$ 12,625.80	$ 203,973	$ 234,384	$ 223,282	$ 221,388	$ 216,599
2009	2.4%	$ 31,153.58	$ 19,780.18	$ 17,840.76	$ 12,934.13	$ 203,973	$ 235,127	$ 223,753	$ 221,814	$ 216,907
2010	2.3%	$ 31,855.21	$ 20,225.66	$ 18,242.56	$ 13,225.42	$ 203,973	$ 235,828	$ 224,199	$ 222,216	$ 217,198
2011	2.3%	$ 32,574.73	$ 20,682.50	$ 18,654.61	$ 13,524.15	$ 203,973	$ 236,548	$ 224,656	$ 222,628	$ 217,497
2012	2.3%	$ 33,312.84	$ 21,151.14	$ 19,077.30	$ 13,830.59	$ 203,973	$ 237,286	$ 225,124	$ 223,050	$ 217,804
2013	2.3%	$ 34,068.54	$ 21,630.96	$ 19,510.07	$ 14,144.34	$ 203,973	$ 238,042	$ 225,604	$ 223,483	$ 218,117
2014	2.3%	$ 34,840.69	$ 22,121.21	$ 19,952.26	$ 14,464.91	$ 203,973	$ 238,814	$ 226,094	$ 223,925	$ 218,438
2015	2.3%	$ 35,630.11	$ 22,622.44	$ 20,404.34	$ 14,792.66	$ 203,973	$ 239,603	$ 226,595	$ 224,377	$ 218,766
2016	2.3%	$ 36,437.80	$ 23,135.26	$ 20,866.88	$ 15,127.99	$ 203,973	$ 240,411	$ 227,108	$ 224,840	$ 219,101
2017	2.3%	$ 37,264.81	$ 23,660.35	$ 21,340.48	$ 15,471.34	$ 203,973	$ 241,238	$ 227,633	$ 225,313	$ 219,444
2018	2.3%	$ 38,111.84	$ 24,198.15	$ 21,825.56	$ 15,823.01	$ 203,973	$ 242,085	$ 228,171	$ 225,799	$ 219,796
2019	2.3%	$ 38,979.78	$ 24,749.23	$ 22,322.60	$ 16,183.36	$ 203,973	$ 242,953	$ 228,722	$ 226,296	$ 220,156
2020	2.3%	$ 39,869.65	$ 25,314.23	$ 22,832.20	$ 16,552.81	$ 203,973	$ 243,843	$ 229,287	$ 226,805	$ 220,526
2021	2.3%	$ 40,782.39	$ 25,893.75	$ 23,354.91	$ 16,931.75	$ 203,973	$ 244,755	$ 229,867	$ 227,328	$ 220,905
2022	2.3%	$ 41,719.00	$ 26,488.42	$ 23,891.27	$ 17,320.61	$ 203,973	$ 245,692	$ 230,461	$ 227,864	$ 221,294
2023	2.3%	$ 42,678.53	$ 27,097.66	$ 24,440.77	$ 17,718.98	$ 203,973	$ 246,652	$ 231,071	$ 228,414	$ 221,692
2024	2.3%	$ 43,660.25	$ 27,720.97	$ 25,002.97	$ 18,126.56	$ 203,973	$ 247,633	$ 231,694	$ 228,976	$ 222,100
2025	2.3%	$ 44,664.69	$ 28,358.71	$ 25,578.18	$ 18,543.58	$ 203,973	$ 248,638	$ 232,332	$ 229,551	$ 222,517
2026	2.3%	$ 45,692.80	$ 29,011.49	$ 26,166.95	$ 18,970.42	$ 203,973	$ 249,666	$ 232,984	$ 230,140	$ 222,943
2027	2.3%	$ 46,744.88	$ 29,679.48	$ 26,769.45	$ 19,407.22	$ 203,973	$ 250,718	$ 233,652	$ 230,742	$ 223,380
2028	2.3%	$ 47,822.23	$ 30,363.52	$ 27,386.42	$ 19,854.50	$ 203,973	$ 251,795	$ 234,337	$ 231,359	$ 223,828
2029	2.3%	$ 48,925.75	$ 31,064.17	$ 28,018.37	$ 20,312.65	$ 203,973	$ 252,899	$ 235,037	$ 231,991	$ 224,286
						NPV 7%	$ 2,784,304	$ 2,635,614	$ 2,610,258	$ 2,546,111
						Annualized 7%	$ 238,923	$ 226,163	$ 223,988	$ 218,483

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: Values are in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnotes: 1) Lost Time costs include an annual income growth factor which is not applied to medical costs. 2) Direct medical costs are taken from the COI Handbook (p. II.8-33) and increased from 1996$ to 2003$ using the U.S. Dept. of Labor Consumer Price Index for All Urban Consumers (297.1 /228.2 * $156,670).

Sources: "Base Year" of Columns C - F: Exhibit N.14a, Columns E, G

Exhibit N.15a Cost Adjustment for Fatal and Non-Fatal Cases of Bladder Cancer, Preferred Alternative and Alternative 1, 3 Percent Discount Rate

Alternative	Year *n*	Fatal and Non-Fatal Cases Avoided	Discounted Cases Avoided	Fatal	Non-Fatal	Cost Adjustment per Fatal Case		Cost Adjustment per Non Fatal Case		Cost Adjustment per Fatal and Non-Fatal Case	
						ECOI	TCOI	ECOI	TCOI	ECOI	TCOI
						($)				(Million $)	
		A	B=A/1.03^(*n*-2005)	C=B*.26	D=B*.74	E	F	G	H	I=((C*E)+(D*G))/10^6	J=((C*F)+(D*H))/10^6
Preferred	2005	-	-	-	-	$ 235,770	$ 224,274	$ 223,567	$ 218,205	$ -	$ -
	2006	-	-	-	-	$ 236,536	$ 224,763	$ 224,038	$ 218,548	$ -	$ -
	2007	-	-	-	-	$ 237,324	$ 225,266	$ 224,524	$ 218,901	$ -	$ -
	2008	-	-	-	-	$ 238,135	$ 225,784	$ 225,024	$ 219,264	$ -	$ -
	2009	-	-	-	-	$ 238,969	$ 226,316	$ 225,538	$ 219,637	$ -	$ -
	2010	24	21	5	15	$ 239,757	$ 226,819	$ 226,023	$ 219,990	$ 4.78	$ 4.62
	2011	62	52	13	38	$ 240,566	$ 227,336	$ 226,521	$ 220,352	$ 11.93	$ 11.52
	2012	111	90	23	67	$ 241,395	$ 227,865	$ 227,032	$ 220,723	$ 20.80	$ 20.06
	2013	170	134	35	99	$ 242,244	$ 228,407	$ 227,555	$ 221,103	$ 31.06	$ 29.93
	2014	220	168	44	125	$ 243,111	$ 228,961	$ 228,090	$ 221,491	$ 39.07	$ 37.63
	2015	265	197	51	146	$ 243,998	$ 229,527	$ 228,636	$ 221,888	$ 45.93	$ 44.20
	2016	305	221	57	163	$ 244,905	$ 230,106	$ 229,195	$ 222,294	$ 51.48	$ 49.50
	2017	341	239	62	177	$ 245,834	$ 230,699	$ 229,768	$ 222,710	$ 55.93	$ 53.74
	2018	371	253	66	187	$ 246,786	$ 231,307	$ 230,354	$ 223,136	$ 59.26	$ 56.89
	2019	396	262	68	194	$ 247,761	$ 231,929	$ 230,955	$ 223,572	$ 61.54	$ 59.04
	2020	416	267	69	198	$ 248,760	$ 232,567	$ 231,571	$ 224,020	$ 63.04	$ 60.42
	2021	433	270	70	200	$ 249,786	$ 233,222	$ 232,203	$ 224,479	$ 63.93	$ 61.22
	2022	448	271	70	201	$ 250,838	$ 233,894	$ 232,851	$ 224,949	$ 64.36	$ 61.58
	2023	460	270	70	200	$ 251,916	$ 234,582	$ 233,515	$ 225,432	$ 64.44	$ 61.61
	2024	471	269	70	199	$ 253,018	$ 235,286	$ 234,195	$ 225,926	$ 64.25	$ 61.37
	2025	481	266	69	197	$ 254,147	$ 236,006	$ 234,890	$ 226,431	$ 63.84	$ 60.92
	2026	489	263	68	195	$ 255,302	$ 236,744	$ 235,602	$ 226,948	$ 63.27	$ 60.32
	2027	496	259	67	192	$ 256,484	$ 237,498	$ 236,330	$ 227,477	$ 62.57	$ 59.59
	2028	503	255	66	189	$ 257,694	$ 238,271	$ 237,076	$ 228,018	$ 61.76	$ 58.77
	2029	509	250	65	185	$ 258,933	$ 239,062	$ 237,840	$ 228,573	$ 60.88	$ 57.87
									NPV 3%	$615.64	$589.71
									Annlzd 3%	$ 35	$ 34
A1	2005	0	-	-	-	$ 235,770	$ 224,274	$ 223,567	$ 218,205	$ -	$ -
	2006	0	-	-	-	$ 236,536	$ 224,763	$ 224,038	$ 218,548	$ -	$ -
	2007	0	-	-	-	$ 237,324	$ 225,266	$ 224,524	$ 218,901	$ -	$ -
	2008	0	-	-	-	$ 238,135	$ 225,784	$ 225,024	$ 219,264	$ -	$ -
	2009	0	-	-	-	$ 238,969	$ 226,316	$ 225,538	$ 219,637	$ -	$ -
	2010	23	20	5	14	$ 239,757	$ 226,819	$ 226,023	$ 219,990	$ 4.50	$ 4.35
	2011	60	50	13	37	$ 240,566	$ 227,336	$ 226,521	$ 220,352	$ 11.55	$ 11.15
	2012	108	88	23	65	$ 241,395	$ 227,865	$ 227,032	$ 220,723	$ 20.31	$ 19.59
	2013	166	131	34	97	$ 242,244	$ 228,407	$ 227,555	$ 221,103	$ 30.24	$ 29.15
	2014	212	163	42	120	$ 243,111	$ 228,961	$ 228,090	$ 221,491	$ 37.72	$ 36.33
	2015	251	187	49	138	$ 243,998	$ 229,527	$ 228,636	$ 221,888	$ 43.46	$ 41.82
	2016	283	204	53	151	$ 244,905	$ 230,106	$ 229,195	$ 222,294	$ 47.64	$ 45.81
	2017	309	217	56	160	$ 245,834	$ 230,699	$ 229,768	$ 222,710	$ 50.72	$ 48.74
	2018	332	226	59	167	$ 246,786	$ 231,307	$ 230,354	$ 223,136	$ 52.97	$ 50.86
	2019	351	232	60	172	$ 247,761	$ 231,929	$ 230,955	$ 223,572	$ 54.58	$ 52.36
	2020	368	236	61	175	$ 248,760	$ 232,567	$ 231,571	$ 224,020	$ 55.68	$ 53.37
	2021	382	238	62	176	$ 249,786	$ 233,222	$ 232,203	$ 224,479	$ 56.37	$ 53.99
	2022	395	239	62	177	$ 250,838	$ 233,894	$ 232,851	$ 224,949	$ 56.73	$ 54.29
	2023	406	238	62	176	$ 251,916	$ 234,582	$ 233,515	$ 225,432	$ 56.83	$ 54.33
	2024	416	237	62	176	$ 253,018	$ 235,286	$ 234,195	$ 225,926	$ 56.71	$ 54.17
	2025	425	235	61	174	$ 254,147	$ 236,006	$ 234,890	$ 226,431	$ 56.42	$ 53.84
	2026	433	233	60	172	$ 255,302	$ 236,744	$ 235,602	$ 226,948	$ 55.98	$ 53.37
	2027	440	229	60	170	$ 256,484	$ 237,498	$ 236,330	$ 227,477	$ 55.42	$ 52.79
	2028	446	226	59	167	$ 257,694	$ 238,271	$ 237,076	$ 228,018	$ 54.77	$ 52.12
	2029	452	222	58	164	$ 258,933	$ 239,062	$ 237,840	$ 228,573	$ 54.05	$ 51.38
									NPV 3%	$556.17	$532.81
									Annlzd 3%	$ 32	$ 31

