SUMMARY
FINAL EFFLUENT GUIDELINES AND STANDARDS

Effluent Limitations Guidelines
for Existing Sources

Standards of Performance
for New Sources

[Current as of January 1977]

JUNE 1977

EPA-330/1-77-007
U.S. environmental protection agency
office of enforcement

CONTENTS

USING THE SUMMARY

This Summary is based on the Code of Federal Regulations, July 1, 1976, Title 40 - Protection of the Environment, Subchapter N - Effluent Guidelines and Standards, Parts 405-460, and subsequent regulations published in the Federal Register through January 1977.

In preparing the Summary, NEIC used various editorial methods (explained below) to streamline the information found in the regulations. We therefore recommend that you use this Summary as a desk reference and that you consult the Federal Register for official application of limitations.

To increase the usefulness of the Summary for you, the user, NEIC will appreciate receiving your suggestions regarding both technical information and format as we update the Summary periodically (NEIC address on front cover).

UNITS Effluent limitation units are given in the left column in English form with footnoted metric equivalents where appropriate. The unit used with the first effluent characteristic entered on a page is not repeated if it applies to the other characteristics on that page. A new unit is introduced only when an effluent characteristic requires it.

pH Although the pH limitation applies to all Subparts which present limitations for BOD, COD, TSS, etc., it is listed only when its value differs from *within the range of 6.0-9.0.*

PROCESS WASTEWATER is not defined in this Summary for each Part; consult the Federal Register for specific definitions.

¶ The Summary applies uniform paragraph designations [(1), (a), etc.] across all three categories of BPT, BAT, and NS. Since these designations do not fully correspond to the regulations, consult the Federal Register for official use.

$\leq$, $\geq$ Symbols are used in the Summary to describe limitations which are expressed throughout the regulations by these various phrases: *not to exceed (NTE); shall not exceed; not to exceed at any time; not to exceed the temperature of cooled water acceptable for return to the heat producing process and in no event greater than X; X or greater.*

BOXHEADS Various boxheads are used throughout the regulations to express effluent limitations. The Summary uses those boxheads in abbreviated form, as explained here.

BPT:	best practicable control technology currently available
BAT:	best available technology economically achievable
Max.:	maximum for any 1 day
Avg.:	average of daily values for 30 consecutive days
Ann.:	annual average
Total:	total of the daily values for the entire discharge period
Res.:	residual chlorine for any 1 day

ABBREVIATIONS The Summary uses standard symbols for chemical elements, commonly used technical abbreviations, and special variations. Some representative samples are listed here.

NS = new sources
NCC = National Climatic Center
NOAA = National Oceanic and Atmospheric Administration
SS = settleable solids
TSS = total suspended solids
BOD = biochemical oxygen demand
COD = chemical oxygen demand
TOC = total organic carbon
FC = fecal coliform
O/G = oil and grease
TKN = total kjeldahl nitrogen
RM = raw material
MPN = most probable number
CN = cyanide
Cu_T = total copper
Cl_{FA} = free available chlorine
P_E = elemental phosphorus

Ammonia-N = ammonia as nitrogen
Cr (hex) = hexavalent chromium
Ni (dis) = dissolved nickel

PART 405 - DAIRY PRODUCTS

Phase I, A-L Final Regulations, Promulgated 5/28/74, Amended 9/13/74

Effluent Characteristics†		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
405.10 Subpart A - Receiving Stations							
(a) Receiving stations receiving more than 150,000 lb/day of milk equivalent (15,600 lb/day or more of BOD input).							
BOD, TSS	lb/100 lb of BOD input††	0.048	0.019	0.010	0.005	0.010	0.005
		0.071	0.029	0.013	0.006	0.013	0.006
(b) Receiving stations receiving 150,000 lb/day or less of milk equivalent (under 15,600 lb/day of BOD input).							
BOD		0.063	0.031	0.015	0.008	0.010	0.005
TSS		0.094	0.047	0.019	0.009	0.013	0.006
405.20 Subpart B - Fluid Products							
(a) Fluid products plants receiving more than 250,000 lb/day of milk equivalent (more than 25,900 lb/day of BOD input).							
BOD		0.338	0.135	0.074	0.037	0.074	0.037
TSS		0.551	0.203	0.093	0.046	0.093	0.046
(b) Fluid products plants receiving 250,000 lb/day or less of milk equivalent (less than 25,900 lb/day of BOD input).							
BOD		0.450	0.225	0.110	0.055	0.074	0.037
TSS		0.675	0.338	0.138	0.069	0.093	0.046
405.30 Subpart C - Cultured Products							
(a) Cultured products plants receiving more than 60,000 lb/day of milk equivalent (more than 6,200 lb/day of BOD input).							
BOD		0.338	0.135	0.074	0.037	0.074	0.037
TSS		0.506	0.203	0.093	0.046	0.093	0.046

† *Unless otherwise stated, the pH limitation applies to every Subpart and equals 6.0 to 9.0.*

†† *lb/100 lb = kg/100 kg.*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(b) Cultured products plants receiving 60,000 lb/day or less of milk equivalent (less than 6,200 lb/day of BOD input).							
BOD, TSS	lb/100 lb of BOD input	0.450	0.225	0.110	0.055	0.074	0.037
		0.675	0.338	0.138	0.069	0.093	0.046
405.40 Subpart D - Butter							
(a) Plants processing more than 175,000 lb/day of milk equivalent (more than 18,180 lb/day of BOD input).							
BOD		0.138	0.055	0.016	0.008	0.016	0.008
TSS		0.206	0.083	0.020	0.010	0.020	0.010
(b) Plants processing 175,000 lb/day or less of milk equivalent (less than 18,180 lb/day of BOD input).							
BOD		0.183	0.091	0.025	0.013	0.016	0.008
TSS		0.274	0.137	0.031	0.016	0.020	0.010
405.50 Subpart E - Cottage Cheese and Cultured Cream Cheese							
(a) Plants processing more than 25,000 lb/day of milk equivalent (more than 2,600 lb/day of BOD input).							
BOD		0.670	0.268	0.148	0.074	0.148	0.074
TSS		1.005	0.402	0.185	0.093	0.185	0.093
(b) Plants processing 25,000 lb/day or less of milk equivalent (less than 2,600 lb/day of BOD input).							
BOD		0.893	0.446	0.223	0.111	0.148	0.074
TSS		1.339	0.669	0.278	0.139	0.185	0.093
405.60 Subpart F - Natural and Processed Cheese							
(a) Plants processing more than 100,000 lb/day of milk equivalent (more than 10,390 lb/day of BOD input).							
BOD		0.073	0.029	0.016	0.008	0.016	0.008
TSS		0.109	0.044	0.020	0.010	0.020	0.010

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
	(b) Plants processing 100,000 lb/day or less of milk equivalent (less than 10,390 lb/day of BOD input).						
BOD, TSS	lb/100 lb of BOD input	0.098 0.146	0.049 0.073	0.025 0.031	0.013 0.016	0.016 0.020	0.008 0.010
	405.70 Subpart G - Fluid Mix for Ice Cream and Other Frozen Desserts						
	(a) Plants with a dairy products input of more than 85,000 lb/day of milk equivalent (more than 8,830 lb/day of BOD input).						
BOD		0.220	0.088	0.048	0.024	0.048	0.024
TSS		0.330	0.132	0.060	0.030	0.060	0.030
	(b) Plants with a dairy products input of 85,000 lb/day or less of milk equivalent (less than 8,830 lb/day of BOD input).						
BOD		0.293	0.146	0.073	0.036	0.048	0.024
TSS		0.439	0.219	0.091	0.045	0.060	0.030
	405.80 Subpart H - Ice Cream, Frozen Desserts, Novelties and Other Dairy Desserts						
	(a) Plants with a dairy products input of more than 85,000 lb/day of milk equivalent (more than 8,830 lb/day of BOD input).						
BOD		0.460	0.184	0.094	0.047	0.094	0.047
TSS		0.690	0.276	0.118	0.059	0.118	0.059
	(b) Plants with a dairy products input of 85,000 lb/day or less of milk equivalent (less than 8,830 lb/day of BOD input).						
BOD		0.613	0.306	0.140	0.070	0.094	0.047
TSS		0.919	0.459	0.175	0.088	0.118	0.059
	405.90 Subpart I - Condensed Milk						
	(a) Plants condensing more than 100,000 lb/day of milk equivalent (more than 10,390 lb/day of BOD input).						
BOD		0.345	0.138	0.076	0.038	0.076	0.038
TSS		0.518	0.207	0.095	0.048	0.095	0.048

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
	(b) Plants condensing 100,000 lb/day or less of milk equivalent (less than 10,390 lb/day of BOD input).						
BOD, TSS	lb/100 lb of BOD input	0.460 0.690	0.230 0.345	0.115 0.144	0.058 0.072	0.076 0.095	0.038 0.048
	(c) BPT: plants in the size range covered by (b) once-through barometric condenser water may be discharged untreated if the composite net entrainment is below 15 mg/l of BOD for any one day and below 10 mg/l of BOD as the average for 30 consecutive days.						
	405.100 Subpart J - Dry Milk						
	(a) Milk drying plants with an input equivalent to more than 145,000 lb/day of milk equivalent (more than 15,070 lb/day of BOD input).						
BOD		0.163	0.065	0.036	0.018	0.036	0.018
TSS		0.244	0.098	0.045	0.023	0.045	0.023
	(b) Milk drying plants with an input equivalent to 145,000 lb/day or less of milk equivalent (less than 15,070 lb/day of BOD input).						
BOD		0.218	0.109	0.055	0.028	0.036	0.018
TSS		0.328	0.164	0.069	0.034	0.045	0.023
	405.110 Subpart K - Condensed Whey						
	(a) Whey condensing plants with over 300,000 lb/day of fluid raw whey input (over 20,700 lb/day of solids or 14,160 lb/day of BOD input).						
BOD		0.100	0.040	0.022	0.011	0.022	0.011
TSS		0.150	0.060	0.028	0.014	0.028	0.014
	(b) Whey condensing plants with 300,000 lb/day or less of raw fluid whey input (less than 20,700 lb/day of solids or 14,160 lb/day of BOD input).						
BOD		0.130	0.065	0.033	0.016	0.022	0.011
TSS		0.195	0.098	0.041	0.020	0.028	0.014

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
	(c) BPT: plants in the size range covered in (b) once-through barometric condenser water may be discharged untreated if the composite net entrainment is below 15 mg/l of BOD for any one day and below 10 mg/l of BOD as the average for 30 consecutive days.						
	405.120 Subpart L - Dry Whey						
	(a) Whey drying plants with an input equivalent to more than 57,000 lb/day of 40% solids whey (22,800 lb/day of solids or 15,620 lb/day of BOD input).						
BOD, TSS	lb/100 lb of BOD input	0.100 0.150	0.040 0.060	0.022 0.028	0.011 0.014	0.022 0.028	0.011 0.014
	(b) Whey drying plants with an input equivalent to 57,000 lb/day or less of 40% solids whey (under 22,800 lb/day solids or 15,620 lb/day of BOD input).						
BOD		0.130	0.065	0.033	0.016	0.022	0.011
TSS		0.195	0.098	0.041	0.020	0.028	0.014

PART 406 - GRAIN MILLS

Phase I, A-F Final Regulations, Promulgated 3/20/74, Amended 11/18/76

	406.10 Subpart A - Corn Wet Milling Amended 11/18/76						
BOD, TSS	lb/1,000 std bu corn††	150 150	50 50	60 300	20 10	60 75	20 25
	406.20 Subpart B - Corn Dry Milling						
BOD		12.0	4.0	6.0	2.0	6.0	2.0
TSS		10.5	3.5	3.0	1.0	3.0	1.0

†† *lb/1,000 lb = kg/kkg*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
406.30 Subpart C - Normal Wheat Flour Milling							
There shall be no discharge of process wastewater pollutants to navigable waters.							
406.40 Subpart D - Bulgur Wheat Flour Milling							
BOD, TSS	lb/1,000 lb std bu corn	1.50	0.50	0.90	0.30	0.90	0.30
		1.50	0.50	0.60	0.20	0.60	0.20
406.50 Subpart E - Normal Rice Milling							
There shall be no discharge of process wastewater pollutants to navigable waters.							
406.60 Subpart F - Parboiled Rice Processing							
BOD, TSS	lb/100-wt of rice††	0.042	0.014	0.021	0.007	0.021	0.007
		0.024	0.008	0.009	0.003	0.009	0.003
Phase II, G-J Final Regulations, Promulgated 1/3/75							
406.70 Subpart G - Animal Feed							
There shall be no discharge of process wastewater pollutants to navigable waters.							
406.80 Subpart H - Hot Cereal							
There shall be no discharge of process wastewater pollutants to navigable waters.							
406.90 Subpart I - Ready-to-Eat Cereal							
BOD, TSS	lb/1,000 lb of cereal product	1.2	0.40	0.60	0.20	0.60	0.20
		1.2	0.40	0.45	0.15	0.45	0.15

†† *lb/100-weight = kg/1,000 kg*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
406.100 Subpart J - Wheat Starch and Gluten							
BOD	lb/1,000 lb of	6.0	2.0	1.5	0.50	3.0	1.0
TSS	wheat flour	6.0	2.0	1.2	0.40	3.0	1.0

PART 407 - CANNED AND PRESERVED FRUITS AND VEGETABLES

Phase I, A-E Final Regulations, Promulgated 3/21/74, Amended 11/5/76

407.10 Subpart A - Apple Juice							
BOD	lb/1,000 lb of	0.60	0.30	0.20	0.10	0.20	0.10
TSS	raw material	0.80	0.40	0.20	0.10	0.20	0.10
407.20 Subpart B - Apple Products							
BOD		1.10	0.55	0.20	0.10	0.20	0.10
TSS		1.40	0.70	0.20	0.10	0.20	0.10
407.30 Subpart C - Citrus Products							
BOD		0.80	0.40	0.14	0.07	0.14	0.07
TSS		1.70	0.85	0.20	0.10	0.20	0.10
407.40 Subpart D - Frozen Potato Products							
BOD		2.80	1.40	0.34	0.17	0.34	0.17
TSS		2.80	1.40	1.10	0.55	1.10	0.55
407.50 Subpart E - Dehydrated Potato Products							
BOD		2.40	1.20	0.34	0.17	0.34	0.17
TSS		2.80	1.40	1.10	0.55	1.10	0.55
FC				← Max: 400 counts/100 ml →			

PART 407 - CANNED AND PRESERVED FRUITS AND VEGETABLES

Phase II, F-H Interim Final Regulations, Promulgated 10/21/75

Effluent Characteristics	BPT	← BAT and New Sources →

407.60 Subpart F - Canned and Preserved Fruits

(a,b) BPT: medium or large fruit processing plant. BAT, NS: any fruit processing plant; unless otherwise shown, values are the same for medium and large plants.

BOD

lb/1,000 lb of raw material

Commodity	Max.	Avg.	Ann.
Apricots	3.00	1.81	1.26
Caneberries	0.77	0.46	0.32
Cherries			
Brined	2.87	1.78	1.28
Sour	1.77	1.11	0.81
Sweet	1.12	0.69	0.49
Cranberries	1.71	1.03	0.73
Dried Fruit	1.86	1.13	0.80
Grape juice			
Canning	1.10	0.69	0.51
Pressing	0.22	0.14	0.10
Olives	5.44	3.34	2.39
Peaches	1.51	0.93	0.67
Pears	1.77	1.12	0.83
Pickles			
Fresh pack	1.22	0.75	0.53
Process pack	1.45	0.92	0.68
Salt sta.	0.18	0.12	0.09
Pineapples	2.13	1.33	0.96
Plums	0.69	0.42	0.29
Raisins	0.43	0.28	0.21
Strawberries	1.79	1.06	0.74
Tomatoes	1.21	0.71	0.49

Commodity	Max.	Avg.	Ann.
Apricots	1.261	0.938	0.485
Caneberries	0.182	0.134	0.067
Cherries			
Brined	0.763	0.621	0.423
Sour	1.102	0.839	0.472
Sweet	0.448	0.337	0.181
Cranberries	0.620	0.465	0.248
Dried Fruit	0.733	0.556	0.308
Grape juice			
Canning	0.766	0.583	0.326
Pressing	0.111	0.085	0.047
Olives	2.285	1.606	0.796
Peaches	0.766	0.583	0.324
Pears	0.855	0.664	0.397
Pickles			
Fresh pack	0.639	0.461	0.213
Process pack	0.652	0.511	0.313
Salt sta.	0.094	0.072	0.054
Pineapples	1.476	1.111	0.599
Plums	0.283	0.204	0.095
Raisins	0.204	0.163	0.105
Strawberries	0.619	0.449	0.210
Tomatoes	0.524	0.378	0.173

TSS

Commodity	Max.	Avg.	Ann.
Apricots	5.36	3.74	2.33
Caneberries	1.38	0.95	0.58
Cherries			
Brined	5.18	3.68	2.38
Sour	3.20	2.30	1.52
Sweet	2.01	1.43	0.92
Cranberries	3.06	2.14	1.34
Dried Fruit	3.34	2.34	1.48
Grape juice			
Canning	1.99	1.44	0.96
Pressing	0.40	0.29	0.18
Olives	9.79	6.92	4.44
Peaches	2.72	1.93	1.26
Pears	3.21	2.32	1.55
Pickles			
Fresh pack	2.19	1.54	0.99
Process pack	2.63	1.91	1.28
Salt sta.	0.33	0.25	0.18
Pineapples	3.85	2.76	1.81
Plums	1.24	0.87	0.54
Raisins	0.78	0.57	0.39
Strawberries	3.19	2.20	1.35
Tomatoes	2.15	1.48	0.90

Commodity	Max.	Avg.	Ann.
Apricots			
Med.	2.278	1.309	0.986
Large	1.261	0.938	0.485
Caneberries			
Med.	0.328	0.184	0.137
Large	0.182	0.134	0.067
Cherries			
Brined:			
Med.	1.438	1.013	0.872
Large	0.763	0.621	0.423
Sour			
Med.	2.013	1.225	0.962
Large	1.102	0.839	0.472
Sweet			
Med	0.813	0.479	0.368
Large	0.448	0.337	0.181
Cranberries			
Med.	1.124	0.660	0.505
Large	0.620	0.465	0.248
Dried fruit			
Med.	1.837	0.805	0.627
Large	0.733	0.556	0.308
Grape juice			
Canning			
Med	1.399	0.849	0.666
Large	0.766	0.583	0.326
Pressing			
Med.	0.203	0.123	0.097
Large	0.111	0.085	0.047
Olives			
Med.	3.926	2.191	1.613
Large	2.285	1.606	0.796

Commodity	Max.	Avg.	Ann.
Peaches			
Med.	1.397	0.844	0.660
Large	0.766	0.583	0.324
Pears			
Med.	1.575	1.003	0.812
Large	0.855	0.664	0.397
Pickles			
Fresh pack			
Med.	1.139	0.606	0.429
Large	0.639	0.461	0.213
Process pack			
Med.	1.208	0.784	0.643
Large	0.652	0.511	0.313
Salt sta.			
Med.	0.163	0.125	0.113
Large	0.084	0.072	0.054
Pineapples			
Med.	2.681	1.585	1.220
Large	1.476	1.111	0.599
Plums			
Med.	0.504	0.270	0.191
Large	0.283	0.201	0.095
Raisins			
Med.	0.380	0.257	0.217
Large	0.204	0.163	0.105
Strawberries			
Med.	1.105	0.594	0.423
Large	0.619	0.449	0.210
Tomatoes			
Med.	0.933	0.495	0.349
Large	0.524	0.378	0.173

Effluent Characteristics	BPT	← BAT and New Sources →

(c) BPT, BAT, NS: any medium or large fruit processing plant.

pH	6.0-9.5	6.0-9.5

407.70 Subpart G - Canned and Preserved Vegetables

(a,b) BPT: medium or large vegetable processing plant. BAT, NS: any vegetable processing plant; unless otherwise shown, values are the same for medium and large plants.

BOD

lb/1,000 lb of raw material

Commodity	Max.	Avg.	Ann.
Beets	1.01	0.71	0.57
Broccoli	3.83	2.21	1.47
Carrots	1.76	1.11	0.82
Corn			
Canned	0.71	0.48	0.38
Frozen	1.45	0.84	0.56
Dehydrated Onion/garlic	2.45	1.46	0.98
Dehydrated vegetables	2.98	1.76	1.21
Dry beans	2.50	1.51	1.07
Lima beans	3.68	2.19	1.51
Mushrooms	3.01	1.78	1.22
Onions			
canned	3.09	1.83	1.25
Peas	2.42	1.50	1.08
Sauerkraut			
Canning	0.50	0.30	0.21
Cutting	0.08	0.05	0.04
Snap beans	1.51	0.87	0.58
Spinach	2.37	1.36	0.91
Squash	0.90	0.59	0.46
Potatoes	0.90	0.66	0.55

Commodity	Max.	Avg.	Ann.
Beets	0.682	0.548	0.361
Broccoli	1.894	1.337	0.557
Carrots	0.966	0.729	0.397
Corn			
Canned	0.446	0.360	0.240
Frozen	0.987	0.778	0.485
Dehydrated Onion/garlic	1.159	0.837	0.387
Dehydrated Vegetables	1.781	1.288	0.598
Dry beans	1.403	1.021	0.486
Lima beans	1.753	1.258	0.566
Mushrooms	1.188	0.862	0.406
Onions			
Canned	1.719	1.305	0.726
Peas	0.995	0.758	0.427
Sauerkraut			
Canning	0.260	0.194	0.100
Cutting	0.046	0.038	0.027
Snap beans	1.048	0.747	0.326
Spinach	1.176	0.830	0.346
Squash	0.295	0.220	0.114
Potatoes	0.572	0.476	0.342

TSS

Commodity	Max.	Avg.	Ann.
Beets	1.88	1.47	1.12
Broccoli	6.78	4.57	2.65
Carrots	3.19	2.30	1.54
Corn			
Canned	1.32	1.00	0.73
Frozen	3.13	2.80	1.57
Dehydrated Onion/garlic	4.49	3.02	1.76
Dehydrated Vegetables	5.30	3.65	2.21
Dry beans	4.48	3.13	1.97
Lima beans	6.56	4.53	2.76
Mushrooms	5.36	3.68	2.22
Onions,canned	5.51	3.78	2.28
Peas	4.36	3.11	2.02
Sauerkraut			
Canning	0.89	0.63	0.40
Cutting	0.14	0.11	0.08
Snap beans	2.67	1.80	1.04
Spinach	4.19	2.81	1.64
Squash	1.64	1.23	0.87
Potatoes	1.69	1.37	1.09

Commodity	Max.	Avg.	Ann.
Beets			
Med.	1.242	0.852	0.722
Large	0.682	0.548	0.381
Broccoli			
Med.	3.342	1.671	1.114
Large	1.894	1.337	0.557
Carrots			
Med.	1.756	1.046	0.809
Large	0.966	0.729	0.397
Corn			
Canned			
Med.	0.837	0.580	0.494
Large	0.446	0.360	0.240
Frozen			
Med.	1.832	1.204	0.904
Large	0.987	0.778	0.485
Dehydrated Onion/garlic			
Med.	2.067	1.102	0.781
Large	1.159	0.837	0.387
Dehydrated Vegetables			
Med.	3.178	1.609	1.206
Large	1.781	1.288	0.598
Dry Beans			
Med.	2.500	1.363	0.981
Large	1.403	1.021	0.486
Lima Beans			
Med.	3.117	1.633	1.138
Large	1.753	1.258	0.566

Commodity	Max.	Avg.	Ann.
Mushrooms			
Med.	2.122	1.146	0.820
Large	1.188	0.862	0.406
Onions (canned)			
Med.	3.135	1.893	1.480
Large	1.719	1.305	0.726
Peas			
Med.	1.818	1.108	0.871
Large	0.995	0.758	0.427
Sauerkraut			
Canning			
Med.	0.470	0.270	0.204
Large	0.260	0.194	0.100
Cutting			
Med.	0.087	0.064	0.056
Large	0.046	0.038	0.027
Snap beans			
Med.	1.858	0.955	0.653
Large	1.048	0.747	0.326
Spinach			
Med.	2.075	1.038	0.611
Large	1.176	0.830	0.346
Squash			
Med.	0.534	0.307	0.232
Large	0.295	0.220	0.114
Potatoes			
Med.	1.090	0.803	0.707
Large	0.572	0.476	0.342

Effluent Characteristics	BPT	← BAT and New Sources →

(c) BPT, BAT, NS: any medium or large vegetable processing plant.

pH	6.0-9.5	6.0-9.5

407.80 Subpart H - Canned and Miscellaneous Specialties

(a,b) BPT: medium or large food specialty plant. BAT, NS: any food specialty plant; unless otherwise shown, values are the same for medium and large plants.

