HW
EPA,
530
R
95
021
c.2

PB95-208930
530-R-95-021

BACKGROUND DOCUMENT

FOR THE

CESQG RULE

U.S. EPA

MAY 1995

JUL 7 1995

EPA Headquarters Library

Outline

I. Authority

II. Background

A. Current Solid Waste Controls Under the Resource Conservation and Recovery Act (RCRA)

1. Non-Hazardous Waste Management: General

2. Non-Hazardous Waste Management: Municipal Wastes

B. Small Quantity Generator Hazardous Waste Controls

C. Sierra Club Lawsuit

D. RCRA Section 3001(d)(4) and Conditionally Exempt Small Quantity Generators

E. Previous Activities to Address Industrial Facilities that Manage Non-Hazardous Industrial Wastes

III. Summary of Today's Proposed Regulatory Approach

IV. Characterization of CESQG Waste, Industrial D Facilities that May Receive CESQG Wastes, and Existing State Programs Related to CESQG Disposal

A. CESQG Waste Volumes, Generators and Management

1. Number of CESQGs

2. Major CESQG Waste Generating Industries

3. CESQG Waste Volume

4. Major CESQG Waste Types

5. CESQG Management Practices

B. Facilities that "May Receive" CESQG Waste

1. Manufacturing Industries with On-Site CESQG Disposal

2. Commercial Off-Site Facilities

3. Construction and Demolition Landfills

C. Existing State Programs

1. State Requirements Pertaining to Management of CESQG Hazardous Wastes

2. State Requirements for Construction and Demolition Facilities

V. Discussion of Today's Regulatory Proposal

A. Non-Municipal Solid Waste Disposal Facilities that Receive CESQG Hazardous Waste

B. Decision to Impose or go Beyond the Statutory Minimum Components

1. Construction and Demolition Waste Facilities

a) Construction and Demolition Leachate

b) Construction and Demolition Damage Case Analysis

c) Construction and Demolition Ground-Water Monitoring Data

d) Conclusions for Construction and Demolition Facilities

2. Off-Site Commercial Landfills

3. Request for Additional Data and Comments Concerning Statutory Minimum or More Comprehensive Facility Requirements

C. Decision to Establish Facility Standards under Part 257 and Revisions to Part 261

D. Request for Comment on the Use of an Alternative Regulatory Approach in Today's Rule

E. Highlights of Today's Statutory Minimum Requirements for Non-Municipal Solid Waste Disposal Facilities that May Receive CESQG Hazardous Wastes

1. Applicability
2. Specific Location Restrictions
   a. Airport Safety
   b. Floodplains
   c. Wetlands
   d. Fault Areas
   e. Seismic Impact Areas
   f. Unstable Areas
3. Specific Ground-Water Monitoring and Corrective Action Requirements
   a. Applicability of Ground-water Monitoring and Corrective Action Requirements
   b. Overall Performance of the Ground-Water Monitoring System
   c. Ground-water Sampling and Analysis Requirements
   d. Detection Monitoring Program
   e. Assessment Monitoring Program
   f. Corrective Action Program
4. Recordkeeping Requirements

F. Other Issues Relating to Today's Proposal

1. Owner/Operator Responsibility and Flexibility in Approved States
2. CESQG's Responsibilities Relating to the Revisions in Section 261.5, Paragraphs (f) and (g)

VI. Implementation and Enforcement
A. State Activities under Subtitle C
1. Hazardous and Solid Waste Amendments to RCRA
2. Effect on State Authorizations
B. State Activities under Subtitle D
C. Relationship Between Subtitle C and D
D. Enforcement
1. Hazardous Waste Enforcement
2. Subtitle D Enforcement

VII. Executive Order No. 12866 - Regulatory Impact Analysis
A. Cost Impacts
1. Cost Impact to CESQGs with On-Site Disposal
2. Cost Impact to Commercial (Off-Site) Subtitle D Industrial Waste Facilities
3. Cost Impact to Construction and Demolition Waste Generators and Landfills
B. Benefits

VIII. Regulatory Flexibility Act
A. CESQGs with On-Site Disposal in Subtitle D Units
B. CESQGs with Off-Site Disposal in C&D Landfills
1. Construction Industry

2. Wrecking and Demolition Industry - Lower Bound

3. Wrecking and Demolition Industry - Upper Bound

C. Construction and Demolition Waste Landfills

IX. Paperwork Reduction Act

X. Environmental Justice

XI. Unfunded Mandates Reform Act

XII. References

I. Authority

These regulations are being proposed under the authority of sections 1008, 2002 (general rulemaking authority), 3001(d)(4), 4004 and 4010 of RCRA, as amended. Section 3001(d)(4) authorizes EPA to promulgate standards for generators who do not generate more than 100 kilograms per month of hazardous waste. Section 4010(c) directs EPA to revise Criteria promulgated under sections 1008 and 4004 for facilities that may receive hazardous household wastes (HHW) or small quantity generator (SQG) hazardous waste.

II. Background

A. Current Solid Waste Controls Under the Resource Conservation and Recovery Act (RCRA)

1. Non-Hazardous Waste Management: General

Subtitle D of RCRA establishes a general framework for Federal, State, and local government cooperation in controlling the management of non-hazardous solid waste. The Federal role is to establish the overall regulatory direction, to provide minimum national standards for protecting human health and the environment, and to provide technical assistance to States for planning and

developing environmentally sound waste management practices. The actual planning and direct implementation of solid waste programs under Subtitle D, however, remain State and local functions.