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: Values are in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 26 percent of cases are fatal, 74 percent are non-fatal (USEPA 1999a). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Sources: Colums A: Exhibits E.17,19,20,21(a)
Columns E-H: Exhibit N.15a, Columns I - L

Exhibit N.15b Cost Adjustment for Fatal and Non-Fatal Cases of Bladder Cancer, Alternatives 2 and 3, 3 Percent Discount Rate

Alternative	Year *n*	Fatal and Non-Fatal Cases Avoided	Discounted Cases Avoided	Fatal	Non-Fatal	Cost Adjustment per Fatal Case		Cost Adjustment per Non Fatal Case		Cost Adjustment per Fatal and Non-Fatal Case	
						ECOI	TCOI	ECOI	TCOI	ECOI	TCOI
						($)				(Million $)	
		A	B=A/1.03^(*n*-2005)	C=B*.26	D=B*.74	E	F	G	H	I=((C*E)+(D*G))/10^6	J=((C*F)+(D*H))/10^6
A2	2005	0	-	-	-	$ 235,770	$ 224,274	$ 223,567	$ 218,205	$ -	$ -
	2006	0	-	-	-	$ 236,536	$ 224,763	$ 224,038	$ 218,548	$ -	$ -
	2007	0	-	-	-	$ 237,324	$ 225,266	$ 224,524	$ 218,901	$ -	$ -
	2008	0	-	-	-	$ 238,135	$ 225,784	$ 225,024	$ 219,264	$ -	$ -
	2009	0	-	-	-	$ 238,969	$ 226,316	$ 225,538	$ 219,637	$ -	$ -
	2010	85	73	19	54	$ 239,757	$ 226,819	$ 226,023	$ 219,990	$ 16.82	$ 16.25
	2011	224	188	49	139	$ 240,566	$ 227,336	$ 226,521	$ 220,352	$ 43.18	$ 41.68
	2012	405	329	86	243	$ 241,395	$ 227,865	$ 227,032	$ 220,723	$ 75.93	$ 73.23
	2013	619	488	127	361	$ 242,244	$ 228,407	$ 227,555	$ 221,103	$ 113.02	$ 108.93
	2014	794	609	158	450	$ 243,111	$ 228,961	$ 228,090	$ 221,491	$ 141.21	$ 136.00
	2015	941	700	182	518	$ 243,998	$ 229,527	$ 228,636	$ 221,888	$ 162.93	$ 156.79
	2016	1060	766	199	567	$ 244,905	$ 230,106	$ 229,195	$ 222,294	$ 178.72	$ 171.86
	2017	1160	814	212	602	$ 245,834	$ 230,699	$ 229,768	$ 222,710	$ 190.36	$ 182.91
	2018	1245	848	220	627	$ 246,786	$ 231,307	$ 230,354	$ 223,136	$ 198.87	$ 190.94
	2019	1317	871	226	644	$ 247,761	$ 231,929	$ 230,955	$ 223,572	$ 204.95	$ 196.61
	2020	1380	886	230	656	$ 248,760	$ 232,567	$ 231,571	$ 224,020	$ 209.11	$ 200.43
	2021	1435	894	232	662	$ 249,786	$ 233,222	$ 232,203	$ 224,479	$ 211.73	$ 202.77
	2022	1483	897	233	664	$ 250,838	$ 233,894	$ 232,851	$ 224,949	$ 213.11	$ 203.91
	2023	1525	896	233	663	$ 251,916	$ 234,582	$ 233,515	$ 225,432	$ 213.49	$ 204.09
	2024	1563	891	232	659	$ 253,018	$ 235,286	$ 234,195	$ 225,926	$ 213.05	$ 203.49
	2025	1596	883	230	654	$ 254,147	$ 236,006	$ 234,890	$ 226,431	$ 211.95	$ 202.25
	2026	1625	874	227	647	$ 255,302	$ 236,744	$ 235,602	$ 226,948	$ 210.31	$ 200.50
	2027	1652	862	224	638	$ 256,484	$ 237,498	$ 236,330	$ 227,477	$ 208.23	$ 198.33
	2028	1675	849	221	628	$ 257,694	$ 238,271	$ 237,076	$ 228,018	$ 205.80	$ 195.82
	2029	1697	835	217	618	$ 258,933	$ 239,062	$ 237,840	$ 228,573	$ 203.08	$ 193.05
									NPV 3%	$2,087.27	$1,999.57
									Annlzd 3%	$ 120	$ 115
A3	2005	0	-	-	-	$ 235,770	$ 224,274	$ 223,567	$ 218,205	$ -	$ -
	2006	0	-	-	-	$ 236,536	$ 224,763	$ 224,038	$ 218,548	$ -	$ -
	2007	0	-	-	-	$ 237,324	$ 225,266	$ 224,524	$ 218,901	$ -	$ -
	2008	0	-	-	-	$ 238,135	$ 225,784	$ 225,024	$ 219,264	$ -	$ -
	2009	0	-	-	-	$ 238,969	$ 226,316	$ 225,538	$ 219,637	$ -	$ -
	2010	117	101	26	75	$ 239,757	$ 226,819	$ 226,023	$ 219,990	$ 23.22	$ 22.43
	2011	309	259	67	192	$ 240,566	$ 227,336	$ 226,521	$ 220,352	$ 59.59	$ 57.51
	2012	558	454	118	336	$ 241,395	$ 227,865	$ 227,032	$ 220,723	$ 104.75	$ 101.03
	2013	854	674	175	499	$ 242,244	$ 228,407	$ 227,555	$ 221,103	$ 155.89	$ 150.25
	2014	1096	840	218	621	$ 243,111	$ 228,961	$ 228,090	$ 221,491	$ 194.80	$ 187.61
	2015	1299	966	251	715	$ 243,998	$ 229,527	$ 228,636	$ 221,888	$ 224.80	$ 216.34
	2016	1463	1,057	275	782	$ 244,905	$ 230,106	$ 229,195	$ 222,294	$ 246.60	$ 237.13
	2017	1601	1,123	292	831	$ 245,834	$ 230,699	$ 229,768	$ 222,710	$ 262.67	$ 252.38
	2018	1718	1,170	304	865	$ 246,786	$ 231,307	$ 230,354	$ 223,136	$ 274.41	$ 263.46
	2019	1818	1,202	312	889	$ 247,761	$ 231,929	$ 230,955	$ 223,572	$ 282.80	$ 271.29
	2020	1904	1,222	318	905	$ 248,760	$ 232,567	$ 231,571	$ 224,020	$ 288.53	$ 276.55
	2021	1980	1,234	321	913	$ 249,786	$ 233,222	$ 232,203	$ 224,479	$ 292.14	$ 279.77
	2022	2046	1,238	322	916	$ 250,838	$ 233,894	$ 232,851	$ 224,949	$ 294.04	$ 281.35
	2023	2104	1,236	321	915	$ 251,916	$ 234,582	$ 233,515	$ 225,432	$ 294.56	$ 281.59
	2024	2156	1,229	320	910	$ 253,018	$ 235,286	$ 234,195	$ 225,926	$ 293.95	$ 280.76
	2025	2202	1,219	317	902	$ 254,147	$ 236,006	$ 234,890	$ 226,431	$ 292.43	$ 279.05
	2026	2242	1,205	313	892	$ 255,302	$ 236,744	$ 235,602	$ 226,948	$ 290.17	$ 276.63
	2027	2279	1,189	309	880	$ 256,484	$ 237,498	$ 236,330	$ 227,477	$ 287.30	$ 273.63
	2028	2311	1,171	305	867	$ 257,694	$ 238,271	$ 237,076	$ 228,018	$ 283.94	$ 270.18
	2029	2341	1,152	299	852	$ 258,933	$ 239,062	$ 237,840	$ 228,573	$ 280.19	$ 266.35
									NPV 3%	$2,879.87	$2,758.87
									Annlzd 3%	$ 165	$ 158