BOD

lb/1,000 lb of raw material

Commodity	Max.	Avg.	Ann.
Added ingred.	0.95	0.55	0.36
Baby food	1.23	0.73	0.51
Chips			
Corn	1.58	1.04	0.80
Potato	3.46	2.17	1.58
Tortilla	2.41	1.50	1.09
Ethnic foods	2.39	1.41	0.96
Jams/jellies	0.42	0.26	0.19
Mayonnaise and dressings	0.37	0.24	0.17
Soups	4.14	2.46	1.69
Tomato-starch-cheese canned specialites	1.87	1.08	0.72

Commodity	Max.	Avg.	Ann.
Added ingred.	0.780	0.550	0.230
Baby food	0.839	0.611	0.290
Chip			
Corn	1.142	0.898	0.557
Potato	1.683	1.244	0.629
Tortilla	1.665	1.253	0.676
Ethnic foods	1.588	1.143	0.520
Jams, jellies	0.187	0.142	0.080
Mayonnaise and dressings	0.210	0.163	0.097
Soups	2.766	2.000	0.929
Tomato-starch-cheese, canned specialties	0.981	0.705	0.319

TSS

Commodity	Max.	Avg.	Ann.
Added ingred.	0.00	0.00	0.00
Baby food	2.23	1.55	0.95
Chips			
Corn	2.90	2.17	1.53
Potato	6.25	4.49	2.97
Tortilla	4.34	3.11	2.04
Ethnic foods	4.23	2.91	1.73
Jams/jellies	0.76	0.54	0.36
Mayonnaise and dressings	0.67	0.49	0.33
Soups	7.38	5.09	3.10
Tomato-starch-cheese, canned specialties	3.31	2.23	1.30

Commodity	Max.	Avg.	Ann.
Added ingred.			
Med.	0.000	0.000	0.000
Baby food			
Med.	1.501	0.815	0.586
Large	0.839	0.611	0.290
Chips			
Corn			
Med.	2.117	1.386	1.143
Large	1.142	0.898	0.557
Potato			
Med.	3.032	1.714	1.274
Large	1.683	1.244	0.629
Tortilla			
Med.	3.025	1.789	1.377
Large	1.665	1.253	0.676
Ethnic foods			
Med.	2.826	1.491	1.046
Large	1.588	1.143	0.520

Commodity	Max.	Avg.	Ann.
Jams/jellies			
Med.	0.342	0.208	0.164
Large	0.187	0.142	0.080
Mayonnaise and dressings			
Med.	0.386	0.245	0.198
Large	0.210	0.163	0.097
Soups			
Med.	4.934	2.638	1.872
Large	2.766	2.000	0.929
Tomato-starch-cheese, canned specialties			
Med.	1.745	0.918	0.643
Large	0.981	01705	0.319

(c) BPT, BAT, NS: any medium or large food specialty plant.

pH	6.0-9.5	6.0-9.5

PART 408 - CANNED AND PRESERVED SEAFOOD

Phase I, A-N Final Regulations, Promulgated 6/26/74, Amended 1/30/75

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
408.10 Subpart A - Farm Raised Catfish Processing							
Existing facilities which process more than 1,362 kg (3,000 lb) of raw material per day on any day during a calendar year and all new sources.							
BOD	lb/1,000 lb of seafood			4.6	2.3	4.6	2.3
TSS		28	9.2	11	5.7	11	5.7
O/G		10	3.4	0.90	0.45	0.90	0.45
408.20 Subpart B - Conventional Blue Crab Processing							
Existing facilities processing more than 1,362 kg (3,000 lb) of raw material per day on any day during a calendar year and all new sources.							
BOD				0.30	0.15	0.30	0.15
TSS		2.2	0.74	0.90	0.45	0.90	0.45
O/G		0.60	0.20	0.13	0.065	0.13	0.065
408.30 Subpart C - Mechanized Blue Crab Processing							
BOD				5.0	2.5	5.0	2.5
TSS		36	12.0	13	6.3	13	6.3
O/G		13	4.2	2.6	1.3	2.6	1.3
408.40 Subpart D - Non-Remote Alaskan Crab Meat Processing							
Applicable to facilities located in population or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.							
BOD				5.0	2.0		
TSS		19	6.2	1.3	0.53	16	5.3
O/G		1.8	0.01	0.21	0.082	1.6	0.52

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
408.50 Subpart E - Remote Alaskan Crab Meat Processing						
Applicable to facilities not covered under Subpart D. BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.						
TSS, O/G } lb/1,000 lb of seafood			16	5.3		
			1.6	0.52		
408.60 Subpart F - Non-Remote Alaskan Whole Crab and Crab Section Processing						
Applicable to facilities located in population or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.						
BOD			3.3	1.3		
TSS	12	3.9	0.83	0.33	9.9	3.3
O/G	1.3	0.42	0.12	0.048	1.1	0.36
408.70 Subpart G - Remote Alaskan Whole Crab and Crab Section Processing						
Applicable to facilities not covered under Subpart F. BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.						
TSS			9.9	3.3		
O/G			1.1	0.36		
408.80 Subpart H - Dungeness and Tanner Crab Processing in the Contiguous States						
BOD			4.3	1.7	10	4.1
TSS	8.1	2.7	0.58	0.23	1.7	0.69
O/G	1.8	0.61	0.18	0.07	0.25	0.10
408.90 Subpart I - Non-Remote Alaskan Shrimp Processing						
Applicable to facilities located in population or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.						

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
BOD } lb/1,000 lb			70	28		
TSS } of seafood	320	210	45	18	270	180
O/G }	51	17	3.8	1.5	45	15

408.100 Subpart J - Remote Alaskan Shrimp Processing

Applicable to facilities not covered under Subpart I. BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.

TSS			270	180		
O/G			45	15		

408.110 Subpart K - Northern Shrimp Processing in the Contiguous States

Existing facilities processing more than 908 kg (2,000 lb) of raw material per day on any day during a calendar year and all new sources.

BOD			68	27.0	155	62
TSS	160	54	12	4.9	38	15
O/G	126	42	9.5	3.8	14	5.7

408.120 Subpart L - Southern Non-Breaded Shrimp Processing in the Contiguous States

Applicable to existing facilities processing more than 908 kg (2,000 lb) of raw material per day on any day during a calendar year and all new sources.

BOD			25	10	63	25
TSS	110	38	8.5	3.4	25	10
O/G	36	12	2.8	1.1	4.0	1.6

408.130 Subpart M - Breaded Shrimp Processing in the Contiguous States

Applicable to existing facilities processing more than 908 kg (2,000 lb) of raw material per day on any day during a calendar year and all new sources.

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
BOD (lb/1,000 lb of seafood)			43	17.0	100	40
TSS (lb/1,000 lb of seafood)	280	93	19	7.4	55	22
O/G (lb/1,000 lb of seafood)	36	12	2.5	1.0	3.8	1.5
408.140 Subpart N - Tuna Processing						
BOD	23	9.0	2.2	0.62	20	8.1
TSS	8.3	3.3	2.2	0.62	7.5	3.0
O/G	2.1	0.84	0.27	0.077	1.9	0.76

Phase II, O-AG Interim Final Regulations, 1/30/75
Final Promulgated 12/1/75

408.150 Subpart O - Fish Meal Processing

Applicable to discharges resulting from the processing of menhaden on the Gulf and Atlantic coasts and the processing of anchovy on the West Coast into fish meal, oil and solubles.

(b)

(1) Any menhaden or anchovy fish meal reduction facility which utilizes a solubles plant to process stick water or bail water.

BOD	7.0	3.9	6.7	3.8	6.7	3.8
TSS	3.7	1.5	3.7	1.5	3.7	1.5
O/G	1.4	0.76	1.4	0.76	1.4	0.76

(2) Any menhaden or anchovy fish meal reduction facility not covered under (b)(1).

BOD	3.5	2.8	6.7	3.8	6.7	3.8
TSS	2.6	1.7	3.7	1.5	3.7	1.5
O/G	3.2	1.4	1.4	0.76	1.4	0.76

408.160 Subpart P - Alaskan Hand-Butchered Salmon Processing

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
	(b)						
	(1) Any hand-butchered processing facility located in population or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.						
TSS } O/G }	lb/1,000 lb of seafood	1.7 0.20	1.4 0.17	1.5 0.18	1.2 0.15	1.5 0.18	1.2 0.15
	(2) Any hand-butchered salmon processing facility not covered under (b)(1). BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.						
TSS				2.3	1.4		
O/G				0.28	0.17		
	408.170 Subpart Q - Alaskan Mechanized Salmon Processing						
	(b)						
	(1) Any mechanized salmon processing facility located in population or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak, and Petersburg.						
BOD				26	16		
TSS		44	26	4.2	2.5	42	25
O/G		29	11	2.8	1.0	28	10
	(2) Any mechanized salmon processsing facility not covered under (b) (1). BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.						
TSS				42	25		
O/G				28	10		
	408.180 Subpart R - West Coast Hand-Butchered Salmon						
BOD				1.9	1.2	2.7	1.7
TSS		2.6	1.6	0.23	0.14	0.70	0.42
O/G		0.31	0.19	0.045	0.018	0.045	0.026

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
408.190 Subpart S - West Coast Mechanized Salmon Processing							
BOD	lb/1,000 lb of seafood			26	16	62	38
TSS		44	26	4.2	2.5	13	7.6
O/G		29	11	2.8	1.0	4.2	1.5
408.200 Subpart T - Alaskan Bottom Fish Processing							
(b)							
(1) Any Alaskan bottom fish processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.							
TSS		3.1	1.9	1.9	1.1	1.9	1.1
O/G		4.3	0.56	2.6	0.34	2.6	0.34
(b)							
(2) Any Alaskan bottom-fish processing facility not covered under (b)(1). BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.							
TSS				1.9	1.1		
O/G				2.6	0.34		
408.210 Subpart U - Non-Alaskan Conventional Bottom Fish Processing Amended 7/30/76							
Applicable to existing facilities processing more than 1,816 kg (4,000 lb) of raw material per day on any day during a calendar year and all new sources.							
BOD				1.2	0.71	1.2	0.71
TSS		3.6	2.0	1.5	0.73	1.5	0.73
O/G		1.0	0.55	0.077	0.42	0.077	0.42
408.220 Subpart V - Non-Alaskan Mechanized Bottom Fish Processing							

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
BOD	lb/1,000 lb of seafood			5.4	3.1	13	7.5
TSS		22	10	1.8	0.97	5.3	2.9
O/G		9.9	3.9	0.79	0.32	1.2	0.47

408.230 Subpart W - Hand-Shucked Clam Processing

Applicable to existing facilities which process more than 1,816 kg (4,000 lb) of raw material per day on any day during a calendar year and all new sources.

TSS	59	18	55	17	55	17
O/G	0.60	0.23	0.56	0.21	0.56	0.21

408.240 Subpart X - Mechanized Clam Processing
Amended 12/1/75

BOD			15	5.7	15	5.7
TSS	90	15	26	4.4	26	4.4
O/G	4.2	0.97	0.40	0.92	0.40	0.092

408.250 Subpart Y - Pacific Coast Hand-Shucked Oyster Processing

Applicable to existing facilities which process more than 454 kg (1,000 lb) of product per day on any day during a calendar year and all new sources.

TSS	47	38	45	36	45	36
O/G	2.4	1.8	2.2	1.7	2.2	1.7

408.260 Subpart Z - Atlantic and Gulf Coast Hand-Shucked Oyster Processing

Applicable to existing facilities which process more than 454 kg (1,000 lb) of product per day on any day during a calendar year and all new sources.

TSS	24	16	23	16	23	16
O/G	1.2	0.81	1.1	0.77	1.1	0.77

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
408.270 Subpart AA - Steamed and Canned Oyster Processing							
BOD	lb/1,000 lb of seafood			67	17	67	17
TSS		270	190	56	39	56	39
O/G		2.3	1.7	0.84	0.42	0.84	0.42
408.280 Subpart AB - Sardine Processing							
(b)							
(1) Any sardine processing facility which utilizes dry transportation systems from fish storage area to the fish processing area.							
TSS		36	10	48	16	36	10
O/G		3.5	1.4	6.3	2.8	1.4	0.57
(2) Any sardine processing facility not covered under 408.282(b)(1).							
TSS		48	16	36	10	36	10
O/G		6.3	2.8	1.3	0.52	1.4	0.57
408.290 Subpart AC - Alaskan Scallop Processing							
(b)							
(1) Any Alaskan scallop processing facility located in populated or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.							
TSS		6.0	1.4	5.7	1.4	5.7	1.4
O/G		7.7	0.24	7.3	0.23	7.3	0.23
(2) Any Alaskan scallop processing facility not covered under (b)(1). BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.							

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
TSS, O/G	lb/1,000 lb of seafood			5.7 7.3	1.4 0.23		
408.300 Subpart AD - Non-Alaskan Scallop Processing Added 12/1/75							
TSS		6.0	1.4	5.7	1.4	5.7	1.4
O/G		7.7	0.24	7.3	0.23	7.3	0.23
408.310 Subpart AE - Alaskan Herring Fillet Processing Added 12/1/75							
(b)							
(1) Any Alaskan herring fillet processing facility located in population or processing centers including but not limited to Anchorage, Cordova, Juneau, Ketchikan, Kodiak and Petersburg.							
BOD				6.8	6.2		
TSS		32	24	2.3	1.8	23	18
O/G		27	10	2.0	0.73	20	7.3
(2) Any Alaskan herring fillet processing facility not covered under (b)(1). BPT, NS: no pollutants may be discharged which exceed 1.27 cm (0.5 in) in any dimension.							
TSS				23	18		
O/G				20	7.3		
408.320 Subpart AF - Non-Alaskan Herring Fillet Processing							
BOD				6.8	6.2	16	15
TSS		32	24	2.3	1.8	7.0	5.2
O/G		27	10	2.0	0.73	2.9	1.1
408.330 Subpart AG - Abalone Processing							
TSS		27	15	26	14	26	14
O/G		2.2	1.4	2.1	1.3	2.1	1.3

PART 409 - SUGAR PROCESSING INDUSTRIES

Phase I, A-B Final Regulations, Promulgated 1/31/74

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
409.10 Subpart A - Beet Sugar Processing							
BPT: barometric condensing operations only. BAT: sugar beet capacity does not exceed 2,300 tons (1,090 kkg) per day of beets sliced or where certain soil filtration rates exist in wastewater treatment or retention facilities. In all instances not specified under the provisions of (1) and (2) there shall be no discharge of process wastewater pollutants to navigable waters.							
(1) Barometric condensing operations only.							
BOD	lb/1,000 lb of product	3.3	2.2	2.0	1.3		
Temp.		≤90°F		≤90°F			
(2) Barometric condensing operations and any other beet sugar processing operation.							
BOD		3.3	2.2	2.0	1.3		
TSS		3.3	2.2	2.0	1.3		
FC		≤MPN 400/100 ml		≤MPN 400/100 ml			
Temp.		≤90°F		≤90°F			
409.20 Subpart B - Crystalline Cane Sugar Refining							
(1) Any crystalline cane sugar refinery discharging both barometric condenser cooling water and other process waters.							
BOD	lb/ton of melt††	2.38	0.86	0.36	0.18	0.36	0.18
TSS		0.54	0.18	0.21	0.07	0.21	0.07
(2) BPT: any crystalline cane sugar refinery discharging barometric condenser cooling water only.							
BOD		2.04	0.68				

†† *lb/ton = kg/metric ton*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
409.30 Subpart C - Liquid Cane Sugar Refining							
(1) BPT: any liquid cane sugar refinery discharging both barometric condenser cooling water and other process waters.							
BOD, TSS	lb/ton of melt	1.56 0.99	0.63 0.33	0.60 0.18	0.30 0.06	0.60 0.18	0.30 0.06
(2) Any liquid cane sugar refinery discharging barometric condenser cooling water only.							
BOD		0.90	0.30				

Phase II, D-H Interim Final Regulations, 2/27/75

Effluent Characteristics	BPT Max.	BPT Avg.	BPT Total
409.40 Subpart D - Louisiana Raw Cane Sugar Processing			
(a) Any cane sugar factory continuously discharging both barometric condenser cooling water and other process wastewaters.			
BOD, TSS lb/1,000 lb gross cane	1.14 1.41	0.63 0.47	
(b) Any cane sugar factory employing waste stabilization where all or a portion of the wastewater discharge is stored for the entire grinding season.			
BOD			0.63
TSS			0.47

409.50 Subpart E - Florida and Texas Raw Cane Sugar

There shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristics		BPT Max.	BPT Avg.	BPT Total

(a) Process wastewater pollutants in the overflow may be discharged to navigable waters whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, and operated to contain all process generated wastewaters.

409.60 Subpart F - Hilo-Hamakua Coast of the Island of Hawaii Raw Cane Sugar Processing

BOD, TSS	lb/1,000 lb net cane	No limitations	
		4.2	2.1

409.70 Subpart G - Hawaiian Raw Cane Sugar Processing

There shall be no discharge of process wastewater pollutants to navigable waters.

(a) Process wastewater pollutants in the overflow may be discharged to navigable waters whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, and operated to contain all process generated wastewaters.

409.80 Subpart H - Puerto Rican Raw Cane Sugar Processing

(a) Any cane sugar factory continuously discharging both barometric condenser cooling water and other process wastewaters.

BOD, TSS	lb/1,000 lb gross cane	1.14	0.63
		1.41	0.47

(b) Any cane sugar factory employing waste stabilization where all or a portion of the wastewater discharge is stored for the entire grinding season.

BOD		0.63
TSS		0.47

PART 410 - TEXTILE INDUSTRY

Phase I, A-G Final Regulations, Promulgated 7/5/74
Corrected 8/21/74

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
410.10 Subpart A - Wool Scouring							
(a)							
BOD	lb/1,000 lb of product	10.6	5.3	4.8	2.4	10.6	5.3
TSS		32.2	16.1	4.0	2.0	10.6	5.3
COD		138.0	69.0	36.0	18.0	138.0	69.0
O/G		7.2	3.6	2.0	1.0	7.2	3.6
Cr_T		0.10	0.05	0.10	0.05	0.10	0.05
Phenol		0.10	0.05	0.10	0.05	0.10	0.05
Sulfide		0.20	0.10	0.20	0.10	0.20	0.10
Color				≤600 ADMI units			
FC				≤MPN 400/100 ml			

(b) Additional allocations equal to the effluent limitations (except pH) established in (a) are allowed any point source subject to such effluent limitations that scours wool through "commission scouring" as defined.

410.20 Subpart B - Wool Finishing							
(a)							
BOD		22.4	11.2	9.2	4.6	22.4	11.2
TSS		35.2	17.6	5.0	2.5	22.4	11.2
COD		163.0	81.5	54.2	27.1	163.0	81.5
Cr_T		0.14	0.07	0.14	0.07	0.14	0.07
Phenol		0.14	0.07	0.14	0.07	0.14	0.07
Sulfide		0.28	0.14	0.28	0.14	0.28	0.14
Color				≤600 ADMI units			
FC				≤MPN 400/100 ml			

(b) Additional allocations equal to the effluent limitations (except pH) established in (a) are allowed any point source subject to such effluent limitations that finishes wool or blended wool fabrics through "commission finishing" as defined.