Under the authority of Sections 1008(a)(3) and 4004(a) of RCRA, EPA promulgated the "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR Part 257) in September of 1979. EPA issued minor modifications to the Criteria in September of 1981. These Part 257 Criteria establish minimum national performance standards necessary to ensure that "no reasonable probability of adverse effects on health or the environment" will result from solid waste disposal facilities or practices. A facility or practice that meets the Criteria is considered a sanitary landfill; a facility or practice that fails to meet the Criteria is defined as an "open dump", subject to upgrading through a compliance schedule or closure implemented by the State or through a citizen suit under Section 7002.

The current Part 257 Criteria include general performance standards addressing eight major areas of potential environmental concern: floodplains, endangered species, surface water, ground water, land application, disease, air and safety.

2. Non-Hazardous Waste Management: Municipal Wastes

As added by the Hazardous and Solid Waste Amendments (HSWA) of 1984, Section 4010(a) of RCRA directs EPA to conduct a study of the extent to which existing RCRA guidelines and Criteria applicable to solid non-hazardous waste management and disposal facilities (i.e., Part 257) are adequate to protect human health and the environment

from ground water contamination.

Section 4010(b) also requires that the Administrator submit a Report to the Congress setting forth the results of the study together with any recommendations made by the Administrator on the basis of the study.

Lastly, Section 4010(c) requires that the Administrator revise the existing Part 257 Subtitle D Criteria used to classify facilities as sanitary landfills or open dumps by March 31, 1988, for facilities that may receive household hazardous waste or hazardous waste from small quantity generators. The required revisions are those necessary to protect human health and the environment and which take into account the practicable capability of such facilities. At a minimum, the revised Criteria must include ground-water monitoring as necessary to detect contamination, location restrictions, and provide for corrective action, as appropriate.

The Agency issued the "Report to Congress - Solid Waste Disposal in the United States", in October 1988. The major findings were that the Subtitle D universe is large and diverse, including 11 billion tons of Subtitle D wastes generated each year and that each different type of waste presents unique management problems and risks. The report identified adverse impacts attributable to municipal solid waste landfills, including exposure to ground-water contamination. The report concluded that the Part 257 Criteria should be revised for municipal solid waste landfills.

The Report to Congress failed to draw a conclusion relating to

industrial Subtitle D facilities. EPA determined that the limited data on industrial Subtitle D facilities indicated that there may be reason for concern and that further study was needed.

The proposed "Solid Waste Disposal Facility Criteria" (53 FR 33314) were published on August 30, 1988. The proposed rule was to apply to all municipal solid waste landfills. EPA indicated that a second phase, applying to industrial solid waste facilities that receive SQG hazardous wastes, would be proposed at such time as the Agency had adequate data on which to base regulatory decisions.

On October 9, 1991, EPA promulgated revised Criteria for Solid Waste Disposal Facilities (see 56 FR 50978) accepting household hazardous wastes. These revisions fulfilled the part of the statutory mandate found in RCRA Section 4010 for all facilities that receive household hazardous wastes. (Any facility receiving any household waste is subject to the revised Criteria, which were relocated at 40 CFR Part 258 for purposes of clarity). Revisions to the Part 257 Criteria for other Subtitle D disposal facilities that may receive CESQG hazardous wastes were delayed as the Agency had little information concerning the potential or actual impacts that these types of facilities may have on human health and the environment.

B. Small Quantity Generator Hazardous Waste Controls

Today's proposal would amend the special requirements that have been established for conditionally exempt small quantity generator (CESQG) hazardous wastes. Regulations defining CESQG hazardous wastes were promulgated in 1986 in 40 CFR Part 261.5,

with some minor revisions in 1988. CESQGs are those that generate no more than 100 kilograms of hazardous waste or no more than one kilogram of acutely hazardous waste in a month and who accumulate no more than 1000 kilograms of hazardous waste or no more than one kilogram of acutely hazardous waste at one time. CESQGs are exempt from manifesting, reporting, transport, and treatment and disposal standards applicable to hazardous wastes under 40 CFR Parts 262 through 266, 268, 270, and 124 and the notification requirements of Section 3010 of RCRA. A CESQG may mix CESQG waste with non-hazardous waste and remain subject to the reduced requirements of 40 CFR Part 261.5 even though the resultant mixture exceeds the quantity limitations identified above, unless the resultant mixture meets any of the characteristics of a hazardous waste as identified in 40 CFR Part 261 Subpart C. A CESQG may manage the CESQG hazardous waste at hazardous waste facilities subject to Subtitle C of RCRA, reuse or recycling facilities, or Subtitle D facilities that have been permitted, licensed, or registered by a State to manage municipal or industrial waste. CESQGs who do not comply with the reduced requirements of 40 CFR Part 261.5 become subject to the full set of hazardous waste regulations.

C. Sierra Club Lawsuit

After promulgation of the final Municipal Solid Waste Disposal Facility Criteria, the Sierra Club filed a petition for review of the revised Criteria with the United States Court of Appeals for the District of Columbia Circuit. Sierra Club vs. EPA, 992 F. 2d 337 (D.C. Cir.1993). The Sierra Club contended that the EPA had

not fulfilled the Section 4010 requirement for revised regulations because the Agency had not promulgated rules for nonmunicipal facilities that receive hazardous wastes from small quantity generators. The Sierra Club, claiming that the EPA had missed a statutory deadline, asked the Court to place EPA on a Court-supervised schedule for issuing the rule required. The Court essentially agreed with the Sierra Club but directed it to the U.S. District Court as the Court with jurisdiction to rule on a missed statutory deadline.