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: Values are in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 26 percent of cases are fatal, 74 percent are non-fatal (USEPA 1999a). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Sources: Colums A: Exhibits E.17,19,20,21(a)
Columns E-H: Exhibit N.15a, Columns I - L

Exhibit N.15c Cost Adjustment for Fatal and Non-Fatal Cases of Bladder Cancer, Preferred Rule and Alternative 1, 7 Percent Discount Rate

Alternative	Year *n*	Fatal and Non-Fatal Cases Avoided	Discounted Cases Avoided	Fatal	Non-Fatal	Cost Adjustment per Fatal Case		Cost Adjustment per Non Fatal Case		Cost Adjustment per Fatal and Non-Fatal Case	
						ECOI	TCOI	ECOI	TCOI	ECOI	TCOI
						($)				(Million $)	
		A	B=A/1.07^(*n* -2005)	C=B*.26	D=B*.74	E	F	G	H	I=((C*E)+(D*G))/10^6	J=((C*F)+(D*H))/10^6
Preferred	2005	-	-	-	-	$ 232,279	$ 221,945	$ 220,183	$ 215,725	$ -	$ -
	2006	-	-	-	-	$ 232,960	$ 222,378	$ 220,573	$ 216,008	$ -	$ -
	2007	-	-	-	-	$ 233,662	$ 222,823	$ 220,975	$ 216,299	$ -	$ -
	2008	-	-	-	-	$ 234,384	$ 223,282	$ 221,388	$ 216,599	$ -	$ -
	2009	-	-	-	-	$ 235,127	$ 223,753	$ 221,814	$ 216,907	$ -	$ -
	2010	24	17	4	13	$ 235,828	$ 224,199	$ 222,216	$ 217,198	$ 3.89	$ 3.77
	2011	62	41	11	31	$ 236,548	$ 224,656	$ 222,628	$ 217,497	$ 9.33	$ 9.05
	2012	111	69	18	51	$ 237,286	$ 225,124	$ 223,050	$ 217,804	$ 15.66	$ 15.17
	2013	170	99	26	73	$ 238,042	$ 225,604	$ 223,483	$ 218,117	$ 22.49	$ 21.78
	2014	220	120	31	88	$ 238,814	$ 226,094	$ 223,925	$ 218,438	$ 27.23	$ 26.35
	2015	265	135	35	100	$ 239,603	$ 226,595	$ 224,377	$ 218,766	$ 30.80	$ 29.78
	2016	305	145	38	107	$ 240,411	$ 227,108	$ 224,840	$ 219,101	$ 33.22	$ 32.10
	2017	341	151	39	112	$ 241,238	$ 227,633	$ 225,313	$ 219,444	$ 34.73	$ 33.53
	2018	371	154	40	114	$ 242,085	$ 228,171	$ 225,799	$ 219,796	$ 35.40	$ 34.16
	2019	396	153	40	114	$ 242,953	$ 228,722	$ 226,296	$ 220,156	$ 35.38	$ 34.12
	2020	416	151	39	112	$ 243,843	$ 229,287	$ 226,805	$ 220,526	$ 34.87	$ 33.60
	2021	433	147	38	109	$ 244,755	$ 229,867	$ 227,328	$ 220,905	$ 34.03	$ 32.76
	2022	448	142	37	105	$ 245,692	$ 230,461	$ 227,864	$ 221,294	$ 32.96	$ 31.71
	2023	460	136	35	101	$ 246,652	$ 231,071	$ 228,414	$ 221,692	$ 31.76	$ 30.53
	2024	471	130	34	96	$ 247,633	$ 231,694	$ 228,976	$ 222,100	$ 30.47	$ 29.26
	2025	481	124	32	92	$ 248,638	$ 232,332	$ 229,551	$ 222,517	$ 29.13	$ 27.96
	2026	489	118	31	87	$ 249,666	$ 232,984	$ 230,140	$ 222,943	$ 27.78	$ 26.64
	2027	496	112	29	83	$ 250,718	$ 233,652	$ 230,742	$ 223,380	$ 26.43	$ 25.32
	2028	503	106	28	78	$ 251,795	$ 234,337	$ 231,359	$ 223,828	$ 25.10	$ 24.03
	2029	509	100	26	74	$ 252,899	$ 235,037	$ 231,991	$ 224,286	$ 23.81	$ 22.77
									NPV 7%	$191.14	$184.32
									Annlzd 7%	$ 16	$ 16
A1	2005	0	-	-	-	$ 232,279	$ 221,945	$ 220,183	$ 215,725	$ -	$ -
	2006	0	-	-	-	$ 232,960	$ 222,378	$ 220,573	$ 216,008	$ -	$ -
	2007	0	-	-	-	$ 233,662	$ 222,823	$ 220,975	$ 216,299	$ -	$ -
	2008	0	-	-	-	$ 234,384	$ 223,282	$ 221,388	$ 216,599	$ -	$ -
	2009	0	-	-	-	$ 235,127	$ 223,753	$ 221,814	$ 216,907	$ -	$ -
	2010	23	16	4	12	$ 235,828	$ 224,199	$ 222,216	$ 217,198	$ 3.66	$ 3.55
	2011	60	40	10	30	$ 236,548	$ 224,656	$ 222,628	$ 217,497	$ 9.03	$ 8.76
	2012	108	67	18	50	$ 237,286	$ 225,124	$ 223,050	$ 217,804	$ 15.29	$ 14.81
	2013	166	96	25	71	$ 238,042	$ 225,604	$ 223,483	$ 218,117	$ 21.90	$ 21.21
	2014	212	115	30	85	$ 238,814	$ 226,094	$ 223,925	$ 218,438	$ 26.29	$ 25.44
	2015	251	128	33	94	$ 239,603	$ 226,595	$ 224,377	$ 218,766	$ 29.14	$ 28.18
	2016	283	134	35	99	$ 240,411	$ 227,108	$ 224,840	$ 219,101	$ 30.74	$ 29.70
	2017	309	137	36	102	$ 241,238	$ 227,633	$ 225,313	$ 219,444	$ 31.49	$ 30.41
	2018	332	138	36	102	$ 242,085	$ 228,171	$ 225,799	$ 219,796	$ 31.65	$ 30.54
	2019	351	136	35	101	$ 242,953	$ 228,722	$ 226,296	$ 220,156	$ 31.38	$ 30.26
	2020	368	133	35	99	$ 243,843	$ 229,287	$ 226,805	$ 220,526	$ 30.80	$ 29.68
	2021	382	129	34	96	$ 244,755	$ 229,867	$ 227,328	$ 220,905	$ 30.01	$ 28.89
	2022	395	125	32	92	$ 245,692	$ 230,461	$ 227,864	$ 221,294	$ 29.06	$ 27.96
	2023	406	120	31	89	$ 246,652	$ 231,071	$ 228,414	$ 221,692	$ 28.01	$ 26.92
	2024	416	115	30	85	$ 247,633	$ 231,694	$ 228,976	$ 222,100	$ 26.89	$ 25.83
	2025	425	110	29	81	$ 248,638	$ 232,332	$ 229,551	$ 222,517	$ 25.74	$ 24.70
	2026	433	104	27	77	$ 249,666	$ 232,984	$ 230,140	$ 222,943	$ 24.57	$ 23.57
	2027	440	99	26	73	$ 250,718	$ 233,652	$ 230,742	$ 223,380	$ 23.41	$ 22.43
	2028	446	94	24	70	$ 251,795	$ 234,337	$ 231,359	$ 223,828	$ 22.26	$ 21.31
	2029	452	89	23	66	$ 252,899	$ 235,037	$ 231,991	$ 224,286	$ 21.14	$ 20.22
									NPV 7%	$174.66	$168.45
									Annlzd 7%	$ 15	$ 14