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
410.30 Subpart C - Dry Processing Corrected 8/21/74						
BOD (lb/1,000 lb of product)	1.4	0.7	0.4	0.2	1.4	0.7
TSS (lb/1,000 lb of product)	1.4	0.7	0.4	0.2	1.4	0.7
COD (lb/1,000 lb of product)	2.8	1.4	0.8	0.4	2.8	2.4 [sic]
FC	← ≤MPN 400 counts/100 ml →					
410.40 Subpart D - Woven Fabric Finishing Corrected 8/21/74						
(a) Finishing of woven fabrics through simple or complex manufacturing operations employing a natural fiber, a synthetic fiber or a natural and synthetic fiber blend, except as provided in (e).						
BOD	6.6	3.3	4.4	2.2	6.6	3.3
TSS	17.8	8.9	3.0	1.5	6.6	3.3
COD	60.0	30.0	20.0	10.0	60.0	30.0
Cr_T	0.10	0.05	0.10	0.05	0.10	0.05
Phenol	0.10	0.05	0.10	0.05	0.10	0.05
Sulfide	0.20	0.10	0.20	0.10	0.20	0.10
Color			≤300 ADMI units			
FC			≤MPN 400/100 ml			
(b) Finishing of woven fabrics through simple manufacturing operations employing a synthetic fiber or complex manufacturing operations employing a natural fiber, except as provided in (e) and in addition to the discharge allowed by (a).						
COD	20	10	6.6	3.3	20	10
(c) Finishing of woven fabrics through simple manufacturing operations employing a natural and synthetic fiber blend or through complex manufacturing operations employing a synthetic fiber, except as provided in (e) and in addition to the discharge allowed by (a).						
COD	40	20	13.4	6.7	40	20

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(d) Finishing of woven fabrics through complex manufacturing operations employing a natural and synthetic fiber blend, except as provided in (e) and in addition to the discharge allowed by (a).							
COD	lb/1,000 lb of product	60	30	20	10	60	30
(e) Additional allocations equal to the effluent limitations (equal pH) established in (a), (b), (c), and (d) are allowed any point source subject to such effluent limitations that finishes woven fabrics through "commission finishing" as defined.							
410.50 Subpart E - Knit Fabric Finishing							
(a) Finishing of knit fabrics through simple or complex manufacturing operations employing a synthetic fiber or a natural and synthetic fiber blend, except as provided in (d).							
BOD		5.0	2.5	3.4	1.7	5.0	2.5
TSS		21.8	10.9	3.4	1.7	5.0	2.5
COD		60.0	30.0	20.0	10.0	60.0	30.0
Cr_T		0.10	0.05	0.10	0.05	0.10	0.05
Phenol		0.10	0.05	0.10	0.05	0.10	0.05
Sulfide		0.20	0.10	0.20	0.10	0.20	0.10
Color				≤300 APHA units			
FC				≤MPN 400/100 ml			
(b) Finishing of knit fabrics through simple manufacturing operations employing a natural and synthetic fiber blend or through complex manufacturing operations employing a synthetic fiber, except as provided in (d) and in addition to the discharge allowed by (a).							
COD		20	10	6.6	3.3	20	10
(c) Finishing of knit fabrics through complex manufacturing operations employing a natural and synthetic fiber blend, except as provided in (d) and in addition to the discharge allowed by (a).							
COD		40	20	13.4	6.7	40	20

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(d) Additional allocations equal to the effluent limitations (except pH) established in (a), (b), and (c) are allowed any point source subject to such effluent limitations that finish knit fabrics through "commission finishing" as defined.							
410.60 Subpart F - Carpet Mills							
(a) Manufacture of carpets through simple or complex manufacturing operations.							
BOD	lb/1,000 lb of product	7.8	3.9	4.0	2.0	7.8	3.9
TSS		11.0	5.5	2.0	1.0	7.8	3.9
COD		70.2	35.1	23.4	11.7	70.2	35.1
Cr_T		0.04	0.02	0.04	0.02	0.04	0.02
Phenol		0.04	0.02	0.04	0.02	0.04	0.02
Sulfide		0.08	0.04	0.08	0.04	0.08	0.04
Color				≤225 APHA units			
FC				≤MPN 400/100 ml			
(b) Manufacture of carpets through complex manufacturing operations, in addition to the discharge allowed by (a).							
COD		20	10	6.6	3.3	20	10
410.70 Subpart G - Stock and Yarn Dyeing and Finishing							
BOD		6.8	3.4	4.6	2.3	6.8	3.4
TSS		17.4	8.7	3.8	1.9	6.8	3.4
COD		84.6	42.3	28.1	14.1	84.6	42.3
Cr_T		0.12	0.06	0.12	0.06	0.12	0.06
Phenol		0.12	0.06	0.12	0.06	0.12	0.06
Sulfide		0.24	0.12	0.24	0.12	0.24	0.12
Color				≤300 ADMI units			
FC				≤MPN 400/100 ml			

PART 411 - CEMENT MANUFACTURING

Phase I, A-C Final Regulations, Promulgated 2/20/74
Amended 10/15/76

Effluent Characteristics		BPT Max.	BAT Max.	New Sources Max.
		411.10 Subpart A - Nonleaching		
TSS	lb/1,000 lb of product	0.005	0.005	0.005
Temp.		← ≤ 3°C rise above inlet temperature →		
		411.20 Subpart B - Leaching		
TSS	lb/1,000 lb of dust leached	0.4	0.005	0.4
Temp.		← ≤ 3°C rise above inlet temperature →		

411.30 Subpart C - Materials Storage Piles Runoff

(a) *Subject to the provisions of (b), the following limitations apply. NS: no discharge of process wastewater pollutants to navigable waters.*

TSS	mg/l	≤50	≤50

(b) *BPT, BAT: any untreated overflow from facilities designed, constructed and operated to treat the volume of runoff from materials storage piles which is associated with a 10-year, 24-hour rainfall event shall not be subject to the pH and TSS limitations stipulated in (a).*

PART 412 - FEEDLOTS

Phase I, A-B Final Regulations, Promulgated 2/14/74,
Amended 3/19/75

412.10 Subpart A - All Subcategories Except Ducks

The provisions of this Subpart are applicable to discharge of pollutants resulting from feedlots in the following subcategories:

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

beef cattle - open lots; beef cattle - housed lots; dairy cattle - stall barn (with milk room); dairy - free stall barn (with milking center); dairy - cowyards (with milking center); swine - open dirt or pasture lots; swine - housed, slotted floor; swine - solid concrete floor, open or housed lot; sheep - open lots; sheep - housed lots; horses - stables (race tracks); chickens - broilers, housed; chickens - layers (egg production), housed; chickens - layer breeding or replacement stock, housed; turkeys - open lots; turkeys - housed; and for those feedlot operations within these subcategories as large or larger than the capacities given below:

1,000 slaughter steers and heifers; 700 mature dairy cattle (whether milkers or dry cows); 2,500 swine weighing over 55 pounds; 10,000 sheep; 55,000 turkeys; 100,000 laying hens or broilers when facility has unlimited continuous flow watering systems; 30,000 laying hens or broilers when facility has liquid manure handling system; 500 horses; and 1,000 animal units from a combination of slaughter steers and heifers, mature dairy cattle, swine over 55 pounds and sheep.

(a) Subject to the provisions of (b), there shall be no discharge of process wastewater pollutants to navigable waters.

(b) Process waste pollutants in the overflow may be discharged to navigable waters whenever rainfall events, either chronic or catastrophic, cause an overflow of process wastewater from a facility designed, constructed and operated to contain all process-generated wastewaters plus the runoff from a 10-year (BPT), or 25-year (BAT, NS) 24-hour rainfall event for the location of the point source.

412.20 Subpart B - Ducks

The provisions of this Subpart are applicable to discharges of pollutants resulting from feedlots for the following subcategories: ducks - dry lot; ducks - wet lot; and for those feedlot operations within these subcategories as large or larger than the capacities given below: 5,000 ducks.

BOD	lb/1,000 ducks		3.66	2.00		
FC				≤MPN 400/100 ml		

(a) BAT, NS: subject to the provisions of (b), there shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
FC			≤ MPN 400/100 ml			

(b) BAT, NS: process waste pollutants in the overflow may be discharged to navigable waters whenever rainfall events, either chronic or catastrophic, cause an overflow of process wastewater from a facility designed, constructed and operated to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event for the location of the point source.

PART 413 - ELECTROPLATING

Phase II, A-F Interim Final Regulations 4/24/75

413.10 Subpart A - Electroplating of Copper, Nickel, Chromium, and Zinc on Ferrous and Nonferrous Materials
Suspended 12/3/76

413.20 Subpart B - Electroplating of Precious Metals
Suspended 12/3/76

413.30 Subpart C - Electroplating of Specialty Metals
Reserved

413.40 Subpart D - Anodizing
Suspended 12/3/76

413.50 Subpart E - Coatings
Suspended 12/3/76

413.60 Subpart F - Chemical Etching and Milling
Suspended 12/3/76

PART 414 - ORGANIC CHEMICALS

Phase I, A-C Final Regulations, Promulgated 4/25/74

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
414.10 Subpart A - Nonaqueous Processes Revoked 4/1/76						
414.20 Subpart B - Processes with Process Water Contact as Steam Diluent or Absorbent						
(a) The following limitations establish the quantity or quality of pollutants or pollutant properties, controlled by this paragraph, which may be discharged from the manufacture of butadiene by a point source subject to the provisions of this subpart. Revoked 4/1/76 except for butadiene which was amended 5/12/76.						
COD (lb/1,000 lb of product)			7.8	4.2	7.8	4.2
BOD (lb/1,000 lb of product)	2.3	1.0	0.57	0.27	0.57	0.27
TSS (lb/1,000 lb of product)	2.3	1.0	0.94	0.50	0.94	0.50
414.30 Subpart C - Aqueous Liquid Phase Reaction Systems Revoked 4/1/76						

PART 415 - INORGANIC CHEMICALS

Phase I, A-V Final Regulations, Promulgated 3/12/74
Amended 11/23/76

415.10 Subpart A - Aluminum Chloride Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.20 Subpart B - Aluminum Sulfate Production

(a) Subject to the provisions of (b), (c), and (d) for BPT and (b) for BAT and NS, there shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(b) A process wastewater impoundment which is designed, constructed and operated so as to contain the precipitation from the 10-year (BPT) or 25-year (BAT, NS), 24-hour rainfall event as established by the NCC and NOAA for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10-year (BPT) or 25-year (BAT, NS) 24-hour rainfall event when such event occurs.

(c) BPT: during any calendar month there may be discharged from a process wastewater impoundment either a volume of process waste water equal to the difference between the precipitation for that month that falls within the impoundment and the evaporation for that month, or, if greater, a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation for that month as established by the NCC, NOAA for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the NCC).

(d) Any process wastewater discharged pursuant to (c) shall comply with each of the following requirements.

TSS	ppm		50	25			

415.30 Subpart C - Calcium Carbide Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.40 Subpart D - Calcium Chloride Production

BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.

TSS	lb/1,000 lb of product		0.016	0.0082			

415.50 Subpart E - Calcium Oxide and Calcium Hydroxide Production

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(a) Subject to the provisions of (b), (c), and (d) for BPT, and (b) for BAT and NS, there shall be no discharge of process water pollutants into navigable waters.

(b) A process wastewater impoundment which is designed, constructed and operated so as to contain the precipitation from the 10-year (BPT) or 25-year (BAT, NS) 24-hour rainfall event as established by the NCC, NOAA for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10-year (BPT), or 25-year (BAT, NS) 24-hour rainfall event, when such event occurs.

(c) BPT: during any calendar month there may be discharged from a process wastewater impoundment either a volume of process wastewater equal to the difference between the precipitation for that month that falls within the impoundment and the evaporation for that month, or, if greater, a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the evaporation for that month, or, if greater, a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation for that month as established by the NCC, NOAA for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the NCC).

(d) Any process wastewater discharged pursuant to (c) shall comply with each of the following requirements.

TSS	ppm	50	25			

415.60 Subpart F - Chlorine and Sodium or Potassium Hydroxide Production

(a) BPT, NS: chlorine and sodium or potassium hydroxide manufacture by the mercury cell process. BAT: revoked 11/23/76.

(b) Chlorine and sodium or potassium hydroxide manufacture by the diaphragm cell process.

TSS	lb/1,000 lb of product	0.64	0.32		0.64	0.32
Lead		0.005	0.0025		0.00014	0.00007

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

415.70 Subpart G - Hydrochloric Acid Production
Revoked 11/23/76

415.80 Subpart H - Hydrofluoric Acid Production
Revoked 11/23/76

415.90 Subpart I - Hydrogen Peroxide Production

(a) *Hydrogen peroxide manufacture by the oxidation of alkyl hydroanthraquinones. BAT, NS: revoked 11/23/76.*

TSS	lb/1,000 lb of product		0.8	0.4
TOC			0.44	0.22

(b) *Hydrogen peroxide manufacture by the electrolytic process.*

TSS			0.005	0.0025
CN A			0.0004	0.0002

415.100 Subpart J - Nitric Acid Production
Revoked 11/23/76

415.110 Subpart K - Potassium Metal Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.120 Subpart L - Potassium Dichromate Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.130 Subpart M - Potassium Sulfate Production

(a) *Subject to the provisions of (b), (c), and (d) for BPT, and (b) for BAT and NS, there shall be no discharge of process wastewater pollutants into navigable waters.*

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(b) A process wastewater impoundment which is designed, constructed and operated so as to contain the precipitation from the 10-year (BPT) or 25-year (BAT, NS), 24-hour rainfall event as established by the NCC, NOAA for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10-year (BPT) or 25-year (BAT, NS), 24-hour rainfall event, when such event occurs.

(c) BPT: during any calendar month there may be discharged from a process wastewater impoundment either a volume of process wastewater equal to the difference between the precipitation for that month that falls within the impoundment and the evaporation for that month, or, if greater, a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation for that month as established by the NCC, NOAA for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the NCC).

(d) Any process wastewater discharged pursuant to (c) shall comply with each of the following requirements.

TSS	ppm	50	25			

415.140 Subpart N - Sodium Bicarbonate Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.150 Subpart O - Sodium Carbonate Production
Revoked 9/23/76

415.160 Subpart P - Sodium Chloride Production

(a) Manufacture by solar evaporative process. There shall be no discharge of process wastewater pollutants to navigable waters, except that unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn, provided no additional pollutants are added to the bitterns during the production of sodium chloride.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
	(b) Sodium chloride manufacture by the solution brinemining process. BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.						
TSS	lb/1,000 lb of product		0.34		0.17		

415.170 Subpart Q - Sodium Dichromate and Sodium Sulfate Production

BAT: revoked 11/23/76.

TSS		0.44	0.22	0.30	0.15
Cr(+6)		0.009	0.0005	0.009	0.0005
Cr_T		0.0088	0.0044	0.0088	0.0044

415.180 Subpart R - Sodium Metal Production

Revoked 11/23/76

415.190 Subpart S - Sodium Silicate Production

Revoked 11/23/76

415.200 Subpart T - Sodium Sulfite Production

(a) BAT, NS: there shall be no discharge of process wastewater pollutants into navigable waters; BAT subject to (b).

(b) BAT: a process wastewater impoundment which is designed, constructed, and operated so as to contain the precipitation from the 25-year, 24-hour rainfall event as established by the NCC, NOAA for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 25-year, 24-hour rainfall event, when such event occurs.

TSS		0.032	0.016		
COD		3.4	1.7		

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

415.210 Subpart U - Sulfuric Acid Production
Revoked 11/13/76

415.220 Subpart V - Titanium Dioxide Production
Revoked 11/13/76

Phase II, W-BK Interim Final Regulations, 5/22/75

415.230 Subpart W - Aluminum Fluoride Production
Revoked 9/23/76

415.240 Subpart X - Ammonium Chloride Production

(a) *Process wastewater from ammonium chloride production by the reaction of anhydrous ammonia with hydrogen chloride gas: there shall be no discharge of process wastewater pollutants to navigable waters.*

(b) *Process wastewater from ammonium chloride production by the recovery process from Solvay process wastes.*

Ammonia-N	lb/1,000 lb of product	8.8	4.4

415.250 Subpart Y - Ammonium Hydroxide Production

There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally withdrawn.

415.280 Subpart AB - Boric Acid Production

Effluent Characteristics		BPT Max.	BPT Avg.

(a) Process wastewater from boric acid production from borax produced by the Trona process. There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally withdrawn.

(b) Process wastewater from boric acid production from ore-mined borax.

As	lb/1,000 lb of product	0.0028	0.0014
TSS		0.14	0.07

415.290 Subpart AC - Bromine Production

There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally withdrawn.

415.300 Subpart AD - Calcium Carbonate Production

(a) Process wastewater from calcium carbonate production by the milk of lime process.

TSS	0.56	0.28

(b) Process wastewater from calcium carbonate production by the recovery process from Solvay process wastes.

TSS	1.16	0.58

415.310 Subpart AE - Calcium Hydroxide Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.320 Subpart AF - Carbon Dioxide Production

Effluent Characteristic		BPT Max.	BPT Avg.
415.330 Subpart AG - Carbon Monoxide and Byproduct Hydrogen Production			
COD	lb/1,000 lb of product	0.5	0.25
TSS	lb/1,000 lb of product	0.12	0.06
415.340 Subpart AH - Chrome Pigments Production Revoked 9/23/76			
415.350 Subpart AI - Chromic Acid Production			
There shall be no discharge of process wastewater pollutants to navigable waters, except as provided for in §415.172 (39 FR 9630).			
415.360 Subpart AJ - Copper Sulfate Production			
(a) Process wastewater from copper sulfate production using pure raw materials.			
Cu		0.0006	0.0002
(b) Process wastewater from copper sulfate production by the recovery process.			
TSS		0.069	0.023
Cu		0.003	0.001
Ni		0.006	0.002
Se		0.0015	0.0005
415.370 Subpart AK - Cuprous Oxide Production			
415.380 Subpart AL - Ferric Chloride Production			
There shall be no discharge of process wastewater pollutants to navigable waters.			
415.390 Subpart AM - Ferrous Sulfate Production			

Effluent Characteristic		BPT Max.	BPT Avg.

415.400 Subpart AN - Fluorine Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.410 Subpart AO - Hydrogen Production

There shall be no discharge of process wastewater pollutants to navigable waters, except as provided for in Part 419 (39 FR 16560).

415.420 Subpart AP - Hydrogen Cyanide Production

(a) Process wastewater from hydrogen cyanide production as a by-product of acrylonitrile production. There shall be no discharge of process wastewater pollutants to navigable waters, except as provided for in Part 414, Subcategory F, §414.62 of this chapter for acrylonitrile.

(b) Process wastewater from hydrogen cyanide production by the andrussow process.

		BPT Max.	BPT Avg.
TSS	lb/1,000 lb of product	2.4	1.2
CN		0.05	0.025
CN A		0.005	0.0025
BOD		3.6	1.8
Ammonia-N		0.36	0.18

415.430 Subpart AQ - Iodine Production

There shall be no discharge of process wastewater pollutants to navigable waters.

415.440 Subpart AR - Lead Monoxide Production

There shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristic		BPT Max.	BPT Avg.

415.450 Subpart AS - Lithium Carbonate Production

(a) Process wastewater from lithium carbonate production by the Trona process. There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally withdrawn.

(b) Process wastewater from lithium carbonate production from spodumene ore.

TSS	lb/1,000 lb of product	2.7	0.9

415.460 Subpart AT - Manganese Sulfate Production

415.470 Subpart AU - Nickel Sulfate Production

(a) Process wastewater from nickel sulfate production from pure raw materials. There shall be no discharge of process wastewater pollutants to navigable waters.

(b) Discharge in process wastewater from nickel sulfate production from impure raw materials.

Ni	0.006	0.002
TSS	0.096	0.032

415.480 Subpart AV - Strong Nitric Acid Production

415.490 Subpart AW - Oxygen and Nitrogen Production

O/G	0.002	0.001

415.500 Subpart AX - Potassium Chloride Production

There shall be no discharge of process wastewater pollutants to navigable waters, except that residual brine and depleted liquor may be returned to the body of water from which the process brine solution was originally withdrawn.

Effluent Characteristic		BPT Max.	BPT Avg.
415.510 Subpart AY - Potassium Iodide Production			
TSS	lb/1,000 lb of product	0.09	0.03
Sulfide		0.015	0.005
Fe		0.015	0.005
Ba		0.009	0.003
415.520 Subpart AZ - Potassium Permanganate Production Revoked 9/23/76			
415.530 Subpart BA - Silver Nitrate Production			
Ag		0.009	0.003
TSS		0.06	0.02
415.540 Subpart BB - Sodium Bisulfite Production			
415.550 Subpart BC - Sodium Fluoride Production			
There shall be no discharge of process wastewater pollutants to navigable waters.			
415.560 Subpart BD - Sodium Hydrosulfide Production			
415.570 Subpart BE - Sodium Hydrosulfite Production			
415.580 Subpart BF - Sodium Silicofluoride Production Revoked 9/23/76			
415.590 Subpart BG - Sodium Thiosulfate Production			
415.600 Subpart BH - Stannic Oxide Production			
There shall be no discharge of process wastewater pollutants to navigable waters.			

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
415.610 Subpart BI - Sulfur Dioxide Production						
415.620 Subpart BJ - Zinc Oxide Production						
415.630 Subpart BK - Zinc Sulfate Production						
There shall be no discharge of process wastewater pollutants to navigable waters.						

PART 416 - PLASTICS AND SYNTHETICS

Phase I, A-M Final Regulations, Promulgated 4/5/75
Revoked and Suspended 8/4/76

Phase II, N-U Final Regulations, Promulgated 1/23/75

416.140 Subpart N - Ethylene-Vinyl Acetate Copolymers						
BOD	lb/1,000 lb of product	0.30	0.20	0.29	0.19	0.35	0.18
TSS		1.0	0.55	0.16	0.14	0.19	0.13
COD				2.48	1.65	3.5	1.8
416.150 Subpart O - Polytetrafluoroethylene						
BOD		7.0	3.6	3.3	2.2	1.6	0.80
TSS		18	9.9	1.8	1.6	0.83	0.57
Fluorides		1.2	0.6	1.2	0.6	1.3	0.67
COD				5.9	4.0		
416.160 Subpart P - Polypropylene Fiber						
BOD		0.78	0.40	0.33	0.22	0.08	0.04
TSS		2.0	1.1	0.18	0.16	0.04	0.03
O/G		1.0	0.5	0.18	0.092	0.033	0.017
COD				0.59	0.40	0.14	0.07

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
416.170 Subpart Q - Alkyds and Unsaturated Polyester Resins							
BOD	lb/1,000 lb of product	0.60	0.33	0.14	0.10	0.03	0.02
TSS		0.40	0.22	0.04	0.03	0.008	0.006
COD				0.74	0.52	0.20	0.11
416.180 Subpart R - Cellulose Nitrate							
BOD		26	14	9.4	6.9	11	6.0
TSS		17	9.4	2.5	2.1	2.7	1.8
COD				47	34	54	30
416.190 Subpart S - Polyamide (Nylon 6/12)							
BOD		1.2	0.66	0.50	0.37	0.67	0.37
TSS		0.80	0.44	0.13	0.11	0.17	0.11
COD				2.6	1.9		
416.200 Subpart T - Polyester Resins (Thermoplastic)							
BOD		1.4	0.78	0.59	0.44	0.80	0.44
TSS		0.95	0.52	0.16	0.14	0.20	0.14
COD				3.1	2.3	12	6.5
416.210 Subpart U - Silicones							
(a) Manufacture of silicone fluids.							
BOD		1.9	1.0	0.74	0.57	1.0	0.57
TSS		1.25	0.69	0.21	0.18	0.26	0.18
Cu		0.010	0.005	0.0052	0.0026	0.0052	0.0026
COD				4	3	8.5	4.7
(b) BPT, BAT, NS: an additional allocation for silicone plants which manufacture silicone greases, emulsions, rubbers and resins; BAT, NS: and coupling agents.							
BOD		24	13.2	8.8	6.4	10	5.5
TSS		16	8.8	2.3	2.0	2.5	1.7
Cu		0.13	0.067	0.058	0.020	0.050	0.025
COD				45.5	33.4	82	45

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(c) BPT: An additional allocation for silicone plants that manufacture silicone coupling agents.							
BOD	lb/1,000 lb of product	15	8.2				
TSS		10	5.4				
Cu		0.084	0.042				

PART 417 - SOAP AND DETERGENT

Final Regulations, Promulgated 4/12/74

417.10 Subpart A - Soap Manufacturing by Batch Kettle

BOD	lb/1,000 lb of anhydrous product	1.80	0.60	0.80	0.40	0.80	0.40
COD		4.50	1.50	2.10	1.05	2.10	1.05
TSS		1.20	0.40	0.80	0.40	[sic]0.40	0.40
O/G		0.30	0.10	0.10	0.05	0.10	0.05

417.20 Subpart B - Fatty Acid Manufacturing by Fat Splitting

(a) Discharges from the splitting of fats to fatty acids by hydrolysis.