On October 21, 1993, the Sierra Club filed suit against the EPA in the United States District Court for the District of Columbia, once again seeking to compel the EPA to promulgate revised Criteria for nonmunicipal facilities that may receive small quantity generator hazardous waste.

As a result of the October 21, 1993 lawsuit, the EPA and the Sierra Club reached agreement on a schedule concerning revised Criteria for non-municipal facilities that may receive CESQG wastes. This schedule requires that the EPA Administrator sign a proposal by May 15, 1995 and a final rule by July 1, 1996.

D. RCRA Section 3001(d)(4) and Conditionally Exempt Small Quantity Generators

As discussed above, RCRA Section 4010(c) requires EPA to promulgate revisions to the Criteria in 40 CFR Part 257 for facilities that may receive hazardous household waste or "hazardous waste from small quantity generators under Section 3001(d)..." 42 U.S.C. section 6949a(c). Congress enacted sections 3001(d) and

4010(c) with the HSWA Amendments of 1984.

Prior to enactment of the HSWA Amendments, EPA had conditionally exempted generators who produced less than 1000 kilograms of hazardous waste per calendar month from Subtitle C requirements. 45 FR 33103 - 33104 (May 19, 1980). In enacting Section 3001(d), however, Congress directed EPA to develop (by March 31, 1986) a comprehensive set of standards which would apply to hazardous waste produced by small quantity generators of between 100 and 1000 kilograms of hazardous waste in each calendar month ("kg/mo"). 42 U.S.C. Section 6921(d)(1). EPA was further authorized by Section 3001(d)(4) to promulgate standards for generators of less than 100 kilograms per month of hazardous waste if the Administrator determines it is necessary to do so to protect human health and the environment.

In response to this mandate, EPA promulgated a rule which removed the conditional exemption from Subtitle C requirements for generators of between 100 and 1000 kg/mo of hazardous waste. 56 FR 10146 (March 24, 1986). The 100 to 1000 kg/mo small quantity generators are now subject to a special set of standards under RCRA Subtitle C hazardous waste requirements (40 CFR Parts 262, 263, 264, 265, 266, and 270). Id. at 10149.

However, EPA has not removed the conditional exemption from RCRA Subtitle C requirements for those generators who produce hazardous waste in quantities less than 100 kg/mo as discussed earlier in this preamble.

Because EPA has already required those generators who produce

between 100 and 1000 kg/mo of hazardous waste to comply with Subtitle C standards, there is no need to revise the solid waste disposal facility Criteria in 40 CFR Part 257 for the disposal of such small quantity generator waste. Small quantity generator hazardous waste from a 100 to 1000 kg/mo generator may not be disposed of in a solid waste disposal facility covered by Part 257. Instead, such waste must be treated and disposed of in accordance with requirements in Parts 262 through 266 and 270.

Thus, EPA's only remaining obligation under RCRA Section 4010(c) is to revise the open dumping Criteria for those facilities which may receive CESQG waste, i.e., hazardous waste from generators who produce less than 100 kg/mo in a calendar year. See 40 CFR 261.5(a). Today's proposed amendments to 40 CFR Parts 257 and 261 respond directly to the Sierra Club challenge to EPA's revised Criteria for MSWLFs.

E. Previous Activities to Address Industrial Facilities that Manage Non-Hazardous Industrial Wastes

As referred to above, RCRA Section 4010(d) requires that the Agency study the extent to which the existing Subtitle D Criteria in 40 CFR Part 257 are adequate. The Agency conducted the "Screening Survey of Industrial Subtitle D Establishments" in 1985. This Survey was designed to develop national and industry-specific estimates of the amount of non-hazardous industrial waste that was managed in on-site management units along with a count of the number of on-site management units.

The Screening Survey established, at the national level, that

an estimated 72,000 establishments managed Subtitle D industrial waste in 1985 and an estimated 20% (or approximately 12,000) of those establishments used at least one of the on-site land-based management units to manage waste. The Screening Survey further identified, at the unit level, that in 1985:

- 2,760 landfills were used to manage 86.2 million tons of Subtitle D industrial waste;
- 15,250 surface impoundments were used to manage 7.4 billion tons of Subtitle D industrial waste;
- 4,300 land application units were used to manage 99.1 million tons of Subtitle D industrial waste; and
- 5,330 waste piles were used to manage 76.9 million metric tons of Subtitle D industrial waste.

These data that were developed in 1985 continue to be the most comprehensive national data concerning the generation and management of Subtitle D industrial wastes.

The Agency has over the past several years done evaluations of State industrial waste programs, evaluated the use of the Toxics Release Inventory (TRI) to characterize manufacturing industries, and extrapolated from other existing data to better understand industrial solid waste management. However, the Agency still must rely on the 1985 data as its most comprehensive baseline information.

III. Summary of Today's Proposed Regulatory Approach

Section 4010 (c) requires that the Administrator revise the existing Part 257 Criteria for facilities that may receive

household hazardous wastes or CESQG hazardous waste. At a minimum, the revised Criteria must include ground-water monitoring as necessary to detect contamination, location restrictions, and corrective action, as appropriate.

Today's proposal would add these statutory minimum requirements for non-municipal solid waste disposal facilities that receive CESQG hazardous waste. Any non-municipal solid waste disposal facility that does not meet the proposed requirements may not receive CESQG hazardous waste. A new Section 257.5 is being proposed to address the facility standards for owners/operators of non-municipal solid waste disposal facilities that receive CESQG hazardous wastes. The requirements in Section 257.5 are substantially the same as the statutory minimum requirements developed for 40 CFR Part 258. The location restrictions are proposed to be effective 18 months after promulgation while the ground-water monitoring and corrective action requirements are proposed to be effective 24 months after promulgation of this rule.