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: Values in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 26 percent of cases are fatal, 74 percent are non-fatal (USEPA 1999a). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Sources: Colums A: Exhibits E.17,19,20,21(a)
Columns E-H: Exhibit N.15b, Columns I - L

Exhibit N.15d Cost Adjustment for Fatal and Non-Fatal Cases of Bladder Cancer, Alternatives 2 and 3, 7 Percent Discount Rate

Alternative	Year *n*	Fatal and Non-Fatal Cases Avoided	Discounted Cases Avoided	Fatal	Non-Fatal	Cost Adjustment per Fatal Case		Cost Adjustment per Non Fatal Case		Cost Adjustment per Fatal and Non-Fatal Case	
						ECOI	TCOI	ECOI	TCOI	ECOI	TCOI
						($)				(Million $)	
		A	B=A/1.07^(*n* -2005)	C=B*.26	D=B*.74	E	F	G	H	I=((C*E)+(D*G))/10^6	J=((C*F)+(D*H))/10^6
A2	2005	0	-	-	-	$ 232,279	$ 221,945	$ 220,183	$ 215,725	$ -	$ -
	2006	0	-	-	-	$ 232,960	$ 222,378	$ 220,573	$ 216,008	$ -	$ -
	2007	0	-	-	-	$ 233,662	$ 222,823	$ 220,975	$ 216,299	$ -	$ -
	2008	0	-	-	-	$ 234,384	$ 223,282	$ 221,388	$ 216,599	$ -	$ -
	2009	0	-	-	-	$ 235,127	$ 223,753	$ 221,814	$ 216,907	$ -	$ -
	2010	85	61	16	45	$ 235,828	$ 224,199	$ 222,216	$ 217,198	$ 13.67	$ 13.26
	2011	224	149	39	110	$ 236,548	$ 224,656	$ 222,628	$ 217,497	$ 33.77	$ 32.74
	2012	405	252	66	186	$ 237,286	$ 225,124	$ 223,050	$ 217,804	$ 57.14	$ 55.37
	2013	619	360	94	267	$ 238,042	$ 225,604	$ 223,483	$ 218,117	$ 81.85	$ 79.26
	2014	794	432	112	320	$ 238,814	$ 226,094	$ 223,925	$ 218,438	$ 98.40	$ 95.22
	2015	941	478	124	354	$ 239,603	$ 226,595	$ 224,377	$ 218,766	$ 109.25	$ 105.65
	2016	1060	504	131	373	$ 240,411	$ 227,108	$ 224,840	$ 219,101	$ 115.32	$ 111.44
	2017	1160	515	134	381	$ 241,238	$ 227,633	$ 225,313	$ 219,444	$ 118.20	$ 114.14
	2018	1245	517	134	382	$ 242,085	$ 228,171	$ 225,799	$ 219,796	$ 118.82	$ 114.66
	2019	1317	511	133	378	$ 242,953	$ 228,722	$ 226,296	$ 220,156	$ 117.83	$ 113.62
	2020	1380	500	130	370	$ 243,843	$ 229,287	$ 226,805	$ 220,526	$ 115.68	$ 111.46
	2021	1435	486	126	360	$ 244,755	$ 229,867	$ 227,328	$ 220,905	$ 112.70	$ 108.51
	2022	1483	469	122	347	$ 245,692	$ 230,461	$ 227,864	$ 221,294	$ 109.15	$ 105.01
	2023	1525	451	117	334	$ 246,652	$ 231,071	$ 228,414	$ 221,692	$ 105.21	$ 101.14
	2024	1563	432	112	320	$ 247,633	$ 231,694	$ 228,976	$ 222,100	$ 101.03	$ 97.04
	2025	1596	412	107	305	$ 248,638	$ 232,332	$ 229,551	$ 222,517	$ 96.70	$ 92.81
	2026	1625	393	102	290	$ 249,666	$ 232,984	$ 230,140	$ 222,943	$ 92.33	$ 88.53
	2027	1652	373	97	276	$ 250,718	$ 233,652	$ 230,742	$ 223,380	$ 87.96	$ 84.27
	2028	1675	353	92	262	$ 251,795	$ 234,337	$ 231,359	$ 223,828	$ 83.64	$ 80.07
	2029	1697	334	87	248	$ 252,899	$ 235,037	$ 231,991	$ 224,286	$ 79.42	$ 75.95
									NPV 7%	$655.11	$631.82
									Annlzd 7%	$ 56	$ 54
A3	2005	0	-	-	-	$ 232,279	$ 221,945	$ 220,183	$ 215,725	$ -	$ -
	2006	0	-	-	-	$ 232,960	$ 222,378	$ 220,573	$ 216,008	$ -	$ -
	2007	0	-	-	-	$ 233,662	$ 222,823	$ 220,975	$ 216,299	$ -	$ -
	2008	0	-	-	-	$ 234,384	$ 223,282	$ 221,388	$ 216,599	$ -	$ -
	2009	0	-	-	-	$ 235,127	$ 223,753	$ 221,814	$ 216,907	$ -	$ -
	2010	117	84	22	62	$ 235,828	$ 224,199	$ 222,216	$ 217,198	$ 18.87	$ 18.31
	2011	309	206	54	152	$ 236,548	$ 224,656	$ 222,628	$ 217,497	$ 46.60	$ 45.18
	2012	558	348	90	257	$ 237,286	$ 225,124	$ 223,050	$ 217,804	$ 78.83	$ 76.38
	2013	854	497	129	368	$ 238,042	$ 225,604	$ 223,483	$ 218,117	$ 112.89	$ 109.32
	2014	1096	596	155	441	$ 238,814	$ 226,094	$ 223,925	$ 218,438	$ 135.75	$ 131.36
	2015	1299	660	172	489	$ 239,603	$ 226,595	$ 224,377	$ 218,766	$ 150.74	$ 145.77
	2016	1463	695	181	514	$ 240,411	$ 227,108	$ 224,840	$ 219,101	$ 159.12	$ 153.76
	2017	1601	711	185	526	$ 241,238	$ 227,633	$ 225,313	$ 219,444	$ 163.09	$ 157.49
	2018	1718	713	185	527	$ 242,085	$ 228,171	$ 225,799	$ 219,796	$ 163.95	$ 158.21
	2019	1818	705	183	522	$ 242,953	$ 228,722	$ 226,296	$ 220,156	$ 162.58	$ 156.77
	2020	1904	690	179	511	$ 243,843	$ 229,287	$ 226,805	$ 220,526	$ 159.61	$ 153.79
	2021	1980	671	174	496	$ 244,755	$ 229,867	$ 227,328	$ 220,905	$ 155.50	$ 149.72
	2022	2046	648	168	479	$ 245,692	$ 230,461	$ 227,864	$ 221,294	$ 150.60	$ 144.89
	2023	2104	623	162	461	$ 246,652	$ 231,071	$ 228,414	$ 221,692	$ 145.16	$ 139.54
	2024	2156	596	155	441	$ 247,633	$ 231,694	$ 228,976	$ 222,100	$ 139.39	$ 133.88
	2025	2202	569	148	421	$ 248,638	$ 232,332	$ 229,551	$ 222,517	$ 133.42	$ 128.05
	2026	2242	542	141	401	$ 249,666	$ 232,984	$ 230,140	$ 222,943	$ 127.38	$ 122.15
	2027	2279	514	134	381	$ 250,718	$ 233,652	$ 230,742	$ 223,380	$ 121.36	$ 116.27
	2028	2311	488	127	361	$ 251,795	$ 234,337	$ 231,359	$ 223,828	$ 115.40	$ 110.47
	2029	2341	461	120	341	$ 252,899	$ 235,037	$ 231,991	$ 224,286	$ 109.57	$ 104.79
									NPV 7%	$903.87	$871.73
									Annlzd 7%	$ 78	$ 75

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: Values in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 26 percent of cases are fatal, 74 percent are non-fatal (USEPA 1999a). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Sources: Colums A: Exhibits E.17,19,20,21(a)
Columns E-H, Exhibit N.15b: Columns I - L

N.2.2.4 Calculating the net cost numerator

The Total Cost Adjustment for each regulatory alternative is determined in Section 2.2 of this appendix. All values are annualized. Exhibit N.16 subtracts the Total Cost Adjustments from the regulatory costs for each alternative, at 3 percent and 7 percent discount rates, respectively, reflecting the following calculation.