BOD	3.60	1.20	0.50	0.25	0.50	0.25
COD	9.90	3.30	1.80	0.90	1.80	0.90
TSS	6.60	2.20	0.40	0.20	0.40	0.20
O/G	0.90	0.30	0.30	0.15	0.30	0.15

(b) If fatty acids are hydrogenated, the following additional allowances shall apply.

BOD	0.45	0.15	0.30	0.15	0.30	0.15
COD	0.75	0.25	0.50	0.25	0.50	0.25
TSS	0.30	0.10	0.20	0.10	0.20	0.10
O/G	0.30	0.10	0.20	0.10	0.20	0.10

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
417.30 Subpart C - Soap Manufacturing by Fatty Acid Neutralization							
BOD	lb/1,000 lb of anhydrous product	0.03	0.01	0.02	0.01	0.02	0.01
COD		0.15	0.05	0.10	0.05	0.10	0.05
TSS		0.06	0.02	0.04	0.02	0.04	0.02
O/G		0.03	0.01	0.02	0.01	0.02	0.01
417.40 Subpart D - Glycerine Concentration							
BOD		4.50	1.50	0.80	0.40	0.80	0.40
COD		13.50	4.50	2.40	1.20	2.40	1.20
TSS		0.60	0.20	0.20	0.10	0.20	0.10
O/G		0.30	0.10	0.08	0.04	0.08	0.04
417.50 Subpart E - Glycerine Distillation							
BOD		1.50	0.50	0.60	0.30	0.60	0.30
COD		4.50	1.50	1.80	0.90	1.80	0.90
TSS		0.60	0.20	0.08	0.04	0.08	0.04
O/G		0.30	0.10	0.04	0.02	0.04	0.02
417.60 Subpart F - Manufacture of Soap Flakes and Powders							
BOD		0.03	0.01	0.02	0.01	0.02	0.01
COD		0.15	0.05	0.10	0.05	0.10	0.05
TSS		0.03	0.01	0.02	0.01	0.02	0.01
O/G		0.03	0.01	0.02	0.01	0.02	0.01
417.70 Subpart G - Manufacture of Bar Soaps							
BOD		1.02	0.34	0.40	0.20	0.40	0.20
COD		2.55	0.85	1.20	0.60	1.20	0.60
TSS		1.74	0.58	0.68	0.34	0.68	0.34
O/G		0.12	0.04	0.06	0.03	0.06	0.03
417.80 Subpart H - Manufacture of Liquid Soaps							
BOD		0.03	0.01	0.02	0.01	0.02	0.01
COD		0.15	0.05	0.10	0.05	0.10	0.05
TSS		0.03	0.01	0.02	0.01	0.02	0.01
O/G		0.03	0.01	0.02	0.01	0.02	0.01

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
417.90 Subpart I - Oleum Sulfonation and Sulfation							
BOD	lb/1,000 lb of anhydrous product	0.09	0.02	0.07	0.02	0.03	0.01
COD		0.40	0.09	0.27	0.09	0.09	0.03
TSS		0.15	0.03	0.09	0.03	0.06	0.02
Surfactants		0.15	0.03	0.09	0.03	0.03	0.01
O/G		0.25	0.07	0.21	0.07	0.12	0.04
417.100 Subpart J - Air-SO_3 Sulfation and Sulfonation							
BOD		0.90	0.30	0.30	0.19	0.18	0.09
COD		4.05	1.35	1.10	0.55	0.80	0.40
TSS		0.09	0.03	0.04	0.02	0.04	0.02
Surfactants		0.90	0.30	0.36	0.18	0.18	0.09
O/G		0.15	0.05	0.08	0.04	0.04	0.02
417.110 Subpart K - SO_3 Solvent and Vacuum Sulfonation							
BOD		0.90	0.30	0.20	0.10	0.20	0.10
COD		3.05	1.35	0.90	0.45	0.90	0.45
TSS		0.09	0.03	0.02	0.01	0.02	0.01
Surfactants		0.90	0.30	0.20	0.10	0.20	0.10
O/G		0.10	0.05	0.04	0.02	0.04	0.02
417.120 Subpart L - Sulfamic Acid Sulfation							
BOD		0.90	0.30	0.20	0.10	0.20	0.10
COD		4.05	1.35	0.90	0.45	0.90	0.45
TSS		0.09	0.03	0.02	0.01	0.02	0.01
Surfactants		0.90	0.30	0.20	0.10	0.20	0.10
O/G		0.15	0.05	0.04	0.02	0.04	0.02
417.130 Subpart M - Chlorosulfonic Acid Sulfation							
BOD		0.90	0.30	0.30	0.15	0.30	0.15
COD		4.05	1.35	1.50	0.75	1.50	0.75
TSS		0.09	0.03	0.04	0.02	0.04	0.02
Surfactants		0.90	0.30	0.30	0.15	0.30	0.15
O/G		0.15	0.05	0.06	0.03	0.06	0.03

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
417.140 Subpart N - Neutralization of Sulfuric Acid Esters and Sulfonic Acids							
BOD	lb/1,000 lb of anhydrous product	0.03	0.01	0.02	0.01	0.02	0.01
COD		0.15	0.05	0.10	0.05	0.08	0.04
TSS		0.09	0.03	0.06	0.03	0.06	0.03
Surfactants		0.06	0.02	0.04	0.02	0.04	0.02
O/G		0.03	0.01	0.02	0.01	0.02	0.01
417.150 Subpart O - Manufacture of Spray Dried Detergents							
(a) Normal operation of spray drying towers.							
BOD		0.03	0.01	0.02	0.01	0.02	0.01
COD		0.15	0.05	0.08	0.04	0.08	0.04
TSS		0.03	0.01	0.04	0.02	0.04	0.02
Surfactants		0.06	0.02	0.04	0.02	0.04	0.02
O/G		0.015	0.005	0.01	0.005	0.01	0.005
(b) Air quality restricted operation of a spray drying tower, but only when a high rate of wet scrubbing is in operation which produces more wastewater than can be recycled to process.							
BOD		0.24	0.08	0.12	0.06	0.12	0.06
COD		1.05	0.35	0.50	0.25	0.50	0.25
TSS		0.30	0.10	0.14	0.07	0.14	0.07
Surfactants		0.45	0.15	0.20	0.10	0.20	0.10
O/G		0.09	0.03	0.04	0.02	0.04	0.02
(c) Fast turnaround operation of a spray tower. The maximum for any one day when the number of turnarounds exceeds 6 in any particular 30-consecutive-day period shall be the sum of the appropriate value below and that from (a) or (b); and the average of daily values for 30 consecutive days shall be the value shown below multiplied by the number of turnarounds in excess of 6 and prorated to 30 days plus the appropriate value from (a) or (b).							
BOD		0.02		0.02		0.02	
COD		0.09		0.07		0.07	
TSS		0.02		0.02		0.02	
Surfactants		0.03		0.02		0.02	
O/G		0.005		0.005		0.005	

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
417.160 Subpart P - Manufacture of Liquid Detergents							
(a) Normal liquid detergent operations.							
BOD	lb/1,000 lb of anhydrous product	0.60	0.20	0.10	0.05	0.10	0.05
COD		1.80	0.60	0.44	0.22	0.44	0.22
TSS		0.015	0.005	0.01	0.005	0.01	0.005
Surfactants		0.39	0.13	0.10	0.05	0.10	0.05
O/G		0.015	0.005	0.01	0.005	0.01	0.005
(b) Fast turnaround operation of automated fill lines. The maximum for any one day when the number of turnarounds exceeds 8 in any 30 consecutive days shall be the value shown below multiplied by the number of turnarounds in excess of 8 and prorated to 30 days plus the appropriate value from (a).							
BOD		0.05		0.02		0.02	
COD		0.15		0.07		0.07	
TSS		0.002		0.002		0.002	
Surfactants		0.04		0.02		0.02	
O/G		0.002		0.002		0.002	
417.170 Subpart Q - Manufacture of Detergents by Dry Blending							
BOD		0.03	0.01	0.02	0.01	0.02	0.01
COD		0.21	0.07	0.14	0.07	0.14	0.07
TSS		0.03	0.01	0.02	0.01	0.02	0.01
Surfactants		0.03	0.01	0.02	0.01	0.02	0.01
O/G		0.015	0.005	0.01	0.005	0.01	0.005
417.180 Subpart R - Manufacture of Drum Dried Detergents							
BOD		0.03	0.01	0.02	0.01	0.02	0.01
COD		0.15	0.05	0.10	0.05	0.10	0.05
TSS		0.03	0.01	0.02	0.01	0.02	0.01
Surfactants		0.03	0.01	0.02	0.01	0.02	0.01
O/G		0.03	0.01	0.02	0.01	0.02	0.01
417.190 Subpart S - Manufacture of Detergent Bars and Cakes							

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
BOD	lb/1,000 lb of anhydrous product	2.10	0.70	0.60	0.30	0.60	0.30
COD		9.90	3.30	2.70	1.35	2.70	1.35
TSS		0.60	0.20	0.20	0.10	0.20	0.10
Surfactants		1.50	0.50	0.40	0.20	0.40	0.20
O/G		0.06	0.02	0.04	0.02	0.04	0.02

PART 418 - FERTILIZER MANUFACTURING

Phase I, A-E Final Regulations, Promulgated 4/8/74

418.10 Subpart A - Phosphate
Amended 5/19/76

(a) Subject to the provision of (b) and (c), there shall be no discharge of process wastewater pollutants to navigable waters.

(b) Process wastewater pollutants from a calcium sulfate storage pile runoff facility operated separately or in combination with a water recirculation system may be discharged, after treatment to the standards set forth in (c) below, whenever chronic or catastrophic precipitation events cause the water level to rise into the surge capacity. Process wastewater must be treated and discharged whenever the water level equals or exceeds the midpoint of the surge capacity.

(c) The concentration of pollutants discharged in process wastewater pursuant to the limitations of (b) shall not exceed the following values.

P_T (as P)	mg/l	105	35	105	35	105	35
Fluoride	mg/l	75	25	75	25	75	25
TSS	mg/l	150	50	150	50	150	50
pH		6.0-9.5		6.0-9.5		6.0-9.5	

The TSS limitation shall be waived for process wastewater from a calcium sulfate storage pile runoff facility, operated separately or in combination with a water recirculation system.

(d) Concentration of pollutants discharged in contaminated nonprocess wastewater shall not exceed these values.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
P_T (as P) } mg/l		105	35	105	35	105	35
Fluoride } mg/l		75	25	75	25	75	25
pH		6.0-9.5		6.0-9.5		6.0-9.5	
418.20 Subpart B - Ammonia Amended 6/23/75							
Ammonia	lb/1,000 lb of product	0.1875	0.0625	0.05	0.025	0.11	0.055
418.30 Subpart C - Urea							
(a) Suspended until further notice (8/20/75).							
(b) Limitations for maximum permissible discharge for urea manufacturing in plants which start production after January 1, 1970 and in which urea is prilled.							
Ammonia		0.1	0.05			0.1	0.05
N-Organic		1.37	0.67			1.37	0.67
418.40 Subpart D - Ammonium Nitrate Suspended until further notice (6/23/75).							
418.50 Subpart E - Nitric Acid Amended 1/16/76							
(a) Process wastewater from nitric acid production in which all the raw material ammonia is in gaseous form.							
Ammonia-N		0.007	0.0007	0.0045	0.00045	0.0045	0.00045
Nitrate-N		0.33	0.044	0.17	0.023	0.17	0.023
(b) Process wastewater from nitric acid production in which all the raw material ammonia is in the shipped liquid form.							
Ammonia-N		0.08	0.008	0.08	0.008	0.08	0.008
Nitrate-N		0.33	0.044	0.17	0.023	0.17	0.023
(c) In noncontact cooling water from nitric acid production, the only limitation is for pH at 6.0-9.0.							

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

Phase II, F-G Final Regulations, Promulgated 1/14/75

418.60 Subpart F - Ammonium Sulfate Production

Production of ammonium sulfate by the synthetic process and by coke oven byproduct recovery. There shall be no discharge of process wastewater pollutants to navigable waters.

418.70 Subpart G - Mixed and Blend Fertilizer Production

There shall be no discharge of process wastewater pollutants to navigable waters.

PART 419 - PETROLEUM REFINING

Phase I, A-E Final Regulations, Published 5/9/74
Amended 5/20/75

419.10 Subpart A - Topping Subcategory

(a)

		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
BOD	lb/1,000 bbl feedstock	8.0	4.25	0.92	0.75	4.2	2.2
TSS		5.6	3.6	0.88	0.75	3.0	1.5
COD*		41.2	21.3	3.5	2.8	21.7	11.2
O/G		2.5	1.3	0.18	0.14	1.3	0.70
Phenolics		0.060	0.027	0.0043	0.0031	0.031	0.016
Ammonia-N		0.99	0.45	0.24	0.18	1.0	0.45
Sulfide		0.053	0.024	0.019	0.015	0.027	0.012
Cr_T		0.122	0.071	0.044	0.037	0.064	0.037
Cr(hex)		0.10	0.0044	0.00097	0.00062	0.0052	0.0025

* *In any case in which the applicant can demonstrate that the chloride ion concentration in the effluent exceeds 1,000 mg/l (1,000 ppm), the Regional Administrator may substitute TOC as a parameter in lieu of COD. Effluent limitations for TOC shall be based on effluent data from the plant correlating TOC to BOD. If in the judgment of the Regional Administrator, adequate correlation data are not available, the effluent limitations for TOC shall be established at a ratio of 2.2 to 1 to the applicable effluent limitations on BOD.*

Effluent Characteristics	BPT		BAT		New Sources	
	Max.	Avg.	Max.	Avg.	Max.	Avg.

(b) BPT, BAT, NS: the limits set forth in (a) are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for 30 consecutive days.

(1) Size factor.

1,000 bbl of feedstock per stream day	Size factor
<24.9	1.02
25.0-49.9	1.06
50.0-74.9	1.16
75.0-99.9	1.26
100.0-124.9	1.38
125.0-149.9	1.50
≥150.0	1.57

(2) Process factor.

Process configuration	Process factor
<2.49	0.62
2.5-3.49	0.67
3.5-4.49	0.80
4.5-5.49	0.95
5.5-5.99	1.07
6.0-6.49	1.17
6.5-6.99	1.27
7.0-7.49	1.39
7.5-7.99	1.51
8.0-8.49	1.64
8.5-8.99	1.79
9.0-9.49	1.95
9.5-9.99	2.12
10.0-10.49	2.31
10.5-10.99	2.51
11.0-11.49	2.73
11.5-11.99	2.93
12.0-12.49	3.24
12.5-12.99	3.53
13.0-13.49	3.84
13.5-13.99	4.18
≥14.0	4.36

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(c) The following allocations apply in addition to the discharge allowed by (b).

(1) RUNOFF. The allocation allowed for storm runoff flow, as kg/m³ (lb/1,000 gal), shall be based solely on that storm flow (process area runoff) which is treated in the main treatment system. All additional storm runoff (from tank fields and non-process areas), that has been segregated from the main waste stream for discharge, shall not exceed a concentration of 35 mg/l of TOC or 15 mg/l of oil and grease when discharged.

BOD	lb/1,000 gal. flow	0.40	0.21	0.088	0.071	0.40	0.21
TSS		0.26	0.17	0.084	0.071	0.27	0.17
COD*		3.1	1.6	0.24	0.19	3.1	1.6
O/G		0.126	0.067	0.018	0.014	0.126	0.067

(2) BALLAST. The allocation allowed for ballast water flow, as kg/m³ (lb/1,000 gal), shall be based on those ballast waters treated at the refinery.

BOD	0.40	0.21	0.088	0.071	0.40	0.21
TSS	0.26	0.17	0.084	0.071	0.27	0.17
COD*	3.9	2.0	0.32	0.26	3.9	2.0
O/G	0.126	0.067	0.018	0.014	0.126	0.067

(d) The quantity and quality of pollutants or pollutant properties controlled by this section, attributable to once-through cooling water, are excluded from the discharge allowed by (b). Once-through cooling water may be discharged with a total organic carbon concentration not to exceed 5 mg/l.

419.20 Subpart B - Cracking

(a)

BOD	9.9	5.5	1.2	0.99	5.8	3.1
TSS	6.9	4.4	1.2	0.99	4.0	2.5
COD*	74	38.4	6.8	5.4	41.5	21.0
O/G	3.0	1.6	0.24	0.19	1.7	0.93
Phenolics	0.074	0.036	0.0055	0.0039	0.042	0.020
Ammonia-N	6.6	3.0	1.6	1.2	6.6	3.0
Sulfide	0.065	0.029	0.026	0.017	0.037	0.017
Cr_T	0.15	0.088	0.058	0.049	0.084	0.049
Cr(hex)	0.012	0.0056	0.0013	0.0008	0.0072	0.0032

(lb/1,000 bbl feedstock)

* *See footnote, p. 51.*

Effluent Characteristics	BPT		BAT		New Sources	
	Max.	Avg.	Max.	Avg.	Max.	Avg.

(b) BPT, BAT, NS: the limits set forth in (a) are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for 30 consecutive days.

(1) Size factor.

1,000 bbl of feedstock per stream day	Size factor
<24.9	0.91
25.0-49.9	0.95
50.0-74.9	1.04
75.0-99.9	1.13
100.0-124.9	1.23
125.0-149.9	1.35
≥150.0	1.41

(2) Process factor.

Process configuration	Process factor
≤2.49	0.58
2.5-3.49	0.63
3.5-4.49	0.74
4.5-5.49	0.88
5.5-5.99	1.00
6.0-6.49	1.09
6.5-6.99	1.19
7.0-7.49	1.29
7.5-7.99	1.41
8.0-8.49	1.53
8.5-8.99	1.67
9.0-9.49	1.82
≥9.5	1.89

(c) The provisions of Subpart A(c)(1) and (2) apply to discharges of process wastewater pollutants attributable to storm water runoff and ballast water by a point source subject to the provisions of this Subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by (b). Once-through cooling water may be discharged with a total organic carbon concentration not to exceed 5 mg/l.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
			419.30 Subpart C - Petrochemical				
(a)							
BOD	lb/1,000 bbl feedstock	12.1	6.5	1.7	1.3	7.7	4.1
TSS		8.3	5.25	1.6	1.3	5.2	3.3
COD*		74	38.4	7.6	6.1	47	24
O/G		3.9	2.1	0.32	0.26	2.4	1.3
Phenolics		0.088	0.0425	0.0077	0.0054	0.056	0.027
Ammonia-N		8.25	3.8	2.0	1.5	8.3	3.8
Sulfide		0.078	0.035	0.035	0.022	0.050	0.022
Cr_T		0.183	0.107	0.080	0.068	0.116	0.068
Cr_H		0.016	0.0072	0.0017	0.0011	0.0096	0.0044

(b) BPT, BAT, NS: the limits set forth in (a) are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for 30 consecutive days.

(1) Size factor.

1,000 bbl of feedstock per stream day	Size factor
<24.9	0.73
25.0-49.9	0.76
50.0-74.9	0.83
75.0-99.9	0.91
100.0-124.9	0.99
125.0-149.9	1.08
≥150.0	1.13

(2) Process factor.

Process configuration	Process factor
<4.49	0.73
4.5-5.49	0.80
5.5-5.99	0.91
6.0-6.49	0.99
6.5-6.99	1.08
7.0-7.49	1.17
7.5-7.99	1.28
8.0-8.49	1.39
8.5-8.99	1.51
9.0-9.49	1.65
≥9.5	1.72

* *See footnote, p 51.*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(c) The provisions of Subpart A(c)(1) and (2) apply to discharges of process wastewater pollutants attributable to storm water runoff and ballast water by a point source subject to the provisions of this Subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by (b). Once-through cooling water may be discharged with a total organic carbon concentration not to exceed 5 mg/l.

419.40 Subpart D - Lube

(a)

BOD	lb/1,000 lb	17.9	9.1	2.7	2.2	12.2	6.5
TSS		12.5	8.0	2.6	2.2	8.3	5.3
COD*		127	66	13.8	11.0	87.0	45.0
O/G		5.7	3.0	0.50	0.40	3.8	2.0
Phenolics		0.133	0.065	0.012	0.0087	0.088	0.043
Ammonia-N		8.3	3.8	2.0	1.5	8.3	3.8
Sulfide		0.118	0.053	0.055	0.035	0.078	0.035
Cr_T		0.273	0.160	0.13	0.11	0.180	0.105
Cr_H		0.024	0.011	0.0029	0.0018	0.0022	0.0072

(b) BPT, BAT, NS: the limits set forth in (a) are to be multiplied by the following factors to calculate the maximum for any one day and maximum average of daily values for 30 consecutive days.

(1) Size factor.

1,000 bbl of feedstock per stream day	Size factor
<49.9	0.71
50.0-74.9	0.74
75.0-99.9	0.81
100.0-124.9	0.88
125.0-149.9	0.97
150.0-174.9	1.05
175.0-199.9	1.14
≥200.0	1.19

* *See footnote, p. 51.*

(2) Process factor.

Process configuration	Process factor
<6.49	0.81
6.5-7.49	0.88
7.5-7.99	1.00
8.0-8.49	1.09
8.5-8.99	1.19
9.0-9.49	1.29
9.5-9.99	1.41
10.0-10.49	1.53
10.5-10.99	1.67
11.0-11.49	1.82
11.5-11.99	1.98
12.0-12.49	2.15
12.5-12.99	2.34
≥13.0	2.44

(3) Example of the application of the above factors.

Calculation of the process configuration

Process category	Processes included	Weighting factor
Crude	Atm. crude distillation Vacuum crude distillation Desalting	1
Cracking and Coking	Fluid cat. cracking Vis-breaking Thermal cracking Moving bed cat. cracking Hydrocracking Fluid coking Delayed coking	6
Lube	Further defined in the development document	13
Asphalt	Asphalt production Asphalt oxidation Asphalt emulsifying	12

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(c) The provisions of Subpart A(c)(1) and (2) apply to discharges of process wastewater pollutants attributable to storm water runoff and ballast water by a point source subject to the provisions of this Subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by (b). Once-through cooling water may be discharged with a total organic carbon concentration not to exceed 5 mg/l.

419.50 Subpart E - Integrated

(a)

BOD	lb/1,000 bbl feedstock	19.2	10.2	3.2	2.6	14.7	7.8
TSS		13.2	8.4	3.0	2.6	9.9	6.3
COD*		136.0	70.0	16.8	13.4	104.0	54.0
O/G		6.0	3.2	0.60	0.48	4.5	2.4
Phenolics		0.14	0.068	0.015	0.010	0.105	0.051
Ammonia-N		8.3	3.8	2.0	1.5	8.3	3.8
Sulfide		0.124	0.056	0.066	0.042	0.093	0.042
Cr_T		0.29	0.17	0.15	0.13	0.220	0.13
Cr_H		0.025	0.011	0.0033	0.0021	0.0019	0.0028

(b) BPT, BAT, NS: the limits set forth in (a) are to be multiplied by the following factors to calculate the maximum for any one day and the maximum average of daily values for 30 consecutive days.