The Agency decided to use the previously promulgated MSWLF Criteria in Part 258 as the basis for today's proposal for a number of reasons. The Agency believes that the Part 258 Criteria are being used as mandatory standards by some States for non-municipal solid waste disposal facilities. Furthermore, additional States are incorporating as mandatory requirements standards that are substantially similar to the Part 258 Criteria. The Agency also believes that the Part 258 Criteria, particularly the ground-water monitoring and corrective action requirements, are an appropriate

set of performance standards and minimum requirements that can be applied at non-municipal solid waste disposal facilities that receive CESQG hazardous waste to protect human health and the environment. In addition, EPA is requesting comment on an alternative approach which is solely a performance standard without the national minimum requirements in Part 258.

Today's proposal also amends the existing language of Section 261.5 clarifying acceptable Subtitle D management options for CESQGs. The existing language in Section 261.5, paragraphs (f)(3) and (g)(3) allows for a CESQG hazardous waste to be managed at a hazardous waste facility (either in interim status or permitted), at a reuse or recycling facility, or at a Subtitle D facility that is permitted, licensed, or registered by a State to manage municipal or industrial waste. Today's proposal would continue to allow CESQG waste to be managed at a hazardous waste facility or at a reuse or recycling facility. Today's proposal, however, will require that if CESQG waste is managed in a Subtitle D disposal facility, it must be managed in a MSWLF that is subject to Part 258 or a non-municipal solid waste disposal facility that is subject to the facility standards being proposed in Section 257.5.

A complete discussion of the rationale of today's proposed approach, specifics of the proposed changes, and related issues is presented in Section V of today's proposal.

As previously discussed, today's proposal responds to both the statutory language in RCRA Section 4010(c) and to the Sierra Club lawsuit. In responding initially to the statutory language of

Section 4010(c), EPA elected to regulate municipal solid waste landfills first, due to the comparatively higher risks presented by these types of facilities. As will be discussed later in today's preamble, the subject of today's proposal -- non-municipal solid waste disposal facilities that receive CESQG waste -- presents a small risk relative to risks presented by other environmental conditions or situations. Given this lower risk, the Agency would have elected not to issue this proposal at this time. In a time of limited resources, common sense dictates that we deal with higher priorities first, a principle on which EPA, members of the regulated community, and the public can agree. The Agency requests comment from members of the public and regulated community on whether they agree with the Agency's position that this rulemaking is a low priority.

However, given the D.C Circuit's reading of RCRA section 4010(c), Sierra Club v. EPA, 992 F.2d 3337, 347 (D.C. Cir. 1993), and the schedule established as a result of the litigation initiated by Sierra Club in district court, the Agency believes it must issue this proposal now (although there are higher priorities within the Agency). Faced with having to issue this proposal for a class of facilities that do not generally pose risks as high as municipal solid waste landfills, the Agency is proposing alternatives that address only the statutory minimum requirements in an attempt to reduce the economic burden on the regulated community.

IV. Characterization of CESQG Waste, Industrial D Facilities that

May Receive CESQG Waste, and Existing State Programs Related to CESQG Disposal

A. CESQG Waste Volumes, Generators and Management

In preparation for this rulemaking, EPA sought to characterize the CESQG universe. EPA examined several national, state, and local studies that contained information on CESQGs, and summarized this information into five categories: (1) number of establishments, (2) waste volumes, (3) major waste generating industries, (4) major waste types, and (5) waste management practices.

Although EPA believes that each of the studies reviewed provides some relevant information, only the EPA "National Small Quantity Hazardous Waste Generator Survey" (1985) presents a comprehensive overview of the CESQG universe. This study was national in scope and was based on a scientific survey of approximately 50,000 establishments that were considered potential generators of small quantities of hazardous waste. This study also covered 125 industries in both the manufacturing and non-manufacturing sectors. Moreover, this study used survey data to extrapolate national estimates for the total number of CESQGs and waste volume, while providing industry-specific detail on the types of waste generated and methods of managing these wastes.

The National Survey, however, has one major limitation: it is based on data collected more than a decade ago. Since then, several significant changes may have occurred. First, changes in manufacturing processes and the growth of new industries may have

resulted in the generation of new waste types, while other wastes may no longer be generated. Second, changes in the methodology for identifying characteristic wastes (i.e., the revised TCLP) have resulted in additional waste types entering the hazardous waste regulatory system. Third, Superfund liability concerns have become a significant factor for generators to consider when determining waste management options. Finally, new regulatory activities, such as reporting under the Toxic Release Inventory, have been catalysts for generators to change their use of toxic chemicals in the manufacturing process and their management of resulting wastes. The result of these changes is that the generation and management of CESQG waste today may be substantially different from a decade ago. The Agency, however, must continue to rely on the information and conclusions developed in the "National Small Quantity Hazardous Waste Generator Survey."

Given this limitation, EPA examined several recent state and local CESQG studies to assess how the findings of the National Survey may or may not be supported. The recent studies also provide valuable insight into the current generation and management of wastes in several major CESQG industries. These studies, however, are different from the National Survey in two key areas. First, they are more narrow in scope. For example, each study covers only a specific geographic location and not the nation as a whole, and some focus only on a limited number of industries or one sector, such as manufacturing. Second, these studies do not examine the same waste types as the National Survey. Some of these

studies examined used motor oil, while the National Survey did not evaluate this waste type. In some cases, these differences hindered a direct comparison between the National Survey and a state or local study.