Net Annualized Cost = Annualized Cn - Total Annualized Cost Adjustmentn

where C = total regulatory compliance cost,
n = regulatory alternative, and

Using a 3 percent discount rate and the ECOI approach, the lowest Net Cost is associated with the least stringent alternative and the highest with the most stringent. Exhibit N.16 also presents results using the TCOI approach and a discount rate of 7 percent; all combinations of approach and discount rate show the same pattern.

Exhibit N.16 Net Regulatory Cost Using Avoided Cases of Bladder Cancer, by Rule Alternative, 3 and 7 Percent Discount Rates

Rule Alternative	Regulatory Cost	Total Cost Adjustment (ECOI)	Total Cost Adjustment (TCOI)	Net Regulatory Cost (ECOI)	Net Regulatory Cost (TCOI)
	(Million $)				
	A	B	C	D = A - B	E = A - C
3 Percent					
Preferred	$ 79	$ 35	$ 34	$ 43	$ 45
Alternative 1[1]	$ 254	$ 32	$ 31	$ 222	$ 224
Alternative 2	$ 422	$ 120	$ 115	$ 302	$ 307
Alternative 3	$ 634	$ 165	$ 158	$ 469	$ 476
7 Percent					
Preferred	$ 77	$ 16	$ 16	$ 60	$ 61
Alternative 1[1]	$ 242	$ 15	$ 14	$ 227	$ 227
Alternative 2	$ 406	$ 56	$ 54	$ 350	$ 352
Alternative 3	$ 613	$ 78	$ 75	$ 536	$ 538

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative (a lower cost adjustment) because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibit 9.11, Mean Annualized Value, 25 years.
Columns B and C: Exhibits N.15 a - d, Columns I, J.

N.2.3 The CEA Ratio for Avoided Cases of Bladder Cancer

The CEA ratio describes the average cost per MILY saved, by each regulatory alternative. In Exhibit N.17, the Net Cost estimates developed in Section 2.2 are divided by the MILYs saved for each alternative to yield the CEA ratio.

The lowest cost per MILY is associated with the least stringent alternative-the Preferred Alternative. The most stringent rule-Alternative 3-is not the most costly per MILY, because Alternative 1 actually has a higher cost per MILY. This is explained by that all benefits are not captured for the bromate reduction featured in Alternative 1 at this time.

Efficiency can be reviewed further with an incremental CEA, which describes how much additional benefit is gained per additional unit cost expended from one alternative to the next. Although the U.S. Public Health Service Panel on Cost Effectiveness in Health and Medicine did not recommend a cost-effectiveness threshold for generalized use, it may be useful to identify cost thresholds that some have used in comparing life saving or quality-of-life-improving interventions. The Harvard Cost Utility Analysis database presents a median cost-utility ratio of $31,000 per QALY (or MILY) (2002$) for respiratory and cardiovascular interventions, while Tengs et al. (1995) report a median cost per life-year saved for life-saving interventions of $48,000 (1993$). The health economics literature sometimes uses either $50,000 or $100,000 per QALY (or MILY) as a threshold, with ratios less than these values considered de facto cost effective. However, it is important to recognize that these thresholds are arbitrary values, often derived by reference to the cost per QALY for interventions that public health specialists agree are justified. In general, EPA recommends that decisions as to whether a specific control strategy is justified should be based on a complete comparison of benefits and costs.

The incremental gain (in MILYs) of a first alternative (in a series of increasingly stringent alternatives) is equivalent to the CEA ratio of that alternative and captures the large amount of benefits achieved by having a rule (compared to the status quo). The differences between subsequent rule alternatives are quite narrow by comparison. Alternative 1 is excluded from the comparison in Exhibit N.17 because its incremental ratio would be negative. This is because 1) the additional benefit due to a more stringent MCL for bromate is not quantified, and 2) the benefit of performing the Initial Distribution System Evaluation is only considered for the Preferred Alternative. Alternatives 2 and 3 show a pattern of increasing incremental cost with increasing stringency. When comparing the average cost and incremental cost per MILY (Exhibits N.17 - N.18) to the default thresholds described previously, the Preferred Rule, using a discount rate of 3%, is the only alternative lower than the $100,000 per MILY threshold.

An additional analysis that can be performed is a breakeven analysis. This analysis uses the arbitrary threshold estimates discussed above and calculates a maximum rule cost that would break even with the costs allowed by these thresholds. This analysis uses two of the default thresholds described above ($50,000 and $100,000 per MILY), and uses the MILYs calculated in Section 2.1.3 of this Appendix using 3 and 7 percent discount rates and both the ECOI and TCOI approach. For example, at a threshold of $100,000 per MILY expenditure and using a 3 percent discount rate, a regulatory cost of $75 million would break even for the Preferred Alternative. The Preferred Alternative is less (better) than this threshold using the ECOI and TCOI approach, having a net cost of $48 and $50 million, respectively. The other alternatives are significantly more costly than their respective thresholds (Exhibits N.19a-d).

Exhibit N.17 Cost Effectiveness Analysis Using Cases of Bladder Cancer Avoided, by Rule Alternative, 3 and 7 Percent Discount Rates

Rule Alternative	Net Cost (ECOI)	Net Cost (TCOI)	MILYs	Cost per MILY (ECOI)	Cost per MILY (TCOI)
	(Million $)		(Years)	($)	
	A	B	C	$D = A * 10^6/C$	$E = B * 10^6/C$
3 Percent					
Preferred	$ 43	$ 45	725	$ 59,946	$ 62,001
Alternative 1[1]	$ 222	$ 224	652	$ 340,584	$ 342,641
Alternative 2	$ 302	$ 307	2,449	$ 123,259	$ 125,315
Alternative 3	$ 469	$ 476	3,379	$ 138,754	$ 140,810
7 Percent					
Preferred	$ 60	$ 61	510	$ 118,394	$ 119,540
Alternative 1[1]	$ 227	$ 227	462	$ 491,295	$ 492,449
Alternative 2	$ 350	$ 352	1,733	$ 202,150	$ 203,303
Alternative 3	$ 536	$ 538	2,390	$ 224,024	$ 225,178

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative (fewer MILYs saved) because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Columns A,B - Exhibits N.16, Columns D-E
Column C - Exhibit N.10, Column C

Exhibit N.18 Incremental Cost Effectiveness Analysis, by Rule Alternative, 3 and 7 Percent Discount Rates

Rule Alternative (*n*)	Net Cost (ECOI)	Net Cost (TCOI)	MILYs	Incremental Net Cost[1] (ECOI)	Incremental Net Cost[1] (TCOI)	Incremental MILYs	Incremental Cost per MILY (ECOI)	Incremental Cost per MILY (TCOI)
	(Million $)		(Years)	(Million $)		(Years)	($)	
	A	B	C	$D = A_n - A_{(n-1)}$	$E = B_n - B_{(n-1)}$	$F = C_n - C_{(n-1)}$	G = D/F	H = E/F
3 Percent								
Preferred	$ 43	$ 45	$ 725	$ 43	$ 45	$ 725	$ 59,946	$ 62,001
Alternative 2[2]	$ 302	$ 307	$ 2,449	$ 258	$ 262	$ 1,724	$ 149,868	$ 151,925
Alternative 3	$ 469	$ 476	$ 3,379	$ 167	$ 169	$ 930	$ 179,559	$ 181,615
7 Percent								
Preferred	$ 60	$ 61	$ 510	$ 60	$ 61	$ 510	$ 118,394	$ 119,540
Alternative 2[2]	$ 350	$ 352	$ 1,733	$ 290	$ 291	$ 1,222	$ 237,113	$ 238,270
Alternative 3	$ 536	$ 538	$ 2,390	$ 185	$ 186	$ 658	$ 281,629	$ 282,782

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnotes: 1) The incremental cost for the first in a series of increasingly stringent rules is just the cost itself (the difference between status quo and implementing the first alternative). For example, the *incremental* cost of the Preferred Alternative (using a discount rate of 3 percent) is $52 million, the same value as the cost.