(1) Size factor.

1,000 bbl of feedstock per stream day	Size factor
<124.9	0.73
125.0-149.0	0.76
150.0-174.9	0.83
175.0-199.9	0.91
200.0-224.9	0.99
≥225	1.04

* *See footnote, p. 51.*

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(2) Process factor.

Process configuration	Process factor
<6.49	0.75
6.5-7.49	0.82
7.5-7.99	0.92
8.0-8.49	1.00
8.5-8.99	1.10
9.0-9.49	1.20
9.5-9.99	1.30
10.0-10.49	1.42
10.5-10.99	1.54
11.0-11.49	1.68
11.5-11.99	1.83
12.0-12.49	1.99
12.5-12.99	2.17
≥13.0	2.26

(c) The provisions of Subpart A(c)(1) and (2) apply to discharges of process wastewater pollutants attributable to storm water runoff and ballast water by a point source subject to the provisions of this Subpart.

(d) The quantity and quality of pollutants or pollutant properties controlled by this paragraph, attributable to once-through cooling water, are excluded from the discharge allowed by (b). Once-through cooling water may be discharged with a total concentration not to exceed 5 mg/l.

PART 420 - IRON AND STEEL MANUFACTURING

Phase I, A-L Final Regulations, Promulgated 6/28/74

420.10 Subpart A - Byproduct Coke

(a) Subject to the provisions of (b) and (c) the effluent quality required is as set forth below.

		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
Ammonia	lb/1,000 lb of product	0.2736	0.0912	0.0126	0.0042	0.0126	0.0042
CN		0.0657	0.0219				
CN A				0.0003	0.0001	0.0003	0.0001
O/G		0.0327	0.0109	0.0126	0.0042	0.0126	0.0042
Phenol		0.0045	0.0015	0.0006	0.0002	0.0006	0.0002
TSS		0.1095	0.0365	0.0312	0.0104	0.0312	0.0104
Sulfide				0.0003	0.0001	0.0003	0.0001

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(b) For coke plants utilizing desulfurization units, the limitations specified may be exceeded up to 15% (BPT), or 25% (BAT, NS), by those facilities equipped with gas desulfurization units to the extent that such measured discharge is necessary by reason of the increased effluent volume generated by these facilities.

(c) For coke plants utilizing the indirect ammonia recovery process, the limitations specified in (a) may be exceeded up to 30% (BPT), or 70% (BAT, NS), by those facilities recovering ammonia by this technique, to the extent that such measured discharge is necessary by reason of the increased effluent volume generated by this process.

420.20 Subpart B - Beehive Coke

There shall be no discharge of process wastewater pollutants to navigable waters.

420.30 Subpart C - Sintering

O/G	lb/1,000 lb of product	0.0063	0.0021	0.0063	0.0021	0.0063	0.0021
Sulfide				0.00018	0.00006	0.00018	0.00006
Fluoride				0.0126	0.0042	0.0126	0.0042
TSS		0.0312	0.0104	0.0156	0.0052	0.0156	0.0052

420.40 Subpart D - Blast Furnace (Iron)

TSS	0.0780	0.0260	0.0390	00130	0.0390	0.0130
CN	0.0234	0.0078				
CN A			0.0004	0.00013	0.0004	0.00013
Phenol	0.0063	0.0021	0.0008	0.00026	0.0008	0.00026
Ammonia	0.1953	0.0651	0.0156	0.0052	0.0156	0.0052
Sulfide			0.0005	0.00016	0.0005	0.00016
Fluoride			0.0312	0.0104	0.0312	0.0104

420.50 Subpart E - Blast Furnace (Ferromanganese)

TSS	0.3129	0.1043	0.0780	0.0260	0.0780	0.0260
CN	0.4689	0.1563				
CN A			0.0008	0.00026	0.0008	0.00026
Phenol	0.0624	0.0208	0.0016	0.00052	0.0016	0.00052
Ammonia	1.5636	0.5212	0.0312	0.0104	0.0312	0.0104
Sulfide			0.0009	0.0003	0.0009	0.0003
Mn			0.0156	0.0052	0.0156	0.0052

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
There shall be no discharge of process wastewater pollutants to navigable waters.							
420.70 Subpart G - Basic Oxygen Furnace (Wet Air Pollution Control Methods)							
TSS	lb/1,000 bbl feedstock	0.0312	0.0104	0.0156	0.0052	0.0156	0.0052
Fluoride	lb/1,000 bbl feedstock			0.0126	0.0042	0.0126	0.0042
420.80 Subpart H - Open Hearth Furnace							
TSS		0.0312	0.0104	0.0156	0.0052	0.0156	0.0052
Fluoride				0.0126	0.0042	0.0126	0.0042
Nitrate				0.0282	0.0094		
Zn				0.0030	0.0010	0.0030	0.0010
420.90 Subpart I - Electric Arc Furnace (Semi-Wet Air Pollution Control Methods)							
There shall be no discharge of process wastewater pollutants to navigable waters.							
420.100 Subpart J - Electric Arc Furnace (Wet Air Pollution Control Methods)							
TSS		0.0312	0.0104	0.0156	0.0052	0.0156	0.0052
Fluoride				0.0126	0.0042	0.0126	0.0042
Zn				0.0030	0.0010	0.0030	0.0010
420.110 Subpart K - Vacuum Degassing							
TSS		0.0156	0.0052	0.0078	0.0026	0.0078	0.0026
Zn				0.0015	0.0005	0.0015	0.0005
Mn				0.0015	0.0005	0.0015	0.0005
Pb				0.00015	0.00005	0.00015	0.00005
Nitrate				0.0141	0.0047		
420.120 Subpart L - Continuous Casting							
TSS		0.0780	0.0260	0.0156	0.0052	0.0156	0.0052
O/G		0.0234	0.0078	0.0156	0.0052	0.0156	0.0052

Effluent Characteristic	BPT Max.	BPT Avg.
420.130 Subpart M - Hot Forming-Primary Amended 3/26/76		
(a) Carbon steel hot forming-primary operations.		
O/G } lb/1,000 lb	0.0864	0.0288
TSS } of product	0.1113	0.0371
(b) Carbon steel hot forming-primary operations that utilize hot scarfing as part of the process.		
O/G	0.0192	0.0064
TSS	0.0246	0.0082
(c) Alloy and stainless steel hot forming-primary operations.		
SS	0.1962	0.0654
O/G	0.1524	0.0508
(d) Limitations for (a), (b), (c) shall not apply to any operation in the Mahoning Valley.		
420.140 Subpart N - Hot Forming-Section		
(a)		
O/G	0.3285	0.1095
TSS	0.7260	0.2420
(b) Limitations in (a) shall not apply to any operation in the Mahoning Valley.		
420.150 Subpart O - Hot Forming-Flat		
(a) Operations producing carbon steel plate.		
O/G	0.5004	0.1668
SS	0.5004	0.1668

Effluent Characteristic	BPT Max.	BPT Avg.
(b) All other operations producing flat products (hot strip and sheet).		
O/G } lb/1,000 lb	0.5229	0.1743
TSS } of product	0.9924	0.3308
(c) Operations producing alloy and stainless steel plate.		
SS	1.1718	0.3906
O/G	1.1718	0.3906
(d) Limitations in (a), (b), (c) shall not apply to any operation in the Mahoning Valley.		

420.160 Subpart P - Pipe and Tube

(a)		
O/G	0.1254	0.0418
TSS	0.4254	0.1418
(b) Limitations in (a) shall not apply to any operation in the Mahoning Valley.		

420.170 Subpart Q - Pickling-Sulfuric Acid-Batch and Continuous

(a) Batch pickling operations; spent pickle liquor and rinses. There shall be no discharge of process wastewater pollutants to navigable waters.		
(b) Continuous pickling operations with existing facilities as of the final promulgation of this regulation for neutralization of spent pickle liquor.		
Fe (dis)	0.00033	0.00011
O/G†	0.00312	0.00104
TSS	0.0156	0.0052

† *This load is allowed only when these wastes are treated in combination with cold rolling mill wastes (Subpart S).*

Effluent Characteristic		BPT Max.	BPT Avg.
(c) Continuous pickling operations, with existing facilities as of the final promulgation of this regulation for neutralization of rinses and fume hood scrubber effluents.			
Fe (dis)†	lb/1,000 lb of product		0.00094
O/G†			0.0094
TSS		0.1407	0.0469
(d) Continuous pickling operations; spent pickle liquor and rinses. There shall be no discharge of process wastewater pollutants to navigable waters.			
(e) Limitations set forth above shall not apply to any operation in the Mahoning Valley.			
420.180 Subpart R - Pickling-Hydrochloric Acid-Batch and Continuous			
(a) Concentrates from nonregenerative operations.			
Fe (dis)†		0.00039	0.00013
O/G†		0.0039	0.0013
TSS		0.0189	0.0063
(b) Pickling operations that have a hydrochloric acid regeneration unit as part of their operation.			
Fe (dis)†		0.00249	0.00083
O/G†		0.0249	0.0083
TSS		0.1251	0.0417
(c) Rinses.			
Fe (dis)†		0.00249	0.00083
O/G†		0.0249	0.0083
TSS		0.1251	0.0417
(d) Pickling operations that utilize a wet fume hood scrubber over the pickling tanks.			
Fe (dis)†		0.00063	0.00021
O/G†		0.0063	0.0021
TSS		0.0312	0.0104

† *This load is allowed only when these wastes are treated in combination with cold rolling wastes (Subpart S).*

Effluent Characteristic		BPT Max.	BPT Avg.
O/G	lb/1,000 lb of product	0.00312	0.00104
TSS		0.0078	0.0026
Fe (dis)†		0.0003	0.00011

(e) Limitations in (a), (b), (c), (d) shall not apply to any operation in the Mahoning Valley.

420.190 Subpart S - Cold Rolling

(a) Plants utilizing recirculation on all stands.

O/G	0.00312	0.00104
TSS	0.0078	0.0026
Fe (dis)†	0.0003	0.00011

(b) Plants utilizing combinations of operating modes.

O/G	0.0501	0.0167
TSS	0.1251	0.0417
Fe (dis)†	0.00501	0.00167

(c) Plants utilizing direct application on all stands.

O/G	0.1251	0.0417
TSS	0.3126	0.1042
Fe (dis)†	0.0126	0.0042

(d) Limitations in (a), (b), (c) shall not apply to any operation in the Mahoning Valley.

420.200 Subpart T - Hot Coatings-Galvanizing

(a) Hot coating-galvanizing operations.

O/G	0.1125	0.0375
TSS	0.3750	0.1250
Zn	0.0375	0.0125
Cr	0.0225	0.0075
Cr (hex)	0.00015	0.00005

For those installations that utilize a wet fume hood scrubber as part of the coating operation, the following effluent limitations are to be added to the base limitations set forth above.

† *This load is allowed only when these wastes are treated in combination with pickling operation wastewaters (Subparts Q, R, W, or Y).*

Effluent Characteristic		BPT Max.	BPT Avg.
O/G	lb/1,000 lb of product	0.1125	0.0375
TSS		0.3750	0.1250
Zn		0.0375	0.0125
Cr		0.0225	0.0075
Cr (hex)		0.00015	0.00005

(b) Limitations set forth in (a) shall not apply to any operation in the Mahoning Valley.

420.210 Subpart U - Hot Coatings-Terne

(a)

O/G	0.1125	0.0375
TSS	0.3750	0.1250
Pb	0.00375	0.00125
Sn	0.0375	0.0125

(b) Installations that utilize a wet fume hood scrubber as part of the coating operation.

O/G	0.1125	0.0375
TSS	0.3750	0.1250
Pb	0.00375	0.00125
Sn	0.0375	0.0125

(c) Limitations set forth above in (a), (b) shall not apply to any operation in the Mahoning Valley.

420.220 Subpart V - Miscellaneous Runoffs-Storage Piles, Casting, and Slagging

(a) Coal, limestone, ore storage piles: no BPT limitations.

(b) Casting or slagging operations: no discharge of process (contact) wastewater pollutants to navigable waters.

(c) Limitations in (a), (b) shall not apply to any operation in the Mahoning Valley.

420.230 Subpart W - Combination Acid Pickling (Batch and Continuous)

(a) Continuous combination acid pickling operations.

Effluent Characteristic		BPT Max.	BPT Avg.
SS	lb/1,000 lb of product	0.3129	0.1043
O/G†		0.1251	0.0417
Cr (dis)		0.0063	0.0021
Fe (dis)		0.0126	0.0042
Fluoride		0.1878	0.0626
Ni (dis)		0.0030	0.0010

(b) Combination acid pickling - batch pipe and tube operations.

SS	0.2190	0.0730
O/G†	0.0876	0.0292
Cr (dis)	0.0045	0.0015
Fe (dis)	0.0087	0.0029
Fluoride	0.1314	0.0438
Ni (dis)	0.0021	0.0007

(c) Combination acid pickling - other batch operations.

SS	0.0627	0.0209
O/G†	0.0249	0.0083
Cr (dis)	0.0012	0.0004
Fe (dis)	0.0024	0.0008
Fluoride	0.0375	0.0125
Ni (dis)	0.0006	0.0002

(d) Limitations set forth in (a), (b), (c) shall not apply to any operation in the Mahoning Valley.

420.240 Subpart X - Scale Removal (Kolene and Hydride)

(a) Kolene descaling operations.

SS	0.1563	0.0521
Cr (hex)	0.0003	0.0001
Cr (dis)	0.0030	0.0010
Fe (dis)	0.0063	0.0021
CN	0.0015	0.0005

† *This load is applicable only when these wastes are combined with cold rolling wastes (Subpart S) for treatment.*

Effluent Characteristic		BPT Max.	BPT Avg.
(b) Hydride descaling operations.			
SS	lb/1,000 lb of product	0.3753	0.1251
Cr (hex)		0.0009	0.0003
Cr (dis)		0.0075	0.0025
Fe (dis)		0.0150	0.0050
CN		0.0039	0.0013
(c) Limitations in (a), (b) shall not apply to any operation in the Mahoning Valley.			
420.250 Subpart Y - Wire Pickling and Coating			
(a)			
SS		0.3129	0.1043
O/G†		0.1251	0.0417
Cr (dis)		0.0063	0.0021
Fe (dis)		0.0126	0.0042
CN		0.0030	0.0010
Fluoride		0.1878	0.0626
Ni (dis)		0.0030	0.0010
Cu (dis)		0.0030	0.0010
(b) Limitations set forth in (a) shall not apply to any operation located in the Mahoning Valley.			
420.260 Subpart Z - Continuous Alkaline Cleaning			
(a)			
SS		0.0156	0.0052
Cr (dis)		0.0003	0.0001
Fe (dis)		0.0006	0.0002
Ni (dis)		0.00015	0.00005
(b) Limitations in (a) shall not apply to any operation in the Mahoning Valley.			

† *This load is applicable only when these wastes are combined with cold rolling wastes (Subpart S) for treatment.*

PART 421 - NONFERROUS METALS

Phase I, A-C Final Regulations, Promulgated 4/8/74
Amended 10/15/75

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
421.10 Subpart A - Bauxite Refining							
(a) Subject to the provisions of (b) there shall be no discharge of process wastewater pollutants to navigable waters.							
(b) During any calendar month there may be discharged from the overflow of a process wastewater impoundment either a volume of process wastewater equal to the difference between the precipitation for that month that falls within the impoundment and the evaporation within the impoundment for that month, or if greater, a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation for that month as established by the NCC, NOAA, for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the NCC).							
421.20 Subpart B - Primary Aluminum Smelting							
Fluoride	lb/1,000 lb of product	2.0	1.0	0.1	0.05	0.05	0.025
TSS	lb/1,000 lb of product	3.0	1.5	0.2	0.1	0.1	0.05
421.30 Subpart C - Secondary Aluminum Smelting							
(a) BPT: uses water for metal cooling. BPT, BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.							
(b) BPT: uses aluminum fluoride in magnesium removal (demagging) process. There shall be no discharge of process wastewater pollutants to navigable waters. NS: application of the factors listed in §306(b) may require variation from the standard of performance set forth in this section for any point source subject to such standard and which uses chlorine in the magnesium removal process. If variation is necessary, the discharge of process wastewater pollutants shall be allowed from the magnesium removal process only, and such source shall be subject to effluent limitations no less stringent than those required by (c), BAT.							

Effluent Characteristics		BPT Avg.	BAT	New Sources
(c) BPT: uses chlorine in its magnesium removal process.				
TSS	lb/1,000 lb of magnesium removed	175		
COD		6.5		
pH		7.5-9.0		
(d) BPT: processes residues by wet methods.				
TSS	lb/1,000 lb of product	1.5		
Fluoride		0.4		
Ammonia-N		0.01		
Al		1.0		
Cu		0.003		
COD		1.0		
pH		7.5-9.0		

421.40 Subpart D - Primary Copper Smelting
(Apply to BPT and BAT)

(a) Subject to the provisions of (b), (c), and (d) there shall be no discharge of process wastewater pollutants to navigable waters.

(b) A process wastewater impoundment which is designed, constructed and operated to contain the precipitation from the 10-year, 24-hour rainfall event as established by the NCC, NOAA, for the area in which such impoundment is located may discharge that volume of process wastewater which is equivalent to the volume of precipitation that falls within the impoundment in excess of that attributable to the 10-year, 24-hour rainfall event, when such event occurs.

(c) During any calendar month there may be discharged from a process wastewater impoundment either a volume of process wastewater equal to the difference between the precipitation for that month that falls within the impoundment and either the evaporation from the pond water surface area for that month, or a volume of process wastewater equal to the difference between the mean precipitation for that month that falls within the impoundment and the mean evaporation from the pond water surface area as established by the NCC, NOAA, for the area in which such impoundment is located (or as otherwise determined if no monthly data have been established by the NCC), whichever is greater.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(d) Any process wastewater discharged pursuant to (c) shall comply with each of the following requirements.							
TSS	ppm	50	25	50	25		
As	ppm	20	10	20	10		
Cu	ppm	0.5	0.25	0.5	0.25		
Pb	ppm	1.0	0.5	1.0	0.5		
Cd	ppm	1.0	0.5	1.0	0.5		
Se	ppm	10	5	10	5		
Zn	ppm	10	5	10	5		

421.50 Subpart E - Primary Copper Refining
(Apply to BPT and BAT)

(a) Same as 421.40 Subpart D(a).

(b) Same as 421.40 Subpart D(b).

(c) Same as 421.40 Subpart D(c).

(d) Any process wastewater discharged pursuant to (c).

TSS	50	25	50	25	
As	20	10	20	10	
Cu	0.5	0.25	0.5	0.25	
Se	10	5	10	5	
Zn	10	5	10	5	
O/G	20	10	20	10	

Point source geographically located in a historical area of net precipitation, after application of BPT.

TSS	0.10	0.05	0.01	0.005	
As	0.04	0.02	0.004	0.002	
Zn	0.02	0.01	0.002	0.001	
Se	0.02	0.01	0.002	0.001	
Cu	0.001	0.0005	0.0001	0.00005	
O/G	0.04	0.02	0.004	0.002	

(lb/1,000 lb of product)

421.60 Subpart F - Secondary Copper
(Apply to BPT and BAT)

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(a) Same as 421.40 Subpart D(a).							
(b) Same as 421.40 Subpart D(b).							
(c) Same as 421.40 Subpart D(c).							
(d) Any process wastewater discharged pursuant to (c) shall comply with each of the following requirements.							
TSS	ppm	50	25	50	25		
Cu	ppm	0.5	0.25	0.5	0.25		
Zn	ppm	10	5	10	5		
O/G	ppm	20	10	20	10		

421.70 Subpart G - Primary Lead
(Apply to BPT and BAT)

(a) Same as 421.40 Subpart D(a).							
(b) Same as 421.40 Subpart D(b).							
(c) Same as 421.40 Subpart D(c).							
(d) Any process wastewater discharged pursuant to (c).							
TSS	lb/1,000 lb of product	50	25	50	25		
Cd	lb/1,000 lb of product	1.0	0.5	1.0	0.5		
Pb	lb/1,000 lb of product	1.0	0.5	1.0	0.5		
Zn	lb/1,000 lb of product	10	5	10	5		
Point source geographically located in a historical area of net precipitation, after application of BPT.							
TSS		0.042	0.021	0.042	0.021		
Cd		0.0008	0.0004	0.0008	0.0004		
Pb		0.0008	0.0004	0.0008	0.0004		
Zn		0.008	0.004	0.008	0.004		

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.
		421.80 Subpart H - Primary Zinc			
TSS	lb/1,000 lb of product	0.42	0.21	0.28	0.14
As		1.6×10^{-3}	8×10^{-4}	1.1×10^{-3}	5.4×10^{-4}
Cd		0.008	0.004	5.4×10^{-3}	2.7×10^{-3}
Se		0.08	0.04	0.054	0.027
Zn		0.08	0.04	0.054	0.027

PART 422 - PHOSPHATE MANUFACTURING

Phase I, A-C Final Regulations, Promulgated 2/20/74

422.10 Subpart A - Phosphorus Production

BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.

TSS	lb/1,000 lb of product	1.0	0.5
P_T		0.30	0.15
Fluoride		0.10	0.05
P_E		No detectable quantity	

422.20 Subpart B - Phosphorus Consuming

Manufacture of phosphoric acid, phosphorus pentoxide, phosphorus pentasulfide, phosphorus trichloride, and phosphorus oxychloride directly from elemental phosphorus.

(a) There shall be no discharge of process wastewater pollutants to navigable waters (BPT, BAT, NS), specifically from the manufacture of phosphoric acid, phosphorus pentoxide, phosphorus pentasulfide for BPT and BAT, in addition to phosphorus trichloride or phosphorus oxychloride for BAT.

(b) BPT: pollutants or pollutant properties which may be discharged in process wastewater from phosphorus trichloride manufacturing on the basis of production.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
TSS	lb/1,000 lb of product	1.4	0.7				
P_T		1.6	0.8				
As		0.0001	0.00005				
P_E		No detectable quantity					

(c) Pollutants or pollutant properties which may be discharged in process wastewater from phosphorus oxychloride manufacturing on the basis of production.

TSS	0.3	0.15
P_T	0.34	0.17

422.30 Subpart C - Phosphate

(a) There shall be no discharge of process wastewater pollutants to navigable waters (BPT, BAT, NS), specifically from the manufacture of sodium tripolyphosphate or animal feed grade calcium phosphate for BPT and BAT, in addition to human food grade calcium phosphate for BAT.

(b) BPT: process wastewater from human food grade calcium phosphate manufacturing based on production.

TSS	0.12	0.06
P_T	0.06	0.03

Phase II, D-F Interim Final Regulations, 1/27/75
Amended 6/23/76

422.40 Subpart D - Defluorinated Phosphate Rock
(Apply to BPT and BAT)

(a) Same as 421.40 Subpart D(a).

(b) Same as 421.40 Subpart D(b).

(c) Any process wastewater discharged pursuant to (b).