1. Number of CESQGs

The "National Small Quantity Hazardous Waste Generator Survey" estimated that there are 455,000 establishments nationwide that generate hazardous waste in quantities of less than 100 kilograms per month (i.e., CESQGs). The study extrapolated this estimate from survey data collected from establishments in primary SICs (125 SICs were combined into 22 industry groups) that were believed to include potential generators of small quantities of hazardous waste.

More recent state-specific CESQG estimates, however, suggest that this national estimate may be low. For example, the State of Massachusetts and the State of Washington currently estimate that there are 13,500 and 43,000 CESQG establishments in these states, respectively. Together, these two estimates account for over ten percent of the national estimate of 455,000. EPA recognizes that in comparing these estimates, two important factors need to be considered. First, states may use methods different from the National Survey to calculate the number of CESQGs. Second, because the National Survey was conducted nearly a decade ago, its estimate does not account for growth in the number of CESQGs due to increased economic activity or new waste types entering the hazardous waste system.

2. Major CESQG Waste Generating Industries

The "National Small Quantity Hazardous Waste Generator Survey" combined the surveyed 125 SICs into 22 primary industry groups for comparison. Based on these groupings, the study found that approximately 80 percent of CESQG establishments were in the non-manufacturing sector, while the remaining 20 percent were in the manufacturing sector. In terms of waste volume, the National Survey found that the non-manufacturing sector generated 88 percent of CESQG waste, while the manufacturing sector generated the remaining 12 percent.

Specifically, the National Survey found that the largest CESQG non-manufacturing industry was vehicle maintenance, which accounted for 71 percent of CESQG waste volume and 54 percent of CESQG establishments for the 22 industry groups. Other major non-manufacturing industry groups included: dry cleaners (five percent of waste volume and establishments); other services, such as funeral services and building cleaning and maintenance (four percent of waste volume and five percent of establishments); construction (two percent of waste volume and four percent of establishments); pesticide application services (two percent of waste volume and three percent of establishments); and photographic services (two percent of waste volume and three percent of establishments). The major manufacturing industries included: metals manufacturing (six percent of waste volume and ten percent of establishments), and printing/ceramics (five percent of waste volume and eight percent of establishments).

State and local studies used a variety of methods to determine major CESQG industries. Consequently, their findings are not easily comparable to the National Survey. Nonetheless, several state and local studies indicated that the vehicle maintenance and construction industries are significant CESQG industries for the areas and industries covered by the studies.

3. CESQG Waste Volume

The "National Small Quantity Hazardous Waste Generator Survey" estimated that CESQGs generated 201,600 tons of hazardous waste yearly. Again, this estimate is based on an extrapolation of data collected from a nationwide survey of 125 SICs combined into 22 primary industry groups. At the time of this survey, this volume estimate represented only 0.07 percent of the total quantity of hazardous waste generated yearly by all hazardous waste generators (conditionally-exempt, small quantity, and large quantity).

Based on a review of recent state and local studies, EPA believes that this national waste volume estimate may be understated. For example, in 1989, the State of Washington estimated that CESQGs generated approximately 52,000 tons of CESQG hazardous waste in that State alone. Since this single state estimate represents nearly one fourth of the national estimate, EPA expects that the appropriate national amount of CESQG waste is larger.

EPA recognizes that one important distinction between the "National Small Quantity Hazardous Waste Generator Survey" estimate and the Washington estimate is that the former study did not

include used motor oil as a CESQG waste type, while Washington did. Used motor oil represented approximately one half of Washington's CESQG waste stream. Even if the total amount of used motor oil were excluded from Washington's waste stream, however, the remaining volume of CESQG waste would be approximately 25,000 tons. Even at this amount, EPA believes that the current national estimate of 201,600 tons for the amount of CESQG waste is likely to be low.

4. Major CESQG Waste Types

For the industries surveyed, the "National Small Quantity Hazardous Waste Generator Survey" found that used lead-acid batteries comprised 61 percent of the CESQG waste stream. Other major waste types included: spent solvents/still bottoms (18 percent of CESQG waste stream), dry cleaning filtration residues (five percent), photographic wastes (four percent), formaldehyde (three percent), and acids/alkalides (two percent). The study also found that, with the exception of spent solvents/still bottoms and acids/alkalides, each of the major waste types were generated primarily by one industry. For example, the vehicle maintenance industry was the primary generator of used lead-acid batteries, dry cleaners generated dry cleaning filtration residues, photographic services generated photographic wastes, and funeral services generated formaldehyde. A variety of industries, however, generated spent solvents/still bottoms and acids/alkalides, including photographic services, printers and publishers, vehicle maintenance, and pesticide application services.

Recent state and local studies identified major CESQG waste types that are comparable to those found by the National Survey. For example, several studies found used lead-acid batteries to be a major CESQG waste type, although only one found batteries to represent the largest portion of CESQG waste. The amount of lead-acid batteries in the CESQG waste stream ranged from less than one percent to 61 percent. This wide range of estimates is likely due to whether a study included used lead-acid batteries in the vehicle maintenance industry. Since RCRA regulations exclude these wastes from generator waste amounts if the generator recycles or reuses these wastes, some states' studies did not count lead-acid batteries in their review of the vehicle maintenance industry, under the assumption that this industry recycles most batteries. As a result, the relative significance of this waste type varied among state and local studies.

Several state and local studies also supported the National Survey's finding that spent solvents/still bottoms were a significant CESQG waste type. These studies found this waste type to represent between 15 to 25 percent of the waste stream, while the National Survey found the portion to be 18 percent. Moreover, similar to the National Survey results, these studies found that a variety of industries generated spent solvents/still bottoms. Other studies found photographic wastes to be significant, ranging from four to ten percent of the CESQG waste stream (the National Survey estimated four percent).