2) Alternative 2 is compared directly to the Preferred Alternative (skipping Alternative 1) in this analysis. In reference to conducting incremental CEA, OMB states that "When constructing and comparing incremental cost-effectiveness ratios, [analysts] ... should make sure that inferior alternatives identified by the principles of strong and weak dominance are eliminated from consideration." (OMB Circular A-4, p. 10) Alternative 1 is dominated by the Preferred Alternative and is therefore not included in the incremental analysis. The reason for this domination is mainly that the Preferred Alternative includes IDSE and Alternative 1 does not; and to a lesser degree because the bromate control included in Alternative 1 increases the costs but the benefits of this control are not quantified at this time.

Sources: Columns A,B - Exhibits N.16, Columns D-E
Column C - Exhibit N.10, Column C

Exhibit N.19a Breakeven Analysis for Fatal and Non-Fatal Cases, by Rule Alternative, 3% Discount Rate, $50,000 Per MILY Threshold

Rule Alternative	MILYs (years)	Breakeven Net Cost Assuming $50,000/MILY Threshold	Net Cost (ECOI)	Net Cost (TCOI)
		(Million $)		
	A	B = $50,000 * A /$10^6$	C	D
Preferred	725	$ 36	$ 43	$ 45
Alternative 1[1]	652	$ 33	$ 222	$ 224
Alternative 2	2449	$ 122	$ 302	$ 307
Alternative 3	3379	$ 169	$ 469	$ 476

Abbreviations:

ECOI = Enhanced Cost of Illness

TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative (fewer MILYs saved) because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibit N.10, Column C
Columns C,D: Exhibit N.16: Columns D, E

Exhibit N.19b Breakeven Analysis for Fatal and Non-Fatal Cases, by Rule Alternative, 3% Discount Rate, $100,000 Per MILY Threshold

Rule Alternative	MILYs (years)	Breakeven Net Cost Assuming $100,000/MILY Threshold	Net Cost (ECOI)	Net Cost (TCOI)
		(Million $)		
	A	B = $100,000* A /$10^6$	C	D
Preferred	725	$ 72	$ 43	$ 45
Alternative 1[1]	652	$ 65	$ 222	$ 224
Alternative 2	2449	$ 245	$ 302	$ 307
Alternative 3	3379	$ 338	$ 469	$ 476

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative (fewer MILYs saved) because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibit N.10, Column C
Columns C,D: Exhibit N.16: Columns D, E

Exhibit N.19c Breakeven Analysis for Fatal and Non-Fatal Cases, by Rule Alternative, 7% Discount Rate, $50,000 Per MILY Threshold

Rule Alternative	MILYs (years)	Breakeven Net Cost Assuming $50,000/MILY Threshold	Net Cost (ECOI)	Net Cost (TCOI)
		(Million $)		
	A	B = $50,000 * A /$10^6$	C	D
Preferred	510	$ 26	$ 60	$ 61
Alternative 1[1]	462	$ 23	$ 227	$ 227
Alternative 2	1,733	$ 87	$ 350	$ 352
Alternative 3	2,390	$ 120	$ 536	$ 538

Abbreviations:

ECOI = Enhanced Cost of Illness

TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative (fewer MILYs saved) because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibit N.10, Column C

Columns C,D: Exhibit N.16: Columns D, E

Exhibit N.19d Breakeven Analysis for Fatal and Non-Fatal Cases, by Rule Alternative, 7% Discount Rate, $100,000 Per MILY Threshold

Rule Alternative	MILYs (years)	Breakeven Net Cost Assuming $100,000/MILY Threshold	Net Cost (ECOI)	Net Cost (TCOI)
		(Million $)		
	A	B = $100,000* A /$10^6$	C	D
Preferred	510	$ 51	$ 60	$ 61
Alternative 1[1]	462	$ 46	$ 227	$ 227
Alternative 2	1,733	$ 173	$ 350	$ 352
Alternative 3	2,390	$ 239	$ 536	$ 538

Abbreviations: ECOI = Enhanced Cost of Illness; TCOI = Traditional Cost of Illness

Notes: All values are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer.

Footnote 1: Alternative 1 appears to have fewer benefits than the Preferred Alternative (fewer MILYs saved) because it does not incorporate the IDSE, as explained in Chapter 4. Furthermore, this EA does not quantify the benefits of reducing the MCL for bromate (and potentially associated cancer cases), a requirement that is included only in Alternative 1.

Sources: Column A: Exhibit N.10, Column C
Columns C,D: Exhibit N.16: Columns D, E

N.3.0 Sensitivity Analysis

Human epidemiology studies on chlorinated surface water have reported associations with colon and rectal cancers, which are together the third most common type of new cancer cases and deaths in both men and women in the U.S., excluding skin cancers. Therefore, any benefit from reducing the incidence of colon and rectal cancers could be significant. EPA is including a quantitative sensitivity analysis for benefits accrued from the Stage 2 DBPR from avoiding colon and rectal cancers.

Potential benefits from avoided cases of colon and rectal cancers achieved through reduction in DBP concentration also represent one of the largest uncertainties affecting the benefits of the Stage 2 DBPR. Although this benefit is not calculated as part of the main Economic Analysis of the Stage 2 DBPR, it is used in a sensitivity analysis in Section 6.7 of the EA to inform the reader of the potential magnitude of this benefit. Similarly, this Appendix presents summary tables that show how sensitive the CEA results are to inclusion of potential benefits from avoided colon and rectal cancers.

The methods for calculating QALYs, or MILYs saved by the Stage 2 DBPR for potentially avoided colon and rectal cancers are basically the same as those described previously in this Appendix. Where the data sources or methods are different, the text below describes and explains this difference.

N.3.1 QALY Decrements and Time in State for Colon and Rectal Cancer Cases

The Agency's literature review discovered seven studies that include estimates of QALY scores for various stages, durations, and treatments of colorectal cancer.[22] Of these studies, EPA believes that Dominitz and Provenzale (1997) provides the best estimate of the QALY loss due to colorectal cancer, because it is a patient- and community-based time-tradeoff study. The results presented by Dominitz and Provenzale (1997) support a decrement of 0.15 for twenty years of colorectal cancer and between 0.15 and 0.21 for twenty years with a colostomy. Assuming that 10 percent of colorectal cancer patients need a colostomy, this implies an annual QALY decrement of 0.1536.[23] This decrement is also within the range suggested by the other studies EPA reviewed.

The definition of time in state used in Dominitz and Provenzale (1997) to generate QALY scores is 20 years and is approximately consistent with that used in EPA's *Cost of Illness Handbook*. The *Handbook* estimates that the average age of diagnosis for colorectal cancer is 70.4 years, and the average follow-up period is 13.8 years; the difference between this estimate and the 20 years in Dominitz and Provenzale is likely attributable to the EPA analysts accounting for the high average age of diagnosis for colon and rectal cancer patients, and the high baseline mortality rate among individuals at that age. In other words, many colon and rectal cancer patients, even if they survive the cancer, die of other causes prior to reaching the end of a 20 year follow-up period. Therefore this CEA adopts a 13.8 year time-in-state estimate for colon and rectal cancer patients.

In the case of colon and rectal cancers, no RSR analysis is applied in the EPA COI handbook, as was done for bladder cancer cases. Instead, the COI estimates are constructed based on several key facts in the Handbook about the survival rate for colorectal cancer, including the following:

1. 47 percent of colon and rectal cancer patients ultimately die of the disease.
2. 70 to 80 percent of all patients survive through the first three years.
3. The average life expectancy of survivors, before they die of other causes, is 13.8 years from diagnosis.

Using these three facts, a table is constructed similar to that in the bladder cancer sections shown previously that allocates all colorectal patients into three outcome categories: survive the full 13.8 years before dying of other causes; survive for some portion of this period but die of other causes; and survive for some portion of the 13.8 year period but die from colon and rectal cancer. The last category includes a total of 47 percent of all colorectal cancer incidence. The result of these calculations of the relevant QALY score and time-in-state, weighted by the likelihood of an “average” patient realizing one of the three outcomes outlined above, is a set of QALY loss estimates for cancer patients in two categories: patients that ultimately survive the cancer, and patients that ultimately die from the cancer. The estimates of QALY loss were generated so they could be applied as a type of “unit value” to each incidence of fatal and nonfatal cancer, and then aggregated (See Exhibit N.20).

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[22] In addition to Dominitz and Provenzale (1997), these studies include: Hristova and Hakama (1997), Ness et al. (1999), Norum et al. (1997), Ramsey et al. (2000), Stiggelbout et al. (1995), and Whynes and Neilson (1993).

[23] This is calculated as: 0.1536 = (10 percent colostomy)*(0.186, which is the average of the three QALY decrements for this condition) + (remaining 90 percent)*(0.15)

Exhibit N.20 QALY Loss Due to Morbidity for an Average Case (Fatal and Non-Fatal) of Colorectal Cancer at 3 Percent and 7 Percent Discount Rates

	Undiscounted	3 Percent	7 Percent
Non-Fatal	2.12	1.77	1.42
Fatal	0.51	0.48	0.44

Sources: QALY estimates used to generate this table were developed based on Dominitz and Provenzale (1997). Decrements shown are for a weighted average case, calculated using probabilities of survival that are taken from The EPA *Cost of Illness Handbook.*

Note: The QALY loss associated with morbidity is greater for survivors than nonsurvivors because they live longer, and endure the illness longer, on average.