		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.
P_T(as P)	mg/l	105	35	105	35
Fluoride	mg/l	75	25	75	25
TSS	mg/l	150	50	150	50

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.
(d) Any nonprocess wastewater.					
P_T (as P)	mg/l	70	35	105	35
Fluoride	mg/l	75	25	75	25

422.50 Subpart E - Defluorinated Phosphoric Acid
(Apply to BPT and BAT)

(a) Same as 421.40 Subpart D(a).

(b) Same as 421.40 Subpart D(b).

(c) Any process wastewater discharged pursuant to (b).

P_T (as P)	105	35	105	35
Fluoride	75	25	75	25
TSS	150	50	150	50

(d) Any nonprocess wastewater discharged pursuant to (c).

P_T (as P)	105	35	105	35
Fluoride	75	25	75	25

422.60 Subpart F - Sodium Phosphates

TSS	lb/1,000 lb of product	0.50	0.25	0.35	0.18
P_T (as P)	lb/1,000 lb of product	0.80	0.40	0.56	0.28
Fluoride	lb/1,000 lb of product	0.30	0.15	0.21	0.11

PART 423* - STEAM ELECTRIC POWER GENERATION

Phase I, A-D Final Regulations, Promulgated 10/8/74
Amended 2/19/75

423.10 Subpart A - Generating Unit

(a) pH = 6.0-9.0, except once-through cooling water.

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* *Consult Federal Register for official paragraph designations throughout Part 423. Paragraph lettering system differs for BPT, BAT, NS.*

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(b) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.						
(c) Multiply the flow of low-volume waste sources times the concentration listed.						
TSS } mg/l	100	30	100	30	100	30
O/G } mg/l	20	15	20	15	20	15
(d) BPT: multiply the flow of ash transport water times the concentration listed. BAT, NS: multiply the flow of bottom ash transport water times the concentration listed and divide the product by 12.5 for BAT or by 20 for NS.						
TSS	100	30	100	30	100	30
O/G	20	15	20	15	20	15
(e) BAT: multiply the flow of fly ash transport water times the concentration listed. NS: there shall be no discharge of TSS or O/G in fly ash transport water.						
TSS			100	30		
O/G			20	15		
(f) Multiply the flow of metal cleaning wastes times the concentration listed.						
TSS	100	30	100	30	100	30
O/G	20	15	20	15	20	15
Cu_T	1.0	1.0	1.0	1.0	1.0	1.0
Fe_T	1.0	1.0	1.0	1.0	1.0	1.0
(g) Multiply the flow of boiler blowdown times the concentration listed.						
TSS	100	30	100	30	100	30
O/G	20	15	20	15	20	15
Cu_T	1.0	1.0	1.0	1.0	1.0	1.0
Fe_T	1.0	1.0	1.0	1.0	1.0	1.0
(h) Multiply the flow of once-through cooling water times the concentration listed. (Values are maximum and average concentrations.)						
Cl_{FA}	0.5	0.2	0.5	0.2	0.5	0.2

Effluent Characteristic	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(i) Multiply the flow of cooling tower blowdown times the concentration listed. (Cl_{FA} limits given as maximum and average concentrations.)						
Cl_{FA}	0.5	0.2	0.5	0.2	0.5	0.2
Zn mg/l			1.0	1.0		
Cr			0.2	0.2		
P			5.0	5.0		
Other corrosion inhibiting materials			Limit to be est. on a case-by-case basis.			
Materials added for corrosion inhibition including but not limited to Zn, Cr, and P.					No detectable amount.	

(j) Neither Cl_{FA} nor total residual Cl may be discharged from any unit for more than 2 hours in any one day and not more than one unit in any plant may discharge free available or total residual Cl at any one time unless the utility can demonstrate to the regional administrator or State, if the State has NPDES permit issuing authority, that the units in a particular location cannot operate at or below this level of chlorination.

(k) In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property controlled in (b) (1) through (9) for BPT and (a) through (j)* for BAT and NS attributable to each controlled waste source shall not exceed the specified limitation for that waste source.*

(l) BAT, NS: there shall be no discharge of heat from the main condensers except:

(1) BAT, NS: heat may be discharged in blow-down from recirculated cooling water systems provided the temperature at which the blowdown is discharged does not exceed at any time the lowest temperature of recirculated cooling water prior to the addition of the make-up water.

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* *Use official paragraph designation cited in Federal Register.*

(2) BAT: heat may be discharged in blowdown from recirculated cooling water systems which have been designed to discharge blowdown water at a temperature above the lowest temperature of recirculated cooling water prior to the addition of make-up water providing such recirculating cooling systems have been placed in operation or are under construction prior to the effective date of this regulation. NS: heat may be discharged in blowdown from cooling ponds provided the temperature at which the blowdown is discharged does not exceed at any time the lowest temperature or recirculated cooling water prior to the addition of the make-up water.

(3) BAT: heat may be discharged in blowdown (overflow) from a cooling pond or cooling lake where the owner or operator of a unit otherwise subject to this limitation can demonstrate that a cooling pond, or cooling lake in service or under construction as of the effective date of this regulation, is used to cool recirculated cooling water before it is recirculated to the main condensers.

(4) BAT: heat may be discharged where the owner or operator of a unit otherwise subject to this limitation can demonstrate that sufficient land for the construction and operation of mechanical draft evaporative cooling towers is not available (after consideration of alternate land use assignments) on the premises or on adjoining property under the ownership or control of the owner or operator as of March 4, 1974, and that no alternate recirculating cooling system is practicable.

(5) BAT: heat may be discharged where the owner or operator of a unit otherwise subject to this limitation can demonstrate that the total dissolved solids concentration in blowdown exceeds 30,000 mg/l and land not owned or controlled by the owner or operator as of March 4, 1974, is located within 150 m (500 ft) in the prevailing downwind direction of every practicable location for mechanical draft cooling towers and that no alternate recirculating cooling system is practicable.

(6) BAT: heat may be discharged where the owner or operator of a unit otherwise subject to this limitation can demonstrate to the regional administrator or State, if the State has NPDES permit issuing authority, that the plume which must necessarily emit from a cooling tower would cause a substantial hazard to commercial aviation and that no alternate recirculated cooling water system is practicable. In making such demonstration to the regional

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

administrator or State the owner or operator of such unit must include a finding by the Federal Aviation Administration that the visible plume emitted from a well-operated cooling tower would in fact cause a substantial hazard to commercial aviation in the vicinity of a major commercial airport.

(m) BAT: the limitation of (1) shall become effective on July 1, 1981.

(n) BAT: in the event that a regional reliability council, or when no functioning regional reliability council exists, a major utility or consortium or utilities, can demonstrate to the regional administrator or State, if the State has NPDES permit issuing authority, that the system reliability would be seriously impacted by complying with the effective date set forth in (m) the regional administrator may accept an alternative proposed schedule of compliance on the part of all the utilities concerned providing, however, that such schedule of compliance will require that units representing not less than 50% of the affected generating capacity shall meet the compliance date, that units representing not less than an additional 30% of the generating capacity shall comply not later than July 1, 1982 and the balance of units shall comply not later than July 1, 1983.

423.20 Subpart B - Small Unit

(a) pH = 6.0-9.0, except once-through cooling water.

(b) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(c) Multiply the flow of low-volume waste sources times the concentration listed.

		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
TSS	mg/l	100	30	100	30	100	30
O/G	mg/l	20	15	20	15	20	15

(d) BPT: multiply the flow of ash transport water times the concentration listed. BAT, NS: multiply the flow of bottom ash transport water times the concentration listed, and divide the product by 12.5 for BAT or by 20 for NS.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
TSS O/G	mg/l	100 20	30 15	100 20	30 15	100 20	30 15

(e) BAT: multiply the flow of flyash transport water times the concentration listed. NS: there shall be no discharge of TSS or O/G in flyash transport water.

TSS				100	30		
O/G				20	15		

(f) Multiply the flow of metal cleaning wastes times the concentration listed.

TSS		100	30	100	30	100	30
O/G		20	15	20	15	20	15
Cu_T		1.0	1.0	1.0	1.0	1.0	1.0
Fe_T		1.0	1.0	1.0	1.0	1.0	1.0

(g) Multiply the flow of boiler blowdown times the concentration listed.

TSS		100	30	100	30	100	30
O/G		20	15	20	15	20	15
Cu_T		1.0	1.0	1.0	1.0	1.0	1.0
Fe_T		1.0	1.0	1.0	1.0	1.0	1.0

	Concentration Max.	Concentration Avg.
Cl_{FA}	0.5	0.2

(h) Multiply the flow of once-through cooling water times the concentration listed. (Values are maximum and average concentrations.)

Cl_{FA}	0.5	0.2

(i) Same as §423.10(i).

(j) Same as §423.10(j).

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.

(k) Same as §423.10(k).

(l) NS: there shall be no discharge of heat from the main condensers except:

(1) Heat may be discharged in blowdown from recirculated cooling water systems provided the temperature at which the blowdown is discharged does not exceed at any time the lowest temperature of recirculated cooling water prior to the addition of the make-up water.

(2) Heat may be discharged in blowdown from cooling ponds provided the temperature at which the blowdown is discharged does not exceed at any time the lowest temperature of recirculated cooling water prior to the addition of the make-up water.

423.30 Subpart C - Old Unit
(Apply to BPT and BAT)

(a) pH - 6.0-9.0, except once-through cooling water.

(b) There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

(c) Multiply the flow of low-volume waste sources times the concentration listed.

TSS	mg/l	100	30	100	30
O/G		20	15	20	15

(d) BPT: multiply the flow of ash transport water by the concentration listed. BAT: multiply the flow of bottom ash transport water by the concentration and divide by 12.5.

TSS				100	30
O/G				20	15

(e) BAT: multiply the flow of flyash transport water times the concentration listed.

TSS				100	30
O/G				20	15

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(f) Multiply the flow of metal cleaning wastes times the concentration listed.						
TSS	100	30	100	30		
O/G	20	15	20	15		
Cu_T	1.0	1.0	1.0	1.0		
Fe_T	1.0	1.0	1.0	1.0		
mg/l						
(g) Multiply the flow of boiler blowdown times the concentration listed.						
TSS	100	30	100	30		
O/G	20	15	20	15		
Cu_T	1.0	1.0	1.0	1.0		
Fe_T	1.0	1.0	1.0	1.0		
(h) Multiply the flow of once-through cooling water times the concentration listed. (Values are maximum and average concentrations.)						
Cl_{FA}	0.5	0.2	0.5	0.2		
(i) Multiply the flow of cooling tower blowdown times the concentration listed. (Values are maximum and average concentrations.)						
Cl_{FA}	0.5	0.2	0.5	0.2		
Zn			1.0	1.0		
Cr			0.2	0.2		
P			5.0	5.0		
Other corrosion inhibiting materials			Limit to be established on a case-by-case basis.			

(j) Same as §423.10(j).

(k) Same as §423.10(k), but does not apply to NS.

423.40 Subpart D - Area Runoff

Material storage runoff and construction runoff.

(a) Subject to the provisions of (b).

TSS	50		50		50	

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.

(b) Any untreated overflow from facilities designed, constructed and operated to treat the volume of material storage runoff and construction runoff which is associated with a 10-year, 24-hour rainfall event shall not be subject to the limitations in (a).

PART 424 - FERROALLOY MANUFACTURING

Phase I, A-C Final Regulations, Promulgated 2/22/74
Amended 5/21/74

For nonelectric furnace smelting processes, limitations are three times those listed below (except for pH) and measured in lb/ton of product.

424.10 Subpart A - Open Electric Furnaces with Wet Air Pollution Control Devices

TSS	lb/Mwh	0.703	0.352	0.052	0.026	0.052	0.026
Cr_T	lb/Mwh	0.014	0.007	0.0017	0.0009	0.0017	0.0009
Cr^{VI}	lb/Mwh	0.0014	0.0007	0.0002	0.0001	0.0002	0.0001
Mn_T	lb/Mwh	0.141	0.070	0.017	0.0086	0.017	0.008

424.20 Subpart B - Covered Electric Furnaces and Other Smelting Operations with Wet Air Pollution Control Devices

TSS	0.922	0.461	0.071	0.035	0.071	0.035
Cr_T	0.018	0.009	0.002	0.0012	0.002	0.0012
Cr^{VI}	0.0018	0.0009	0.0002	0.0001	0.0002	0.0001
Mn_T	0.184	0.092	0.023	0.012	0.023	0.012
$Cyanide_T$	0.009	0.005	0.001	0.0006	0.001	0.0006
$Phenols^T$	0.013	0.009	0.0009	0.0005	0.0009	0.0005

424.30 Subpart C - Slag Processing

TSS	lb/ton processed	5.319	2.659	0.542	0.271	0.542	0.271
Cr_T	lb/ton processed	0.106	0.053	0.011	0.0054	0.011	0.0054
Mn_T	lb/ton processed	1.064	0.532	0.108	0.054	0.108	0.054

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
		Phase II, D-G Interim Final Regulations, 2/24/75					
		424.40 Subpart D - Covered Calcium Carbide Furnaces with Wet Air Pollution Control Devices					
TSS	lb/1,000 lb of product	0.380	0.190	0.22	0.11		
$Cyanide_T$		0.0056	0.0028	0.0056	0.0028		
		424.50 Subpart E - Other Calcium Carbide Furnaces					
		BPT, BAT: there shall be no discharge of process wastewater pollutants to navigable waters.					
		424.60 Subpart F - Electrolytic Manganese Products					
		(a) Producing electrolytic manganese.					
TSS	lb/1,000 lb of product	6.778	3.389	3.389	1.695		
Mn		2.771	1.356	0.678	0.339		
Ammonia-N		40.667	20.334	6.778	3.389		
		(b) Producing electrolytic manganese dioxide.					
TSS		1.762	0.881	0.881	0.441		
Mn		0.705	0.352	0.176	0.088		
Ammonia-N		10.574	5.287	1.762	0.881		
		424.70 Subpart G - Electrolytic Chromium					
TSS		5.276	2.638	2.649	1.324		
Mn		2.111	1.055	0.530	0.265		
Cr		0.106	0.053	0.053	0.027		
Ammonia-N		10.553	5.276	5.297	2.649		

PART 425 - LEATHER TANNING AND FINISHING

Phase I, A-F Final Regulations, Promulgated 4/9/74

425.10 Subpart A - Hair Pulp Unhairing with Chrome Tanning and Finishing

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(a)							
BOD	lb/1,000 lb raw material	8.0	4.0	2.8	1.40	8.0	4.0
TSS		10.0	5.0	3.0	1.50	10.0	5.0
Chrome		0.20	0.10	0.1	0.05	0.20	0.10
O/G		1.50	0.75	1.06	0.53	1.50	0.75
Sulfide				0.01	0.005		
TKN				0.54	0.27		
FC				Max.: 400 c/ 100 ml			

(b) BPT, NS: additional allocations equal to one-half the limitations for BOD and TSS in (a) are allowed any point source subject to such limitations with a production less than 17,000 kg hides per day.

425.20 Subpart B - Hair Save Unhairing with Chrome

(a)						
BOD	9.2	4.6	3.2	1.60	9.2	4.6
TSS	11.6	5.8	3.6	1.80	11.6	5.8
Chrome	0.24	0.12	0.12	0.06	0.24	0.12
O/G	1.80	0.90	1.26	0.63	1.80	0.90
Sulfide			0.012	0.006		
TKN			0.64	0.32		
FC			Max.: 400 c/ 100 ml			

(b) BPT, NS: additional allocations equal to one-half the limitations for BOD and TSS in (a) are allowed any point source subject to such limitations with a production less than 17,000 kg hides per day.

425.30 Subpart C - Unhairing with Vegetable or Alum Tanning and Finishing

(a)						
BOD	7.6	3.8	2.6	1.30	7.6	3.8
TSS	9.6	4.8	2.8	1.40	9.6	4.8
Chrome	0.1	0.05	0.1	0.05	0.1	0.05
O/G	1.50	0.75	1.0	0.50	1.50	0.75
Sulfide			0.01	0.005		
TKN			0.5	0.25		
FC			Max.: 400 c/ 100 ml			

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(b) BPT, NS: same as 425.10(b).							
425.40 Subpart D - Finishing of Tanned Hides							
(a)							
BOD	lb/1,000 lb raw material	3.2	1.6	1.0	0.50	3.2	1.6
TSS		4.0	2.0	1.2	0.60	4.0	2.0
Chrome		0.20	0.10	0.04	0.02	0.20	0.10
O/G		0.50	0.25	0.48	0.24	0.50	0.25
Sulfide				0.004	0.002		
TKN				0.2	0.10		
FC				Max.: 400 c/ 100 ml			
(b) BPT, NS: same as 425.10(b).							
425.50 Subpart E - Vegetable or Chrome Tanning of Unhaired Hides							
(a)							
BOD		9.6	4.8	3.2	1.60	9.6	4.8
TSS		12.0	6.0	3.6	1.80	12.0	6.0
Chrome		0.12	0.06	0.12	0.06	0.12	0.06
O/G		1.80	0.90	1.26	0.63	1.80	0.90
Sulfide				0.012	0.006		
TKN				0.62	0.31		
FC				Max.: 400 c/ 100 ml			
(b) BPT, NS: same as 425.10(b).							
425.60 Subpart F - Unhairing with Chrome Tanning and No Finishing							
(a)							
BOD		5.6	2.8	1.4	0.70	5.6	2.8
TSS		6.8	3.4	1.6	0.80	6.8	3.4
Chrome		0.20	0.10	0.06	0.03	0.20	0.10
O/G		0.70	0.35	0.68	0.34	0.70	0.35
Sulfide				0.006	0.003		
TKN				0.28	0.14		
FC				Max.: 400 c/ 100 ml			

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(b) BPT, NS: same as 425.10(b).							

PART 426 - GLASS MANUFACTURING

Phase I, A - Insulation Fiberglass - Final Regulations 1/22/74
B-G, Final Regulations, Promulgated 2/14/74

426.10 Subpart A - Insulation Fiberglass

(a) There shall be no discharge of process wastewater pollutants to navigable waters, except for BPT as permitted in (b).

(b) BPT: process wastewater from advanced air emission control devices, when such water cannot be consumed in the process.

Phenol	lb/1,000 lb	0.0006	0.0003		
COD	lb/1,000 lb	0.33	0.165		
BOD	lb/1,000 lb	0.024	0.012		
TSS	lb/1,000 lb	0.03	0.015		

426.20 Subpart B - Sheet Glass Manufacturing

There shall be no discharge of process wastewater pollutants to navigable waters.

426.30 Subpart C - Rolled Glass Manufacturing

There shall be no discharge of process wastewater pollutants to navigable waters.

426.40 Subpart D - Plate Glass Manufacturing

NS: there shall be no discharge of process wastewater pollutants to navigable waters.

TSS	lb/ton	5.52	2.76	0.090	0.090

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
426.50 Subpart E - Float Glass Manufacturing							
TSS	lb/ton	0.0040	0.0040	0.0014	0.0014	0.0014	0.0014
Oil	lb/ton	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028
P	lb/ton	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
426.60 Subpart F - Automotive Glass Tempering							
TSS	lb/1,000 ft^2	0.40	0.25	0.05	0.05	0.05	0.05
Oil	lb/1,000 ft^2	0.13	0.13	0.10	0.10	0.10	0.10
426.70 Subpart G - Automotive Glass Laminating							
TSS		0.90	0.90	0.18	0.18	0.18	0.18
Oil		0.36	0.36	0.36	0.36	0.36	0.36
P		0.22	0.22	0.06	0.06	0.06	0.06
Phase II, H-M Final Regulations, Promulgated 1/16/75							
426.80 Subpart H - Glass Container Manufacturing							
Oil	lb/1,000 lb of furnace pull	0.06	0.03	0.0016	0.0008	0.0016	0.0008
TSS	lb/1,000 lb of furnace pull	0.14	0.07	0.0016	0.0008	0.0016	0.0008
426.90 Subpart I - Machine Pressed and Blown Glass Manufacturing							
426.100 Subpart J - Glass Tubing (Danner) Manufacturing							
TSS		0.46	0.23	0.0004	0.0002	0.0004	0.0002
426.110 Subpart K - Television Picture Tube Envelope Manufacturing							

BPT, BAT, NS: the fluoride and lead limitations are applicable to the abrasive polishing and acid polishing wastewater streams while the TSS, oil, and pH limitations are applicable to the entire process wastewater stream.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
Oil	lb/1,000 of furnace pull	0.26	0.13	0.26	0.13	0.26	0.13
TSS		0.30	0.15	0.26	0.13	0.26	0.13
Fluoride		0.14	0.07	0.12	0.06	0.12	0.06
Pb		0.009	0.0045	0.009	0.00045	0.0009	0.00045

426.120 Subpart L - Incandescent Lamp Envelope Manufacturing

(a) Any manufacturing plant which produces incandescent lamp envelopes.

Oil		0.23	0.115	0.09	0.045	0.09	0.045
TSS		0.23	0.115	0.09	0.045	0.09	0.045

(b) Any manufacturing plant which frosts incandescent lamp envelopes.

Fluoride	lb/1,000 lb of product frosted	0.23	0.115	0.104	0.052	0.104	0.052
Ammonia		No limitation		0.24	0.12	0.24	0.12
TSS		0.46	0.23	0.08	0.04	0.08	0.04

426.130 Subpart M - Hand Pressed and Blown Glass Manufacturing

(a) Any plant which melts raw materials, produces hand pressed or blown leaded glassware, discharges greater than 50 gal/day of process wastewater, and employs hydrofluoric acid finishing techniques.

Pb	mg/l	No limitation		0.2	0.1	0.2	0.1
Fluoride		No limitation		26.0	13.0	26.0	13.0
TSS		No limitation		20.0	10.0	20.0	10.0

(b) Any plant which melts raw materials, produces non-leaded hand pressed or blown glassware, discharges greater than 50 gal/day of process wastewater, and employs hydrofluoric acid finishing techniques.

Fluoride		No limitation		26.0	13.0	26.0	13.0
TSS		No limitation		20.0	10.0	26.0	10.0

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(c) Any plant which melts raw materials, produces leaded or non-leaded hand pressed or blown glassware, discharges greater than 50 gal/day of process wastewater, and does not employ hydrofluoric acid finishing techniques.							
TSS	mg/l	No limitation		20.0	10.0	20.0	10.0

PART 427 - ASBESTOS MANUFACTURING

Phase I, A-G Final Regulations, Promulgated 2/26/74

427.10 Subpart A - Asbestos-Cement Pipe

BAT: there shall be no discharge of process wastewater pollutants to navigable waters.

TSS	lb/ton of product	1.14	0.38			1.14	0.38

427.20 Subpart B - Asbestos-Cement Sheet

BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.

TSS				1.35	0.45		

427.30 Subpart C - Asbestos Paper (Starch Binder)

BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.

TSS				1.10	0.70		

427.40 Subpart D - Asbestos Paper (Elastomeric Binder)

BAT: there shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
TSS	lb/ton of product	1.10	0.70			1.10	0.70

427.50 Subpart E - Asbestos Millboard

There shall be no discharge of process wastewater pollutants to navigable waters.