A key difference between the state and local studies and the

National Survey is the significance of used motor oil. Although the National Survey did not examine the amount of used motor oil generated, several state and local studies found this waste to be significant, if not the largest waste type. Some studies found used motor oil to represent one half to two thirds of the CESQG waste stream. In these state and local studies, used motor oil was included in the vehicle maintenance industry. As is the case with used lead-acid batteries, RCRA Subtitle C regulations do not count used motor oil toward generator total amounts if the used motor oil is recycled or reused. Used oil that is recycled and is also hazardous because it exhibits a hazardous characteristic is regulated under 40 CFR Part 279. However, state and local studies that excluded used motor oil from vehicle maintenance (because it was recycled), still found the waste type to be significant. For example, Montgomery County, Maryland, found that nine percent of the CESQG waste stream was used motor oil, even after excluding it from the vehicle maintenance industry. The County found that photographic services, woodworkers/painters, general building contractors, and landscaping/pest control firms all generated used motor oil.

5. CESQG Management Practices

The "National Small Quantity Hazardous Waste Generator Survey" reported on CESQG waste management practices for each of the 22 primary industry groups. Together, these 22 primary industries generated 121,600 tons of the estimated 201,600 tons of total CESQG waste generated by *all* industries nationwide in the survey year.

The survey found that approximately 80 percent (95,226 tons/yr) of the waste generated by the 22 industry groups was managed off-site, while the remainder (26,176 tons/yr) was managed on-site.

The predominant methods of off-site management for the 95,226 tons/yr included recycling (73 percent of waste managed off-site or 69,000 tons), disposal at a solid waste landfill (ten percent or 9,300 tons), and disposal at a permitted Subtitle C landfill (two percent or 2,000 tons). The survey did not distinguish between management at a municipal or a nonmunicipal solid waste landfill (e.g., industrial or construction and demolition landfills). This distinction is significant since the Agency has previously revised criteria for municipal solid waste landfills and currently requires these facilities to meet more stringent design and operating criteria than nonmunicipal facilities. In addition, the National Survey found that 13 percent of waste managed off-site is managed in an "unknown" facility, as reported by those firms responding to the survey.

The National Survey found that disposal in the sewer system or septic system was the most common method of on-site management, accounting for nearly 56 percent of CESQG waste volume managed on-site. Recycling and treatment of CESQG waste were other forms of on-site management. Only two percent (509 tons) of the CESQG waste managed on-site was disposed in a solid waste landfill.

With regard to the major CESQG waste industries (vehicle maintenance, metals manufacturing, laundries, printing/ceramics, pesticide application services, construction, and photographic

services), the "National Small Quantity Hazardous Waste Generator Survey" found that all dispose some amount of their CESQG waste in an off-site solid waste landfill. Laundries managed the largest amount of their CESQG waste (45 percent) in an off-site solid waste landfill. Only four of the major CESQG industries (metals manufacturing, laundries, pesticide application services, and construction) disposed some portion of their CESQG waste in an on-site solid waste landfill. Of the industries accounted for in this survey, the construction industry managed the largest portion of its CESQG waste (ten percent) in an on-site solid waste landfill. In developing these figures, EPA cautions that the National Survey did not define an off-site or an on-site solid waste landfill.

Like the "National Small Quantity Hazardous Waste Generator Survey", more recent state and local studies found that approximately four-fifths of CESQG waste was managed off-site, while the remainder was managed on-site. In addition, these state and local studies found that the predominant off-site management methods were recycling and disposal in a solid waste or permitted Subtitle C landfill. The portion of waste managed in these facilities, however, varied across the studies and differed from the findings of the National Survey. This may be due to the availability of specific waste management options in the area covered by the state and local study, but may also be caused by a better understanding of potential liability posed by the hazardous wastes.

In contrast to the National Survey, Montgomery County,

Maryland and the State of Washington found that none of their CESQGs disposed of their hazardous waste in an on-site solid waste landfill. This finding, based on recent data, suggests that CESQGs have changed their management practices with regard to on-site disposal in landfills since the 1983-84 National Survey was conducted. Specific on-site disposal methods included in these studies were disposal in sewer, dumping on ground, and evaporation.

Only Montgomery County, Maryland, identified specific off-site waste management practices associated with the major CESQG industries. Similar to the National Survey, the County found that photographic services and general building contractors managed a portion of their CESQG waste in an off-site solid waste landfill. Unlike the National Survey, however, none of the waste from the vehicle maintenance industry and laundries was managed in an off-site solid waste landfill. CESQG wastes from these industries were recycled or sent to a permitted Subtitle C landfill.

In presenting information on CESQG waste volumes, generators, and management practices using its "National Small Quantity Hazardous Waste Generator Survey" and more recent studies performed by State and local governments, the Agency is requesting that commenters submit data on the amount of CESQG waste that is potentially subject to this rulemaking. Furthermore, the Agency is interested in receiving data on the current management practices for CESQG wastes likely to be covered by this rulemaking.

B. Facilities that May Receive CESQG Waste

1. Manufacturing Industries with On-Site CESQG Disposal

The first type of facility that may receive CESQG waste is a manufacturing facility that co-disposes its industrial non-hazardous process waste on-site with its CESQG hazardous wastes.

As mentioned previously, the Agency used the 1985 "Telephone Screening Survey" to identify the number of establishments that operated land-based units for their industrial non-hazardous waste. This Screening Survey also captured information on CESQGs. The Telephone Screening Survey identified 12,000 establishments that managed industrial non-hazardous waste on-site in land-based units. Of these 12,000 establishments, an estimated 3,742 establishments generated CESQG waste in 1985. Of the 3,742 establishments that were CESQGs, nearly 60% were in the Stone, Clay, Glass & Concrete and the Food and Kindred Products Industries.