The estimates of QALY loss due to morbidity are then applied to fatal and non-fatal cases generated in the EA to produce estimates of morbidity related QALYs (Exhibit N.21). The annual mortality rate estimates are developed using the facts stated in the EPA COI Handbook and described previously in this section. The resulting life years saved for potentially avoided fatal cases of colon and rectal cancers is shown combined with life years saved for bladder cancer cases avoided by the Stage 2 DBPR (Exhibit N.22).

Exhibit N.21 QALYs Saved in the Sensitivity Analysis: Morbidity Related to Fatal and Non-Fatal Cases of Cancers Avoided by the Preferred Alternative Using 3 and 7 Percent Discount Rates

Cancer Avoided	Cases Avoided	Non-Fatal Cases[1]	Fatal Cases[1]	Morbidity-Related QALYs		Morbidity-Related QALYs, Fatal and Non-Fatal Cases
				Non-Fatal Cases	Fatal Cases	
	A	B	C	D	E	F = D + E
3 Percent						
Bladder	238	176	62	55	17	72
Sensitivity Analysis	613	375	238	407	102	508
7 Percent						
Bladder Cancers	189	140	49	36	12	47
Sensitivity Analysis	491	300	191	263	74	338

Notes: This sensitivity analysis combines results for bladder cancer cases with those for potentially avoidable colon and rectal cancers. All estimates are discounted and annualized. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 24 percent of bladder cancer cases are fatal, 76 percent are non-fatal (USEPA 1999a); 47 percent of colon rectal cancer cases are fatal, and 53 percent are non-fatal (EPA COI Handbook). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer or colon rectal cancers.

Footnote: 1) Per the EPA COI Handbook, 20 y ears and 13.8 years capture most deaths that result from bladder cancers and from colon rectal cancers, respectively, and the mortality rates over these periods are 26% and 47%.

Sources: Bladder cancer data: Exhibit N.7; QALY decrements based on Mauskopf & French (1991). Colon and Rectal Cancers data: Exhibits E 22a. QALY decrements based on Dominitz and Provenzale (1997). Disease duration, medical cost of illness, and relative survival rates that were used to modify QALY decrements are from the EPA Cost of Illness Handbook (Sections II.7 and II.8). Time losses (indirect cost of illness) are adopted from time losses computed for bladder cancer cases in this Appendix (Section 2.2) because such data specific to colon rectal cancers was not available and, based on the relatively more severe treatment regimen for colon and rectal cancers, bladder cancer time losses will underestimate those for colon rectal cancers, so they represent a conservative estimate.

Exhibit N.22 Life Years Saved in the Sensitivity Analysis, Fatal Cases of Cancers Avoided by the Preferred Alternative Using 3 and 7 Percent Discount Rates

Cancer Avoided	Fatal Cases	Life Years Saved
	A	B
3% Discount Rate		
Bladder	62	653
Sensitivity Analysis	238	2655
7% Discount Rate		
Bladder	49	463
Sensitivity Analysis	191	1928

Notes: This sensitivity analysis combines results for bladder cancer cases with those for potentially avoidable colon and rectal cancers. All estimates are discounted and annualized. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 24 percent of bladder cancer cases are fatal, 76 percent are non-fatal (USEPA 1999a); 47 percent of colon rectal cancer cases are fatal, and 53 percent are non-fatal (EPA *COI Handbook*). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer or colon rectal cancers.

Sources:
Bladder cancers data, Columns A, B - Exhibits N.9
Colon and Rectal Cancers data: Exhibits E 22a. QALY decrements based on Dominitz and Provenzale (1997). Disease duration, medical cost of illness, and relative survival rates that were used to modify QALY decrements are from the EPA Cost of Illness Handbook (Sections II.7 and II.8). Time losses (indirect cost of illness) are adopted from time losses computed for bladder cancer cases in this Appendix (Section 2.2) because such data specific to colon rectal cancers was not available and, based on the relatively more severe treatment regimen for colon and rectal cancers, bladder cancer time losses will underestimate those for colon rectal cancers, so they represent a conservative estimate.

MILYs, as described in previous sections detailing the same analysis for bladder cancer cases avoided, integrate the QALYs saved from avoided morbidity associated with cases of fatal and non-fatal cancers with life years saved from avoided premature mortality. MILYs saved for the colon and rectal cancer cases that potentially could be avoided by the rule are combined with the bladder cancer results in Exhibit N.23.

Exhibit N.23 MILYs Saved in the Sensitivity Analysis for Non-Fatal and Fatal Cancers Cases Avoided by the Preferred Alternative, Using 3 and 7 Percent Discount Rates

Cancer Avoided	Morbidity-Related QALYs, Fatal and Non-Fatal Cases	Life-Years Saved from Avoided Premature Mortality	MILYs
	A	B	C = A + B
3% Discount Rate			
Bladder	72	653	725
Colon and Rectal	436	2,003	2,439
Sensitivity Analysis	508	2,655	3,163
7% Discount Rate			
Bladder	47	463	510
Colon and Rectal	291	1,466	1,756
Sensitivity Analysis	338	1,928	2,266

Notes: This sensitivity analysis combines results for bladder cancer cases with those for potentially avoidable colon and rectal cancers. All estimates are discounted and annualized. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 24 percent of bladder cancer cases are fatal, 76 percent are non-fatal (USEPA 1999a); 47 percent of colon rectal cancer cases are fatal, and 53 percent are non-fatal (EPA COI Handbook). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer or colon rectal cancers.

Sources: Column A: Exhibit N.21
Column B: Exhibit N.22

N.3.2 Costs subtracted from the numerator for avoided colon and rectal cancer cases

Costs for medical treatment and time losses for potentially avoided colon and rectal cancers are calculated using a method equivalent to that described above for bladder cancer cases. Additionally, the annual caregiver time losses estimated for avoided bladder cancer cases are transferred directly to the analysis for colon and rectal cancers because an alternative source of information specific to colon and rectal cancers is not known at this time. Based on the following facts presented in the EPA *Cost of Illness Handbook*, caregiver time losses for bladder cancer will likely underestimate those for colon and rectal cancers:

> Colon and rectal cancers have a higher fatality rate than bladder cancer (47% vs. 26%), and often require a more invasive surgery (resectioning of the colon). Most bladder tumors are confined to the transitional cell layer and these are generally treated only with surgery. The tumors often recur, which requires frequent cystoscopy with subsequent removal of recurrent tumors as necessary. In the case of colon and rectal cancers, surgery is usually performed, as well as radiation and/or chemotherapy. Most surgery involves en bloc resection, which entails removing large sections of the intestinal tract. Treatment for this type of cancer often requires permanent lifestyle changes due to the nature of the surgical intervention required. (EPA *Cost of Illness Handbook*, 1999)

As presented in a previous section (2.2.1), costs are identified that, in the case of avoided colon and rectal cancer cases, could reasonably be assumed to be avoided. These costs consist of direct costs from avoided medical expenses, and indirect costs from losses of time by patients and caregivers. Additionally, these costs should not be accounted for by the QALY decrement. As discussed in the bladder cancer section 2.2.1, there is a lack of consensus on the issue of whether QALY decrements include consideration of the full costs of lost work time. This analysis, consistent with the CAIR RIA, makes the assumption that lost work time costs to society are not included in the QALY decrements; therefore, the value of these time losses is included in the costs subtracted from regulation costs in the numerator.

In Dominitz and Provenzale, the questionnaire includes reference to some limitations, but does not specify lost work. The section describing life after a colostomy states that "You should be able to carry out all of your usual activities. Occasionally you may experience an unexpected odor, gas or discharge, " while the section on "living with colon cancer" states that "You are able to perform your usual activities with some limitation" and that "You can climb one flight of stairs but must rest after you reach the top step." These descriptions seem to support that respondents were thinking about limits on their non-market work and leisure time. It is less clear whether they were considering lost time from paid work. For example, these scenarios would suggest that a person whose job involved physical work would be severely limited at work, but these scenarios do not differentiate between limitations for those whose jobs are physically demanding vs. those who have desk jobs. The uncertainty in the composition of the QALY decrements is underscored more generally when considering the information presented in Nord et al. (Exhibit N.2 in the introduction to this Appendix), where a variety of elicitation instruments has produced inconsistent QALY estimates.

Costs are calculated by year and applied to then number of cases that may potentially be avoided. The number of cases and the avoidable costs are discounted using both 3 and 7 percent discount rates, and this cost adjustment is subtracted from the regulatory costs, as is the cost adjustment associated with avoided cases of bladder cancer, to produce a net numerator (sections 2.2.2 - 2.2.4). The sensitivity analysis for net cost is shown in Exhibit N.24.