427.60 Subpart F - Asbestos Roofing

BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.

COD	0.029	0.016
TSS	0.020	0.012

427.70 Subpart G - Asbestos Floor Tile

BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.

COD, TSS	lb/mpc† of product	0.30	0.18
		0.13	0.08

Phase II, H-K Final Regulations, Promulgated 10/9/75

427.80 Subpart H - Coating or Finishing of Asbestos Textiles

There shall be no discharge of process wastewater pollutants to navigable waters.

427.90 Subpart I - Solvent Recovery

		BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
COD	lb/1,000 lb of finished product	0.30	0.15	0.30	0.15
TSS		0.18	0.09	0.18	0.09

† *mpc = 1,000 pieces of floor tile; 1 piece = 12 x 12 x $\frac{3}{32}$ inches.*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
427.100 Subpart J - Vapor Absorption							
There shall be no discharge of wastewater pollutants to navigable waters.							
427.110 Subpart K - Wet Dust Collection							
BAT, NS: there shall be no discharge of wastewater pollutants to navigable waters.							
TSS	lb/2,000 ft^3 of air scrubbed	5.0	2.50				

PART 428 - RUBBER PROCESSING

Phase I, A-D Final Regulations, Promulgated 2/1/74
Amended 4/25/75

428.10 Subpart A - Tire and Inner Tube Plants							
TSS	lb/1,000 lb of product	0.096	0.064	0.096	0.064	0.096	0.064
O/G		0.024	0.016	0.024	0.016	0.024	0.016
428.20 Subpart B - Emulsion Crumb Rubber							
COD		12.00	8.00	3.12	2.08	12.00	8.00
BOD		0.60	0.40	0.12	0.08	0.60	0.40
TSS		0.98	0.65	0.24	0.16	0.98	0.65
O/G		0.24	0.16	0.12	0.08	0.24	0.16
428.30 Subpart C - Solution Crumb Rubber							
COD		5.91	3.94	3.12	2.08	5.91	3.94
BOD		0.60	0.40	0.12	0.08	0.60	0.40
TSS		0.98	0.65	0.24	0.16	0.98	0.65
O/G		0.24	0.16	0.12	0.08	0.24	0.16

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
			428.40 Subpart D - Latex Rubber				
COD	lb/1,000 lb of product	10.27	6.85	2.66	1.78	10.27	6.85
BOD		0.51	0.34	0.11	0.07	0.51	0.34
TSS		0.82	0.55	0.21	0.14	0.82	0.55
O/G		0.21	0.14	0.11	0.07	0.21	0.14
			Phase II, E-K Final Regulations, Promulgated 1/10/75				
			428.50 Subpart E - Small-sized† General Molded, Extruded and Fabricated Rubber Plants				
O/G	lb/1,000 lb of raw material	0.70	0.25	0.70	0.25	0.70	0.25
TSS		1.28	0.64	1.28	0.64	1.28	0.64
	(b) Lead-sheathed hose production.						
Pb		0.0017	0.0007	0.0017	0.0007	0.0017	0.0007
	(c) Wet scrubbers.						
TSS	lb/1,000 lb of raw material equivalent	5.8	2.9	1.0	0.5		

The term "large-sized plants" shall mean plants which process more than 10,430 kg (23,000 lb)/day of raw materials.

			428.60 Subpart F - Medium-Sized†† General Molded, Extruded, and Fabricated Rubber Plants				
	(a)						
O/G	lb/1,000 lb of raw material	0.42	0.15	0.42	0.15	0.42	0.15
TSS		0.80	0.40	0.80	0.40	0.80	0.40
	(b) Lead-sheathed hose production.						
Pb		0.0017	0.0007	0.0017	0.0007	0.0017	0.0007

† *"Small-sized" plants process less than 3,720 kg (8,200 lb)/day of raw materials.*

†† *"Medium-sized" plants process 3,720-10,430 kg (8,200-23,000 lb)/day of raw materials.*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
	(c) Wet scrubbers.						
TSS	lb/1,000 lb of raw material equivalent	5.8	2.9	1.0	0.5		
	428.70 Subpart G - Large-Sized† General Molded, Extruded, and Fabricated Rubber Plants						
	(a)						
O/G	lb/1,000 lb raw material	0.26	0.093	0.26	0.093	0.26	0.093
TSS		0.50	0.25	0.50	0.25	0.50	0.25
	(b) Lead-sheathed hose production.						
Pb		0.0017	0.0007	0.0017	0.0007	0.0017	0.0007
	(c) Wet scrubbers.						
TSS	lb/1,000 lb raw material equivalent	5.8	2.9	1.0	0.5		
	428.80 Subpart H - Wet Digestion Reclaimed Rubber						
COD	lb/1,000 lb of product	14.7	6.11	14.7	6.11	14.7	6.11
O/G		0.40	0.144	0.40	0.144	0.40	0.144
TSS		1.04	0.52	1.04	0.52	1.04	0.52
	428.90 Subpart I - Pan, Dry Digestion, and Mechanical Reclaimed Rubber						
	(a)						
O/G		0.40	0.144	0.40	0.144	0.40	0.144
TSS		0.384	0.192	0.384	0.192	0.384	0.192
	(b) Pan, dry digestion, and mechanical reclaimed rubber processes which are integrated with a wet digestion reclaimed rubber process.						
COD		6.7	2.8	6.7	2.8	6.7	2.8

† *"Large-sized" plants process >10,430 kg (23,000 lb)/day of raw material.*

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
428.100 Subpart J - Latex-Dipped, Latex-Extruded, and Latex-Molded Rubber						
(a)						
O/G (lb/1,000 lb of raw material)	2.0	0.73	2.0	0.73	2.0	0.73
BOD (lb/1,000 lb of raw material)	3.72	2.20	3.72	2.20	3.72	2.20
TSS (lb/1,000 lb of raw material)	6.96	2.90	6.96	2.90	6.96	2.90
(b) Chromic acid form-cleaning operation.						
Cr	0.0086	0.0036	0.0086	0.0036	0.0086	0.0036
428.110 Subpart K - Latex Foam						
Zn	0.058	0.024	0.058	0.024	0.058	0.024
BOD	2.4	1.4	2.4	1.4	2.4	1.4
TSS	2.26	0.94	2.26	0.94	2.26	0.94

PART 429 - TIMBER PRODUCTS

Phase I, A-H Final Regulations, Promulgated 4/18/74

429.10 Subpart A - Barking

(a) There shall be no discharge of process wastewater pollutants into navigable waters; BPT, NS: subject to (b).

(b) Hydraulic barkers.

	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
BOD (lb/ft^3 of product)	0.09	0.03			0.09	0.03
TSS (lb/ft^3 of product)	0.431	0.144			0.431	0.144

429.20 Subpart B - Veneer

(a) There shall be no discharge of process wastewater pollutants to navigable waters; BPT subject to (b), (c).

(b) BPT: softwood veneer manufacturing using direct steaming to condition the logs.

BOD	0.045	0.015

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(c) BPT: hardwood veneer manufacturing using direct steaming to condition the logs.							
BOD	lb/ft^3 of product	0.10	0.034				

429.30 Subpart C - Plywood

There shall be no discharge of process wastewater pollutants to navigable waters.

429.40 Subpart D - Hardboard-Dry Process

There shall be no discharge of process wastewater pollutants to navigable waters.

429.50 Subpart E - Hardboard-Wet Process

BOD	lb/ton of product	15.6	5.2	5.4	1.8	5.4	1.8
TSS		33.0	11.0	6.6	2.2	6.6	2.2

429.60 Subpart F - Wood Preserving

There shall be no discharge of process wastewater pollutants to navigable waters.

429.70 Subpart G - Wood Preserving-Steam

COD	lb/1,000 ft^3 of product	68.5	34.5	13.7	6.9	13.7	6.9
Phenols		0.14	0.04	0.014	0.004	0.014	0.004
O/G		1.5	0.75	0.42	0.21	0.42	0.21

429.80 Subpart H - Wood Preserving-Boultonizing

There shall be no discharge of process wastewater pollutants to navigable waters.

Phase II, I-O Final Regulation, Promulgated 1/16/75

429.90 Subpart I - Wet Storage

There shall be no debris discharge; pH = 6.0-9.0.

429.100 Subpart J - Log Washing

There shall be no discharge of process wastewater pollutants to navigable waters; for BPT, TSS should not be >50 mg/l.

429.110 Subpart K - Sawmills and Planning Mills

There shall be no discharge of process wastewater pollutants to navigable waters. Specifically excluded from the term "process wastewater" for this Subpart are processed wood storage yard run-off and fire control water.

429.120 Subpart L - Finishing

There shall be no discharge of process wastewater pollutants to navigable waters. Specifically excluded from the term "process wastewater" for this Subpart is fire control water.

429.130 Subpart M - Particle Board

There shall be no discharge of process wastewater pollutants to navigable waters. Specifically excluded from the term "process wastewater" for this Subpart are material storage yard runoff (dry deck storage) and fire control.

429.140-429.160 Subparts N-P
Reserved

429.170 Subpart Q - Wood Furniture and Fixture Production without Water Wash Spray Booth(s) or Laundry Facilities

There shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
429.180 Subpart R - Wood Furniture and Fixture Production with Water Wash Spray Booth(s) or with Laundry Facilities							
BAT, NS: there shall be no discharge of process wastewater pollutants to navigable waters.							
SS	ml/l		0.2				

PART 430 - PULP, PAPER AND PAPERBOARD

Phase I, A-E Final Regulations, Promulgated 5/29/74

430.10 Subpart A - Unbleached Kraft							
BOD, TSS	lb/ton of product	11.2 24.0	5.6 12.0	5.4 7.4	2.7 3.7	6.2 15.0	3.1 7.5
Color				30.0	20.0	30.0	20.0
430.20 Subpart B - Sodium-Based Neutral Sulfite Semi-Chemical							
BOD		17.4	8.7	9.0	4.5	10.4	5.2
TSS		22.0	11.0	10.0	5.0	15.4	7.7
Color				75% removal			
430.30 Subpart C - Ammonia Base Neutral Sulfite Semi-Chemical							
BOD		16.0	8.0	12.8	6.4	15.0	7.5
TSS		20.0	10.0	10.4	5.2	15.0	7.5
Color				75% removal			
430.40 Subpart D - Unbleached Kraft - Neutral Sulfite Semi-Chemical (Cross Recovery)							
BOD		16.0	8.0	6.4	3.2	7.6	3.8
TSS		25.0	12.5	8.4	4.2	16.0	8.0
Color				37.5	25.0	37.5	25.0

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
		430.50 Subpart E - Paperboard from Waste Paper					
BOD, TSS	lb/ton of product	6.0 10.0	3.0 5.0	2.6 3.2	1.3 1.6	3.0 8.0	1.5 4.0

Phase II, F-V Final Interim Regulations, 2/19/76

430.60 Subpart F - Dissolving Kraft

(a)

BOD	51.3	26.7
TSS	71.7	38.6
pH	5.0 to 9.0	

Effluent Characteristics	BPT Max.	BPT Avg.
(b) Logs from wet woodyard operations.		
BOD	2.2	1.1
TSS	3.1	1.7

430.70 Subpart G - Market Bleached Kraft

(a)

BOD	30.4	15.8
TSS	58.8	31.7
pH	5.0-9.0	

(b) Logs from wet woodyard operations.

BOD	2.2	1.1
TSS	3.1	1.7

430.80 Subpart H - BCT Bleached Kraft

(a)

Effluent Characteristics		BPT Max.	BPT Avg.
BOD, TSS	lb/ton of product	26.7 56.1	13.9 30.2
pH		5.0-9.0	
(b) Logs from wet woodyard operations.			
BOD		2.2	1.1
TSS		3.1	1.7

430.90 Subpart I - Fine Bleached Kraft

(a)		
BOD	21.9	11.4
TSS	46.0	24.8
pH	5.0-9.0	
(b) Logs from wet woodyard operations.		
BOD	2.2	1.1
TSS	3.1	1.7

430.100 Subpart J - Papergrade Sulfite

(a)		
BOD	75.2	39.2
TSS	89.2	48.0
pH	5.0-9.0	
(b) Logs from wet woodyard operations.		
BOD	2.2	1.1
TSS	3.1	1.7

430.110 Subpart K - Low Alpha Dissolving Sulfite Pulp

(a)		
BOD	85.8	44.7
TSS	101.7	54.8
pH	5.0-9.0	

Effluent Characteristics	BPT Max.	BPT Avg.
(b) Logs from wet woodyard operations.		
BOD, TSS } lb/ton of product	2.2 3.1	1.1 1.7
430.120 Subpart L- Groundwood Chemi-Mechanical		
(a)		
BOD	27.0	14.1
TSS	38.9	20.9
pH	5.0-9.0	
(b) Logs from wet woodyard operations.		
BOD	2.2	1.1
TSS	3.1	1.7
(c) Zinc hydrosulfite as a bleaching agent.		
Zn	0.24	0.12
430.130 Subpart M - Groundwood-Thermo-Mechanical		
BOD	19.2	10.0
TSS	34.1	18.4
pH	5.0-9.0	
(b) Logs from wet woodyard operations.		
BOD	2.2	1.1
TSS	3.1	1.7
(c) Zinc hydrosulfite as a bleaching agent.		
Zn	0.21	0.10
430.140 Subpart N - Groundwood-CMN Papers		
(a)		
BOD	17.1	8.9
TSS	29.4	15.8
pH	5.0-9.0	

Effluent Characteristics		BPT Max.	BPT Avg.
	(b) Logs from wet woodyard operations.		
BOD, TSS	lb/ton of product	2.2 3.1	1.1 1.7
	(c) Zinc hydrosulfite as a bleaching agent.		
Zn		0.21	0.10
	430.150 Subpart O - Groundwood-Fine Papers		
	(a)		
BOD		15.4	8.0
TSS		27.0	14.6
pH		5.0-9.0	
	(b) Logs from wet woodyard operations.		
BOD		2.2	1.1
TSS		3.1	1.4
	(c) Zinc hydrosulfite as a bleaching agent.		
Zn		0.19	0.096
	430.160 Subpart P - Soda		
	(a)		
BOD		27.7	14.4
TSS		49.7	26.8
pH		5.0-9.0	
	(b) Logs from wet woodyard operations.		
BOD		2.2	1.1
TSS		3.1	1.7
	430.170 Subpart Q - Deink		
BOD		36.3	18.9
TSS		52.7	28.4
pH		5.0-9.0	

Effluent Characteristics	BPT Max.	BPT Avg.
430.180 Subpart R - NI Fine Papers		
BOD, TSS } lb/ton of product	16.4	8.5
	22.0	11.8
pH	5.0-9.0	
430.190 Subpart S - NI Tissue Papers		
BOD	22.8	12.5
TSS	20.5	10.0
pH	5.0-9.0	
430.200 Subpart T - NI Tissue (FWP)		
BOD	24.6	12.8
TSS	35.2	18.9
pH	5.0-9.0	
430.210 Subpart U - High Alpha Dissolving Sulfite Pulp		
(a)		
BOD	104.6	52.6
TSS	125.0	67.3
pH	5.0-9.0	
(b) Logs from wet woodyard operations.		
BOD	2.2	1.1
TSS	3.1	1.7
430.220 Subpart V - Papergrade Sulfite Market Pulp		
(a)		
BOD	80.0	41.7
TSS	99.0	53.9
pH	5.0-9.0	
(b) Logs and wet woodyard operations.		
BOD	80.0	41.7
TSS	99.0	53.3
pH	5.0-9.0	

PART 431 - BUILDERS PAPER AND BOARD

Final Regulations, Published 5/9/74

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
Subpart A - Builders Paper and Roofing Felt							
BOD	lb/ton of product	10.0	6.0	3.5	2.0	3.5	2.0
TSS	lb/ton of product	10.0	6.0	3.5	2.0	3.5	2.0
SS	ml/l	≤0.2		≤0.2		≤0.2	

PART 432 - MEAT PRODUCTS

Phase I, A-D Final Regulations, Promulgated 2/28/74

432.10 Subpart A - Simple Slaughterhouse

(a) On-site slaughter or subsequent meat, meat product or byproduct processing of carcasses of animals slaughtered on-site.

BOD	lb/1,000 lb of LWK†	0.24	0.12	0.06	0.03	0.24	0.12
TSS	lb/1,000 lb of LWK†	0.40	0.20	0.10	0.05	0.40	0.20
O/G	lb/1,000 lb of LWK†	0.12	0.06	10.0	--	0.12	0.06
FC		← Max:		400 MPN/100 ml →			
Ammonia	mg/l			8.0	4.0	0.34	0.17

(b) If Plant processes hides from other plants in addition to its own, add to (a):

BOD	lb/1,000 lb of ELWK††	0.04	0.02
TSS	lb/1,000 lb of ELWK††	0.08	0.04

† *LWK = live weight killed; total weight of the total number of animals slaughtered during any one day or any period of 30 consecutive days.*

†† *ELWK = equivalent live weight killed; total weight of the total number of animals slaughtered at locations other than the slaughterhouse or packinghouse, which animals provide hides, blood, viscera or renderable materials for processing at that slaughterhouse, in addition to those derived from animals slaughtered on-site.*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(c) If Plant processes blood from other plants in addition to its own, add to (a):							
BOD, TSS	lb/1,000 lb of ELWK	0.04 0.08	0.02 0.04	0.014 0.026	0.007 0.013		
Ammonia	mg/l					0.06	0.03
(d) If Plant employs wet or low-temperature rendering of material from plants in addition to its own, add to (a):							
BOD		0.06	0.03	0.02	0.01		
TSS		0.12	0.06	0.04	0.02		
Ammonia	mg/l					0.10	0.05
(e) If Plant employs dry rendering of material from other plants in addition to its own, add to (a):							
BOD		0.02	0.01	0.006	0.003		
TSS		0.04	0.02	0.014	0.007		
Ammonia	mg/l					0.04	0.02

432.20 Subpart B - Complex Slaughterhouse

(a) On-site slaughter or subsequent meat, meat product or byproduct processing of carcasses of animals slaughtered on-site.							
BOD, TSS, O/G	lb/1,000 lb of LWK	0.42 0.50 0.16	0.21 0.25 0.08	0.08 0.14 10.0	0.04 0.07 --	0.42 0.50 0.16	0.21 0.25 0.08
FC		← Max: 400 MPN/100 ml →					
Ammonia	mg/l			8.0	4.0	0.48	0.24
(b) If Plant processes hides from other plants in addition to its own, add to (a):							
BOD, TSS	lb/1,000 lb of ELWK	0.04 0.08	0.02 0.04				
(c) If Plant processes blood from other plants in addition to its own, add to (a):							
BOD		0.04	0.02	0.014	0.007		
TSS		0.08	0.04	0.026	0.013		
Ammonia	mg/l					0.06	0.03

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(d) If Plant employs wet or low-temperature rendering of material from plants in addition to its own, add to (a):							
BOD	lb/1,000 lb of ELWK	0.06	0.03	0.02	0.01		
TSS		0.12	0.06	0.04	0.02		
Ammonia	mg/l					0.10	0.05
(e) If Plant employs dry rendering of material from other plants in addition to its own, add to (a):							
BOD		0.02	0.01	0.006	0.003		
TSS		0.04	0.02	0.014	0.007		
Ammonia	mg/l					0.04	0.02

432.30 Subpart C - Low-Processing Packinghouse

(a) On-site slaughter or subsequent meat, meat product or byproduct processing of carcasses of animals slaughtered on-site.							
BOD	lb/1,000 lb of LWK	0.34	0.17	0.08	0.04	0.34	0.17
TSS		0.48	0.24	0.12	0.06	0.48	0.24
O/G		0.16	0.08	10.0 (mg/l effl.)		0.16	0.08
FC		← Max.: 400 MPN/100 ml →					
Ammonia	mg/l			8.0	4.0	0.48	0.24
(b) If Plant processes hides from other plants in addition to its own, add to (a):							
BOD	lb/1,000 lb of ELWK	0.04	0.02				
TSS		0.08	0.04				
(c) If Plant processes blood from other plants in addition to its own, add to (a):							
BOD		0.04	0.02	0.014	0.007		
TSS		0.08	0.04	0.026	0.013		
Ammonia	mg/l					0.06	0.03
(d) If Plant employs wet or low-temperature rendering of material from plants in addition to its own, add to (a):							
BOD		0.06	0.03	0.02	0.01		
TSS		0.12	0.06	0.04	0.02		
Ammonia	mg/l					0.10	0.05

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(e) If Plant employs dry rendering of material from other plants in addition to its own, add to (a):							
BOD, TSS	lb/1,000 lb of ELWK	0.02 0.04	0.01 0.02	0.006 0.014	0.003 0.007		
Ammonia	mg/l					0.04	0.02

432.40 Subpart D - High-Processing Packinghouse

(a) On-site slaughter or subsequent meat, meat product or byproduct processing of carcasses of animals slaughtered on-site.