For the 3,742 establishments that generated CESQG wastes in 1985, only 605 establishments managed their CESQG waste on-site in a land-based unit (605 establishments represents approximately 5% of the total 12,000 establishments that managed industrial waste on-site in land-based units). These 605 establishments used surface impoundments (309), waste piles (135), land application units (91) and landfills (69). Five industries were identified as having a significant number of the total 605 establishments that managed CESQG wastes on-site in land-based units. These 5 industries and their percentage of the total 605 establishments were:

Stone, Clay, Glass, and Concrete (26%)

Food and Kindred Products (22%)

Primary Iron and Steel (8%)

Textile Manufacturing (8%)

Pulp and Paper (7%)

The Agency has conducted meetings and conference calls with some of these industries to ascertain the current status of CESQG hazardous waste generation and management.

The Agency held a conference call, on May 5, 1994, with representatives of the Stone, Clay, Glass and Concrete Industry. Representatives of the Glass Packaging Institute, American Portland Cement Alliance, Marble Institute of America and the Brick Institute of America were asked to provide recent information on CESQG waste types and management practices. The Glass Packaging Institute stated that typical CESQG hazardous wastes generated within their segment of the industry were lubricants that were picked-up by vendors and transported off-site for disposal. The American Portland Cement Alliance stated that their typical CESQG hazardous wastes (i.e., lubricants or solvents) were also sent off-site for disposal or burned in on-site cement kilns. The Marble Institute of America stated that they produce no CESQG hazardous wastes and that non-hazardous dusts collected are typically sent to a landfill for use as daily cover. Lastly, the Brick Institute of America stated that CESQG hazardous wastes, in the form of cleaning solvents, are collected by vendors and transported off-site. The Agency concluded from this conference call that, while facilities within the Stone, Clay, Glass, and Concrete Industry may still produce small amounts of CESQG hazardous wastes, most facilities

within the industry generally appear to no longer manage their CESQG waste in on-site disposal units.

The Agency held a separate meeting, on January 11, 1994, with 20 representatives from the food industry, specifically the Food Industry Environmental Forum, a working group addressing environmental issues affecting the food industry. The views of the Forum were that the food industry generates little, if any, CESQG hazardous wastes. The food industry avoids the use of hazardous materials since they are manufacturing products for human consumption. The industry avoids the use of toxic solvents; even in their machine shops they use non-toxic alternatives developed as part of pollution prevention programs. Any CESQG hazardous wastes generated might include laboratory chemicals and solvents associated with maintenance of their transportation fleet. Even so, these small amounts of CESQG hazardous wastes are generally no longer managed in on-site disposal units; these wastes are sent off-site for management.

In regard to industrial waste facilities, the Agency believes that on-site co-disposal of industrial wastes with some amount of CESQG waste is a very limited practice. It appears from the Agency's limited interaction with those industries likely to have a high percentage of CESQG waste disposal on-site that many CESQG wastes are no longer being generated or are more likely to be sent off-site for recycling or treatment. Furthermore, the Agency believes that industrial waste disposal facilities that may still be disposing of CESQG waste on-site will elect to send their CESQG

waste off-site to a municipal landfill, a hazardous waste landfill or off-site for treatment or recycling. These options would be cheaper for industrial waste facilities vs. continuation of CESQG on-site disposal and compliance with today's proposed standards (i.e., ground-water monitoring and corrective action).

The Agency wishes to emphasize that this proposal does not change the manner in which waste is determined to be hazardous. Generators of wastes have an obligation to determine through testing or their knowledge of the waste if a waste is a hazardous waste (40 CFR 262.11). The generator must then determine if any hazardous waste he generates is regulated hazardous waste, or conditionally exempt small quantity generator hazardous waste (40 CFR 261.5).

The Agency is requesting comment on the prevalence of manufacturing industries that manage CESQG hazardous wastes on-site along with volume estimates. The Agency is also interested in obtaining comments on the Agency's assumption that on-site disposal of CESQG hazardous waste at industrial waste facilities has decreased overall and will not continue in the future.

2. Commercial Off-Site Facilities

The second type of facility that in some cases receives CESQG waste is a commercial off-site facility that disposes of only industrial non-hazardous wastes with some amount of CESQG hazardous wastes being co-disposed at the facility. Based on information from the groups listed below, the Agency estimates that there are only 10 - 20 commercial off-site facilities that receive only non-

hazardous industrial wastes. (Off-site commercial facilities that receive household hazardous waste are subject to the Part 258 Criteria.) However, in meetings with the Environmental Industry Associations (EIA) (formerly known as the National Solid Waste Management Association) and Browning Ferris Industries, the Agency was told that as a general matter CESQG disposal is prohibited at these 10 -20 facilities as a result of permitting conditions and due to decisions at the corporate level of the individual companies not to accept CESQG waste.

3. Construction and Demolition Landfills

The last group of facilities that receive CESQG wastes are construction and demolition waste landfills. The Solid Waste Association of North America (SWANA) published the "Construction Waste and Demolition Debris Recycling ... A Primer" that estimated that approximately 1800 construction and demolition landfills existed in early 1992. The Agency's list of construction and demolition waste landfills developed in 1994 estimated approximately 1900 facilities. These construction and demolition landfills dispose of construction waste and demolition debris (which generally refers to waste materials generated as a result of construction, renovation, or demolition). Many types of wastes are disposed of in construction and demolition landfills, such as metals, wood, concrete, dry wall, asphalt, rocks, soil, plastics, pipes and glass. Construction and demolition landfills may also receive CESQG hazardous waste materials, which could include things such as paints, adhesives, and roofing cements. Although the

general term "construction and demolition waste" is used to describe all wastes generated in construction, renovation, and demolition activities, the specific types of waste generated are a direct result of the type of project. Construction of a new house, demolition of old buildings as part of a restoration of a downtown area, renovation of an old office building, and new highway construction all result in different types of construction and demolition waste materials being generated.