Exhibit N.24 Sensitivity Analysis for Net Regulatory Cost[1] of Preferred Alternative Using Cases of Avoided Cancers, 3 and 7 Percent Discount Rates

Ilness Avoided	Cost	Total Cost Adjustment (ECOI)	Total Cost Adjustment (TCOI)	Net Cost (ECOI)	Net Cost (TCOI)
	(Million $)				
	A	B	C	D = A - B	E = A - C
3 Percent					
Bladder	$ 79	$ 35	$ 34	$ 43	$ 45
Sensitivity Analysis	$ 79	$ 93	$ 87	Cost Saving	Cost Saving
7 Percent					
Bladder	$ 77	$ 16	$ 16	$ 60	$ 61
Sensitivity Analysis	$ 77	$ 33	$ 31	$ 44	$ 46

Abbreviations: ECOI = Enhanced Cost of Illness, TCOI = Traditional Cost of Illness

Notes: This sensitivity analysis combines results for bladder cancer cases with those for potentially avoidable colon and rectal cancers. All estimates are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 24 percent of bladder cancer cases are fatal, 76 percent are non-fatal (USEPA 1999a); 47 percent of colon rectal cancer cases are fatal, and 53 percent are non-fatal (EPA COI Handbook). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer or colon rectal cancers.

Footnote 1: Net Regulatory costs are regulatory costs less those costs expected to be avoided through rule promulgation.

Sources:
Bladder Cancer data: Exhibit N.16
Colon and Rectal Cancers data: Exhibits E 22a. QALY decrements based on Dominitz and Provenzale (1997). Disease duration, medical cost of illness, and relative survival rates that were used to modify QALY decrements are from the EPA Cost of Illness Handbook (Sections II.7 and II.8). Time losses (indirect cost of illness) are adopted from time losses computed for bladder cancer cases in this Appendix (Section 2.2) because such data specific to colon rectal cancers was not available and, based on the relatively more severe treatment regimen for colon and rectal cancers, bladder cancer time losses will underestimate those for colon rectal cancers, so they represent a conservative estimate.

N.3.3 The CEA Ratio for Potentially Avoided Cases of Colon and Rectal Cancer

The CEA ratio for cases of colon and rectal cancers that potentially may be avoided by the Preferred Alternative is constructed as described previously for cases of bladder cancer avoided (section 2.3). The combined results for avoided bladder cancer and colon and rectal cancer cases are shown in Exhibit N.25. The combined results of a breakeven analysis (for 3 and 7 percent discount rates) are also shown in Exhibit N.26. These sensitivity analyses show that the addition of benefits from potentially avoided colon and rectal cancer cases improves the cost effectiveness of the Stage 2 DBPR significantly.

Exhibit N.25 Combined Cost Effectiveness Analysis for the Preferred Alternative Using Cases of Cancers Avoided, 3 and 7 Percent Discount Rates

Ilness Avoided	Net Cost (ECOI)	Net Cost (TCOI)	MILYs	Cost per MILY (ECOI)	Cost per MILY (TCOI)
	(Million $)		(Years)	($)	
	A	B	C	D = A * 10^6/C	E = B * 10^6/C
3 Percent					
Bladder	$ 43	$ 45	725	$ 59,946	$ 62,001
Colon and Rectal	$ 21	$ 26	2,439	$ 8,753	$ 10,506
Sensitivity Analysis	Cost Saving	Cost Saving	3,163	$ 20,480	$ 22,302
7 Percent					
Bladder	$ 60	$ 61	510	$ 118,394	$ 119,540
Colon and Rectal	$ 60	$ 62	1,756	$ 34,239	$ 35,067
Sensitivity Analysis	$ 44	$ 46	2,266	$ 19,294	$ 20,194

Abbreviations: ECOI = Enhanced Cost of Illness, TCOI = Traditional Cost of Illness

Note: This sensitivity analysis combines results for bladder cancer cases with those for potentially avoidable colon and rectal cancers. All estimates are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 24 percent of bladder cancer cases are fatal, 76 percent are non-fatal (USEPA 1999a); 47 percent of colon rectal cancer cases are fatal, and 53 percent are non-fatal (EPA COI Handbook). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer or colon rectal cancers.

Sources: Columns A,B - Exhibits N.24, Columns D - E
Column C - Exhibit N.23, Column C

Exhibit N.26 Sensitivity Analysis for Breakeven Net Cost of the Preferred Alternative, Using Fatal and Non-Fatal Cases of Cancers Avoided, 3 and 7 Percent Discount Rates

$ Per MILY Threshold	Combined MILYs (years)	Breakeven Net Cost	Net Cost (ECOI)	Net Cost (TCOI)
		(Million $)		
	A	B = $50,000* A /10^6 B = $100,000* A /10^6	C	D
3 Percent				
$ 50,000	3,163	$ 158	Cost Saving	Cost Saving
$ 100,000	3,163	$ 316	Cost Saving	Cost Saving
7 Percent				
$ 50,000	2,266	$ 113	$ 44	$ 46
$ 100,000	2,266	$ 227	$ 44	$ 46

Note: This sensitivity analysis combines results for bladder cancer cases with those for potentially avoidable colon and rectal cancers. All estimates are discounted and annualized in 2003$. Based on TTHM as an indicator, Villanueva et al. (2003) for baseline risk, and smoking/lung cancer cessation lag model. Some numbers may not add correctly due to rounding. Assumes 24 percent of bladder cancer cases are fatal, 76 percent are non-fatal (USEPA 1999a); 47 percent of colon rectal cancer cases are fatal, and 53 percent are non-fatal (EPA COI Handbook). EPA recognizes that benefits may be as low as zero since causality has not yet been established between exposure to chlorinated water and bladder cancer or colon rectal cancers.

Sources: Column A,B - Exhibit N.23, Column C
Columns C and D - Exhibit N.24, Columns D and E

N.4.0 Conclusions

In this analysis, CEA ratios for the most protective alternatives have the highest cost per MILY. The cost per MILY ratio and the breakeven analysis (at a 3 percent discount rate) both show that the Preferred Alternative is the only alternative that is less than a $100,000 per MILY threshold (Exhibits N.17 and N.19a-d).

The *incremental* analysis shows that the Preferred Alternative is the only one (of all alternatives excluding Alternative 1, as described in Section 2.3) with a marginal cost relative to the next less stringent alternative that is less than the highest threshold presented in this Appendix, $100,000 per MILY (Exhibit N.18). As a result, we conclude that the results of our CEA further support the choice of the Preferred Alternative.

The sensitivity analysis (Exhibits N.21 - N.26) shows that if potentially avoidable cases of colon and rectal cancers are quantified, they significantly improve the cost effectiveness of the Stage 2 DBPR. With quality of life effects of these cancers added to the measure of the total MILY improvement, all options are cost effective, with results consistently less than $50,000 per MILY.

In the health field, where QALYs were originally developed, a common usage for CEA measures is as an entry in a “league table” that ranks the relative cost-effectiveness of multiple interventions. The main difficulty in constructing such a table is ensuring consistency of methodology in all the values being compared. The variation in QALY decrements renders comparisons across rulemakings difficult to the extent that disparate QALY scales and decrements are used, as discussed in Section 1.0 of this appendix. The NAS/IOM panel, as described in Section 1.0, will attempt to provide recommendations on the conduct of CEA for regulatory health interventions across the Federal government in its report, expected

in late 2005. Presently it would be difficult to provide entirely consistent comparisons to other health and medical interventions as part of the EA for this rule.

In addition, while QALYs are used extensively in the economic evaluation of medical interventions (Gold et al., 1996), they have not been widely used in evaluating environmental health regulations. A number of specific issues arise with the use of QALYs in evaluating environmental programs that affect a broad and heterogeneous population and that provide both health and nonhealth benefits. The U.S. Public Health Service report on cost-effectiveness in health and medicine notes the following:

> For decisions that involve greater diversity in interventions and the people to whom they apply, cost-effectiveness ratios continue to provide essential information, but that information must, to a greater degree, be evaluated in light of circumstances and values that cannot be included in the analysis. Individuals in the population will differ widely in their health and disability before the intervention, or in age, wealth, or other characteristics, raising questions about how society values gains for the more and less healthy, for young and old, for rich and poor, and so on. The assumption that all QALYs are of equal value is less likely to be reasonable in this context. (Gold et al., 1996, p. 11)

Use of QALYs (and MILYs) as a measure of effectiveness for environmental regulations is still developing, and while this analysis provides one framework for using QALYs to evaluate environmental regulations, there are clearly many issues, both scientific and ethical, that need to be addressed with additional research. The IOM panel evaluating QALYs and other effectiveness measures will attempt to develop criteria for choosing among the measures that will potentially be useful in regulatory impact analysis; make recommendations regarding measures appropriate for assessing the health benefits of regulatory interventions; and propose criteria for identifying regulations for which CEA is appropriate and informative. However, it remains uncertain when consensus on the applicability of the QALY approach to environmental regulations, and the appropriate methodology for doing so, will be reached.