BOD*	lb/1,000 lb of LWK	0.48	0.24	0.16	0.08	0.48	0.24
TSS*		0.62	0.31	0.20	0.10	0.62	0.31
O/G		0.26	0.13	10.0	--	0.26	0.13
FC		← Max.: 400 MPN/100 ml →					
Ammonia	mg/l			8.0	4.0	0.80	0.40

(b) If Plant processes hides from other plants in addition to its own, add to (a):

BOD, TSS	lb/1,000 lb of ELWK	0.04 0.08	0.02 0.04

(c) If Plant processes blood from other plants in addition to its own, add to (a):

BOD		0.04	0.02	0.014	0.007		
TSS		0.08	0.04	0.026	0.013		
Ammonia	mg/l					0.06	0.03

* *The values for BOD and TSS are for average plants with a ratio of average weight of processed meat products to average LWK of 0.55. Adjustments can be made for high-processing packinghouses at other ratios:*

BPT: $kg\ BOD/1{,}000\ kg\ LWK = 0.21 + 0.23\ (v - 0.4)$
$kg\ SS/1{,}000\ kg\ LWK = 0.28 + 0.30\ (v - 0.4)$

where v = *kg processed meat products/kg LWK*

BAT: $kg\ BOD/1{,}000\ kg\ LWK = 0.07 + 0.08\ (v - 0.4)$
$kg\ SS/1{,}000\ kg\ LWK = 0.09 + 0.10\ (v - 0.4)$

where v = *kg processed meat products/kg LWK*

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
(d) If Plant employs wet or low-temperature rendering of material from plants in addition to its own, add to (a):							
BOD, TSS	lb/1,000 lb of ELWK	0.06 0.12	0.03 0.06	0.02 0.04	0.01 0.02		
Ammonia	mg/l					0.10	0.05
(e) If Plant employs dry rendering of material from other plants in addition to its own, add to (a):							
BOD		0.02	0.01	0.006	0.003		
TSS		0.04	0.02	0.014	0.007		
Ammonia	mg/l					0.04	0.02
Phase II, E-J Final Regulations, Promulgated 1/3/75							
432.50 Subpart E - Small Processor							
BOD	lb/1,000 lb of finished product	2.0	1.0	1.0	0.5	1.0	0.5
TSS		2.4	1.2	1.2	0.6	1.2	0.6
O/G		1.0	0.5	0.5	0.25	0.5	0.25
FC		← No limitations →					
432.60 Subpart F - Meat Cutter							
BOD		0.036	0.018	0.018	0.009	0.030	0.015
TSS		0.044	0.022	0.024	0.012	0.036	0.018
O/G		0.012	0.000	0.012	0.006	0.012	0.006
FC		← Max.: 400 MPN/100 ml →					
Ammonia	mg/l			8.0	4.0		
432.70 Subpart G - Sausage and Luncheon Meats Processor							
BOD		0.56	0.28	0.28	0.14	0.48	0.24
TSS		0.68	0.34	0.38	0.19	0.58	0.29
O/G		0.20	0.10	0.20	0.10	0.20	0.19
FC		← Max.: 400 MPN/100 ml →					
Ammonia	mg/l			8.0	4.0		

Effluent Characteristics	BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
432.80 Subpart H - Ham Processor						
BOD } lb/1,000 lb	0.62	0.31	0.32	0.16	0.62	0.31
TSS } of finished	0.74	0.37	0.42	0.21	0.74	0.37
O/G } product	0.22	0.11	0.22	0.11	0.22	0.11
FC	← Max.: 400 MPN/100 ml →					
Ammonia mg/l			8.0	4.0		
432.90 Subpart I - Canned Meats Processor						
BOD	0.74	0.37	0.34	0.17	0.74	0.37
TSS	0.90	0.45	0.44	0.22	0.90	0.45
O/G	0.26	0.13	0.26	0.13	0.26	0.13
FC	← Max.: 400 MPN/100 ml →					
Ammonia mg/l			8.0	4.0		
432.100 Subpart J - Renderer						
(a)						
BOD	0.34	0.17	0.14	0.07		
TSS	0.42	0.21	0.20	0.10		
O/G	0.20	0.10	0.10	0.05		
FC	← Max.: 400 MPN/100 ml →					
Ammonia mg/l			0.08	0.04		

(b) The limitations in (a) for BOD and TSS apply to a renderer which does no cattle hide curing. If a renderer does conduct hide curing, use following formulas for an additive adjustment.

BOD Adjustment

$$\text{lb/1,000 lb RM}^{\dagger} = \frac{17.6 \times (\text{No. Hides})}{\text{lb/RM}} \qquad \frac{7.9 \times (\text{No. Hides})}{\text{lb/RM}}$$

TSS Adjustment

$$\text{lb/1,000 lb RM} = \frac{24.2 \times (\text{No. Hides})}{\text{lb/RM}} \qquad \frac{13.6 \times (\text{No. Hides})}{\text{lb/RM}}$$

† *RM = raw material*

Effluent Characteristic	BPT	
	Max.	Avg.

PART 434 - COAL PREPARATION

Final Regulations, Promulgated 5/13/76
(Apply only to BPT)

434.10 Subpart A - Coal Preparation Plant

(a) Subject to the provisions of (b) and (c), there shall be no discharge of pollutants from coal preparation plants.

(b) Any untreated overflow from facilities designed, constructed, and operated to contain all process-generated wastewater and the surface runoff to the treatment facility resulting from a 10-year, 24-hour precipitation event shall not be subject to the limitations set forth in (a).

(c) Where coal preparation plant process wastewater is combined for treatment or discharge with wastewater from other subcategories in this point source category, the quantity of pollutants in the combined discharge shall not exceed the quantity of pollutants which would be allowed in Subparts B, C, or D.

434.20 Subpart B - Coal Storage, Refuse Storage, and Coal Preparation Plant Ancillary Area

(a) Subject to the provisions of (b).

Fe_T	mg/l	7.0	3.5
Mn^T	mg/l	4.0	2.0
TSS	mg/l	70	35.0

(b) Any untreated overflow from facilities designed, constructed, and operated to treat the process wastewater and the runoff from the coal preparation plant ancillary area resulting from a 10-year, 24-hour precipitation event shall not be subject to the limitations set forth in (a).

434.30 Subpart C - Acid or Ferruginous Mine Drainage

Effluent Characteristic		BPT Max.	BPT Avg.
(a) Subject to the provisions of (b) and (c).			
Fe_T	mg/l	7.0	3.5
Fe_D	mg/l	0.60	0.30
Mn	mg/l	4.0	2.0
TSS	mg/l	70.0	35.0

(b) Any untreated overflow from facilities designed, constructed and operated to treat the mine drainage and the runoff at the treatment facility resulting from a 10-year, 24-hour period precipitation event shall not be subject to the limitations in (a).

(c) Any drainage from any surface mine or section thereof which has been returned to final contour shall not be required to meet the limitation set forth in (a), providing such drainage is not commingled with untreated mine drainage which is subject to (a).

434.40 Subpart D - Alkaline Mine Drainage

(a) Subject to the provisions of (b) and (c).

Fe_T	mg/l	7.0	3.5
TSS	mg/l	70.0	25.0

(b) Any untreated overflow from facilities designed, constructed and operated to treat the mine drainage and the runoff at the treatment facility resulting from a 10-year, 24-hour precipitation event shall not be subject to (a).

(c) Any drainage from any surface mine or section thereof which has been returned to final contour shall not be required to meet the limitations set forth in (a) providing such drainage is not commingled with untreated mine drainage which is subject to (a).

PART 435 - OIL AND GAS EXTRACTION

Final Regulations, Interim Final 9/15/75
(Apply only to BPT)

435.10 Subpart A - Offshore Segment of the Oil and Gas Extraction

Parameter		BPT O/G Max.	BPT O/G Avg.	BPT Res.
Produced water	mg/l	72	48	-
Deck drainage	mg/l	72	48	-
Drilling muds	mg/l	ND†	ND	-
Drill cuttings	mg/l	ND	ND	-
Well treatment	mg/l	ND	ND	-
Sanitary				
* M10		-	-	1††
* M9IM†††		-	-	-
Domestic Produced Sand†††		ND	ND	-

435.20 Subpart B - Far-Offshore

Produced water	72	48	-
Deck drainage	72	48	-
Drilling muds	ND†	ND	-
Drill cuttings	ND	ND	-
Well treatment	ND	ND	-
Sanitary			
* M10	-	-	1††
* M9IM†††	-	-	-
Domestic Produced Sand†††	ND	ND	-

435.30 Subpart C - Onshore
Interim Final 10/13/76

There shall be no discharge of wastewater pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion, or well treatment (i.e., produced water, drilling muds, drill cuttings, and produced sand).

† *No discharge of free oil.*

†† *Minimum of 1 mg/l and maintained as close to this concentration as possible.*

††† *There shall be no floating solids as a result of the discharge of these wastes.*

* *M10 = offshore facilities continuously manned by 10 or more persons*
M9IM = offshore facilities continuously manned by 9 or less persons or intermittently manned by any number of persons

435.40 Subpart D - Coastal*

Parameter		O/G Max.	O/G Avg.	Res.
Produced water	mg/l	72	48	-
Deck drainage	mg/l	72	48	-
Drilling muds	mg/l	ND†	ND	-
Drill cuttings	mg/l	ND	ND	-
Well treatment	mg/l	ND	ND	-
Sanitary				
* M10		-	-	1††
* M9IM†††		-	-	-
Domestic Produced Sand†††		ND		-

Effluent Characteristic	BPT Max

435.50 Subpart E - Beneficial Use
Interim Final 10/13/76

(1) There shall be no discharge of wastewater pollutants into navigable waters from any source (other than produced water) associated with production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands).

(2) Produced water discharges shall not exceed the following limitation.

O/G	mg/l	45

(b) The discharger must show beneficial use of the produced water being discharged to qualify for this Subpart.

435.60 Subpart F - Stripper

No effluent limitations listed.

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* *See 435.10 Subpart A for footnotes.*

PART 436 - MINERAL MINING AND PROCESSING

Interim Final Regulations, 6/10/76
(Apply only to BPT)

436.10 Subpart A - Dimension Stone

Reserved

436.20 Subpart B - Crushed Stone

Reserved

436.30 Subpart C - Construction Sand and Gravel

Reserved

436.40 Subpart D - Industrial Sand

Reserved

436.50 Subpart E - Gypsum

Reserved

(a) *Operations not employing wet air emissions control scrubbers. There shall be no discharge of process-generated wastewater pollutants into navigable waters.*

(b) *Only that volume of water resulting from precipitation that exceeds the maximum safe surge capacity of a process wastewater impoundment may be discharged from that impoundment. The height difference between the maximum safe surge capacity level and the normal operating level must be greater than the inches of rain representing the 10-year, 24-hour rainfall event as established by the NCC, NOAA for the locality in which such impoundment is located.*

436.60 Subpart F - Asphaltic Mineral

(a) *Subject to (b) there shall be no discharge of process-generated wastewater pollutants into navigable waters.*

(b) *Same as §436.50(b).*

436.70 Subpart G - Asbestos and Wollastonite

(a) *Same as §436.60(a).*

(b) *Same as §436.50(b).*

436.80 Subpart H - Lightweight Aggregates

Reserved

436.90 Subpart I - Mica and Sericite

Reserved

436.100 Subpart J - Barite

Operations not employing wet processes or flotation process. There shall be no discharge of process-generated wastewater pollutants into navigable waters.

436.110 Subpart K - Fluorspar

Same as §436.100.

436.120 Subpart L - Salines from Brine Lakes

(a) Same as §436.60(a).

(b) The limitations specified in (a) shall be applied on a net basis if the discharge is in compliance with §125.28 of this chapter, "the source of the applicant's water supply is the same body of water into which the discharge is made."

436.130 Subpart M - Borax

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.140 Subpart N - Potash

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.150 Subpart O - Sodium Sulfate

(a) Same as §436.60(a).

(b) Same as §436.50(b).

Effluent Characteristic		BPT Max.	BPT Avg.

436.160 Subpart P - Trona
Reserved

436.170 Subpart Q - Rock Salt
Reserved

436.180 Subpart R- Phosphate Rock

(a) Subject to (b).

(1) Process wastewater generated from flotation operations, mine dewatering and surface runoff into waste treatment systems.

TSS	mg/l	60	30

(2) All other process-generated wastewater. There shall be no discharge of process wastewater pollutants to navigable waters.

(3) In the event that waste streams from various sources are combined for treatment and discharges, the quantity and quality of each pollutant or pollutant property in the combined discharge shall not exceed the quantity and quality of each pollutant or pollutant property allowed had each stream been treated separately.

(b) Any overflow from facilities designed, constructed and operated to treat the applicable limitations, the precipitation and runoff resulting from a 10-year, 24-hr. precipitation event shall not be subject to the limitations of this section.

436.190 Subpart S - Frasch Sulfur

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.200 Subpart T - Mineral Pigments
Reserved

436.210 Subpart U - Lithium

Reserved

436.220 Subpart V - Bentonite

There shall be no discharge of process-generated wastewater pollutants into navigable waters.

436.230 Subpart W - Magnesité

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.240 Subpart X - Diatomite

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.250 Subpart Y - Jade

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.260 Subpart Z - Novaculite

(a) Same as §436.60(a).

(b) Same as §436.50(b).

436.270 Subpart AA - Fire Clay

Reserved

436.280 Subpart AB - Attapulgite and Montmorillonite

Reserved

436.290 Subpart AC - Kyanite

Reserved

Effluent Characteristic	BPT	
	Max.	Avg.

436.300 Subpart AD - Shale and Common Clay
Reserved

436.310 Subpart AE - Aplite
Reserved

436.320 Subpart AF - Tripoli

Operations not employing wet processes. There shall be no discharge of process-generated wastewater pollutants into navigable waters.

436.330 Subpart AG - Kaolin
Reserved

436.340 Subpart AH - Ball Clay
Reserved

436.350 Subpart I - Feldspar
Reserved

436.360 Subpart AJ - Talc, Steatite, Soapstone and Pyrophyllite
Reserved

436.370 Subpart AK - Garnet
Reserved

436.380 Subpart AL - Graphite

(a) Process wastewater and mine drainage, subject to (b).

TSS	mg/l	20	10
Fe_T		2	1

(b) Same as §436.50(b).

PART 439 - PHARMACEUTICAL MANUFACTURING

Group II, A-E Interim Final Regulations 11/17/76
(Apply to BPT only)

439.10 Subpart A - Fermentation Products

Fermentation products plant.

(1) BOD: daily average (mass per unit time) in any calendar month not less than 90% reduction in the long-term daily average raw waste content of BOD x 3.0.

(2) COD: daily average (mass per unit time) in any calendar month not less than 74% reduction in the long-term daily average raw waste content of COD x 2.2.

(3) Long-term daily average raw wasteload for BOD and COD is the average daily mass of each pollutant influent to the wastewater treatment system over 12 consecutive months within the most recent 36 months, which includes the greatest production effort.

(4) Calculation of raw waste loads (base numbers to which the percent reductions are applied) excludes any wasteload associated with separable mycelia and solvents, but includes residual mycelia, spent beers and solvents after recovery and/or separate disposal or reuse. Removal, disposal or reuse include physical separation and removal of mycelia, recovery of solvents from waste streams, incineration of concentrated solvent waste streams (including tar still bottoms) and broth concentrated for disposal other than to the treatment system.

439.20 Subpart B - Extraction Products

Extraction products plant.

(1) BOD, COD: discharges (mass per unit time) represent the wastewater treatment efficiency in terms of a residual discharge associated with an influent to the WWTP corresponding to the maximum production for a given pharmaceutical plant.

(2) BOD: daily average in any calendar month not less than 90% reduction in the long-term daily average raw waste content of BOD x 3.0.

(3) COD: daily average in any calendar month not less than 74% reduction in the long-term daily average raw waste content of COD x 2.2.

(4) Same as §439.10(3).

(5) Same as §439.10(4).

(6) TSS: ≤52 mg/l for any calendar month.

439.30 Subpart C - Chemical Synthesis Products

Chemical synthesis plants.

Same as §439.20(1) through (5).

439.40 Subpart D - Mixing/Compounding and Formulation

Mixing/compounding and formulation plant.

Same as §439.20(1) through (6).

439.50 Subpart E - Research

Pharmaceutical research operation.

Same as §439.20(1) through (6).

PART 440 - ORE MINING AND DRESSING

Phase II, A-G Interim Final Regulations 11/6/75
(Apply to BPT only)

440.10 Subpart A - Iron Ore

Effluent Characteristic		BPT Max.	BPT Avg.
(a)			
(1) Mine drainage from mines operated to obtain iron ore.			
TSS	mg/l	30	20
Fe (filterable)	mg/l	2.0	1.0
(2) Mills that employ chemical and physical methods to beneficiate iron ore and mills that employ only physical (not magnetic) methods to beneficiate iron ore.			
TSS		30	20
Fe (filterable)		2.0	1.0
(3) There shall be no discharge of pollutants from mills that employ magnetic and physical methods to beneficiate iron ore.			
[¶2] *If annual precipitation falling on the treatment system and its associated drainage area exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment system and its associated drainage area and annual evaporation may be discharged subject to (a)(2).*			
(4) If waste streams from various sources are combined for treatment and discharge, the quantity or quality of each pollutant or pollutant property in the combined discharge that is subject to (a)(1) through (a)(3) shall not exceed the quantity or quality of each pollutant or pollutant property that would have been discharged had each waste stream been treated separately. The discharge flow from a combined discharge shall not exceed the volume that would have been discharged had each waste stream been treated separately.			
(b) Untreated overflow which is discharged from facilities designed, constructed and operated to contain or treat as applicable all process-generated wastewater and the surface runoff to the treatment facility, resulting from a 10-year, 24-hour precipitation event shall not be subject to limitations in this section.			

440.20 Subpart B - Base and Precious Metals

Effluent Characteristic		BPT Max.	BPT Avg.
Suspended			

Effluent Characteristic		BPT Max.	BPT Avg.

440.30 Subpart C - Bauxite

(a) Mine drainage from mines producing bauxite and other aluminum ores.

TSS	mg/l	30	20
Fe	mg/l	1.0	0.5
Zn	mg/l	0.2	0.1
Al	mg/l	1.2	0.6

(b) Same as §440.10(b).

440.40 Subpart D - Ferroalloy Ores

Suspended

440.50 Subpart E - Uranium, Radium and Vanadium Ores

Suspended

440.60 Subpart F - Mercury Ore

(1) Mine drainage from mines, either open-pit or underground, operated for the production of mercury ores.

TSS	30	20
Hg	0.002	0.001
Ni	0.2	0.1

(2) There shall be no discharge of pollutants from mills beneficiating mercury ores by gravity-separation methods or by froth-flotation methods.

Same as §440.10(a)(3)[¶2], subject to limitations in §440.60(a)(1).

(3) Same as §440.10(a)(4), subject to §440.60(a)(1) and (a)(2).

(b) Same as §440.10(b).

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
440.70 Subpart G - Titanium Ore							
(1) Mine drainage from mines obtaining titanium ores from lode deposits.							
TSS	mg/l		30		20		
Fe	mg/l		2.0		1.0		
(2) Mills beneficiating titanium ores by electrostatic methods, magnetic and physical methods, or flotation methods.							
TSS			30		20		
Fe			0.2		0.1		
Zn			0.4		0.2		
Ni			0.2		0.1		
(3) Mines engaged in the dredge mining of placer deposits of sands containing rutile, ilmenite, leucoxene, monazite, zircon, or other heavy metals, and the milling techniques employed in conjunction with the dredge mining activity.							
TSS			30		20		
Fe			2		1		
COD			30		15		
(4) Same as §440.10(a)(4), subject to §440.70(a)(1) and (a)(3).							
(b) Same as §440.10(b).							

PART 443 - PAVING AND ROOFING MATERIALS (TARS AND ASPHALT)

Group II, A-D Final Regulations, Promulgated 7/24/75

443.10 Subpart A - Asphalt Emulsion

O/G	lb/1,000 gal of runoff	0.167	0.125	0.125	0.083	0.125	0.083
TSS	lb/1,000 gal of runoff			0.188	0.125	0.188	0.125

Effluent Characteristics		BPT Max.	BPT Avg.	BAT Max.	BAT Avg.	New Sources Max.	New Sources Avg.
			443.20 Subpart B - Asphalt Concrete				
	There shall be no discharge of process wastewater pollutants to navigable waters.						
			443.30 Subpart C - Asphalt Roofing				
TSS	lb/1,000 lb of product	0.056	0.038	0.028	0.019	0.028	0.019
			443.40 Subpart D - Linoleum and Printed Asphalt Felt				
TSS		0.038	0.025	0.019	0.013	0.019	0.013

PART 446 - PAINT FORMULATING

Group II-A Final Regulations, Promulgated 7/28/75

446.10 Subpart A - Oil-Base Solvent Wash Paint

There shall be no discharge of process wastewater pollutants to navigable waters.

PART 447 - INK FORMULATING

Final Regulations, Promulgated 8/27/75

447.10 Subpart A - Oil-Base Solvent Wash Ink

There shall be no discharge of process wastewater pollutants to navigable waters.

PART 454 - GUM AND WOOD CHEMICALS MANUFACTURING

Interim Final Regulations, Promulgated 5/18/76
(Apply only to BPT)

Effluent Characteristics		BPT Max.	BPT Avg.
454.10 Subpart A - Char and Charcoal Briquets			
There shall be no discharge of process wastewater pollutants to navigable waters.			
454.20 Subpart B - Gum Rosin and Turpentine			
BOD, TSS	lb/1,000 lb of product	1.42 0.077	0.755 0.026
454.30 Subpart C - Wood Rosin, Turpentine and Pine Oil			
BOD		2.08	1.10
TSS		1.38	0.475
454.40 Subpart D - Tall Oil Rosin, Pitch and Fatty Acids			
BOD		0.995	0.529
TSS		0.705	0.243
454.50 Subpart E - Essential Oils			
BOD		22.7	12.0
TSS		9.01	3.11
454.60 Subpart F - Rosin-Based Derivatives			
BOD		1.41	0.748
TSS		0.045	0.015

PART 455 - PESTICIDE CHEMICALS

Interim Final Regulations, Promulgated 11/1/76
(Apply only to BPT)

Effluent Characteristic		BPT Max.	BPT Avg.
455.10 Subpart A - Halogenated Organic Pesticides			
COD	lb/1,000 lb of product	30.7	21.2
BOD		15.2	8.7
TSS		9.0	6.3
Phenol		0.0048	0.0017
$Pesticides_T$		0.0062	0.0031
455.20 Subpart B - Organo-Phosphorus Pesticides			
COD		17.3	11.9
BOD		2.6	1.5
TSS		10.1	7.0
Ammonia-N		5.1	4.4
$Pesticides_T$		0.0039	0.0018
455.30 Subpart C - Organo-Nitrogen Pesticides			
COD		30.4	21.1
BOD		15.1	8.6
TSS		13.6	9.5
NH_3-N		5.7	4.9
$Pesticides_T$		0.016	0.0071

455.40 Subpart D - Metallo-Organic Pesticides

There shall be no discharge of process wastewater pollutants to navigable waters.

455.50 Subpart E - Pesticide Formulators and Packagers

There shall be no discharge of process wastewater pollutants to navigable waters.

PART 457 - EXPLOSIVES MANUFACTURING

Interim Final Regulations, Promulgated 4/30/76
(Apply only to BPT)

Effluent Characteristics		BPT Max.	BPT Avg.
457.10 Subpart A - Manufacture of Explosives			
COD	lb/1,000 lb of product	7.77	2.50
BOD	lb/1,000 lb of product	0.72	0.24
TSS	lb/1,000 lb of product	0.25	0.084
457.20 Subpart B			
Reserved			
457.30 Subpart C - Explosives Load, Assemble, and Pack Plants			
O/G		0.11	0.035
TSS		0.26	0.088

PART 458 - CARBON BLACK MANUFACTURING

Interim Final Regulations, Promulgated 5/18/76
(Apply only to BPT)

458.10 Subpart A - Carbon Black Furnace Process

There shall be no discharge of process wastewater pollutants to navigable waters.

458.20 Subpart B - Carbon Black Thermal Process

There shall be no discharge of process wastewater pollutants to navigable waters.

Effluent Characteristics	BPT Max.	BPT Avg.

458.30 Subpart C - Carbon Black Channel Process

There shall be no discharge of process wastewater pollutants to navigable waters.

458.40 Subpart D - Carbon Black Lamp Process

There shall be no discharge of process wastewater pollutants to navigable waters.

PART 459 - PHOTOGRAPHIC

Interim Final Regulation, Promulgated 7/14/76
(Apply only to BPT)

459.10 Subpart A - Photographic Processing

Ag	lb/1,000 lb of product	0.030	0.015
CN		0.038	0.019

460 - HOSPITAL POINT SOURCE

Interim Final Regulations, Promulgated 5/6/76
(Apply only to BPT)

460.10 Subpart A - Hospital

BOD	lb/1,000 occupied beds	90.4	74.0
TSS		122.4	74.50