The report entitled "Construction Waste and Demolition Debris Recycling ... A Primer" divided construction and demolition waste activities into five categories. These five categories and the typical construction and demolition waste materials associated with each category are presented below:

- Roadwork Material: mostly asphalt, concrete (with or without reinforcing bar), and dirt
- Excavated Material: Mostly dirt, sand, stones (sometimes contaminated with site clearance wood waste and buried pipes)
- Building Demolition: Mainly mixed rubble, concrete, steel beams, pipes, brick timber and other wastes from fittings and fixtures
- Construction/Renovation: Mixed waste including wood, roofing, wall board, insulation materials, pieces of duct work and plumbing
- Site Clearance: Mostly trees and dirt with the

potential for some concrete, rubble, sand and steel.

Some construction and demolition waste facilities may be subject to the requirements being proposed today. Construction and demolition waste facilities that receive wastes that are CESQG hazardous wastes will have to comply with the proposed changes to Part 257.5.

CESQG hazardous wastes generated in construction, renovation, and demolition are most likely to be specific chemicals or products used in these activities. Listed below are typical examples of wastes generated by construction and demolition activities that may be CESQG wastes, if the wastes are hazardous and are generated under the CESQG limits (<100 kg per month, or less than 1 kg per month of acute hazardous waste):

- Excess materials used in construction, and their containers. Examples: adhesives and adhesive containers, leftover paint and paint containers, excess roofing cement and roofing cement cans;
- Waste oils, grease, and fluids. Examples: machinery lubricants, brake fluids, engine oils.
- Waste solvents or other chemicals that would fail a characteristic or that are listed as a hazardous waste that are removed from a building prior to demolition (e.g., ignitable spent solvents, spent acids or bases, listed spent solvents (F001 - F005), or listed unused commercial chemical products that are to be discarded).

General construction and demolition debris (e.g., rubble from building demolition) would typically be hazardous waste only if it exhibits one of the four characteristics of hazardous waste: ignitability, corrosivity, reactivity, or toxicity (see Subpart C of 40 CFR Part 261). To determine if such debris is hazardous, the generator should use knowledge of the waste or test to determine if a representative sample of the waste exhibits any of the characteristics. See 40 CFR 262.11. See also Chapter nine of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, on how to develop a sampling program. As an example, if a building is demolished, the generator should use his knowledge concerning the building debris, or test a representative sample of the building debris, to see if the building debris exhibits a characteristic of hazardous waste.

Prior to demolishing a building, the owner or the demolition company may choose to remove components of the building that contain concentrated constituents of concern such as lead pipe, lead flashing, mercury containing thermostats and switches, or mercury-containing lamps (light bulbs). This may be done for purposes of avoiding concern that the entire demolition rubble may exhibit the characteristic of toxicity, for recycling and resource conservation, or as required by state or local law. For purposes of resource conservation, the Agency encourages removal of items that may be cost-effectively recycled or reused. It should be noted that any removed items should be managed in compliance with applicable requirements, including, if the items exhibit

characteristics, the requirements for CESQGs or the full hazardous waste regulations. Also note that some such items may be, in the future, covered under streamlined "universal waste" regulations that would minimize the applicable regulatory requirements. (See the final "universal waste rule," FR , May 11, 1995.)

Literature that was evaluated by the Agency and summarized in Chapter 2 of the Agency's report "Construction and Demolition Waste Landfills" identify a number of wastes that are referred to using such terms as "hazardous," "excluded," "unacceptable," "problem," "potentially toxic," or "illegal." It is not necessarily true that all of these wastes meet the definition of "hazardous" under Subtitle C of RCRA, but they provide an indication of the types of wastes that may be present in the construction and demolition waste stream that are considered by others to be a potential problem.

A construction and demolition waste generator should contact their State Solid Waste Program for their guidance or rules concerning the types of construction and demolition wastes that the State considers to be hazardous.

C. Existing State Programs

1. State Requirements Pertaining to Management of CESQG Hazardous Wastes

Since the existing controls governing the disposal of CESQG waste are under the Subtitle C program (i.e., §261.5), State requirements must be at least as stringent as the Federal requirements. States may however establish more stringent controls for CESQGs within their jurisdiction. Some States require that

CESQGs obtain a hazardous waste ID number while other States require CESQGs to use a manifest for off-site transportation. Some States require that all or some portion (e.g., those with liquid industrial and ignitable wastes) of CESQG waste be managed at only permitted Subtitle C facilities. States that require that CESQG waste be managed at only Subtitle C facilities would prohibit CESQG disposal in a municipal, non-hazardous industrial, or construction and demolition waste landfill.

2. State Requirements for Construction and Demolition Facilities

EPA conducted a study to determine the current regulatory standards for construction and demolition facilities that are applicable on a State level. State regulatory standards for construction and demolition facilities vary State-by-State and are generally not as detailed nor environmentally stringent as State standards for municipal solid waste landfills. Furthermore, States apply standards more frequently to off-site construction and demolition waste facilities vs. on-site construction and demolition waste facilities. In general, the EPA study focussed on the number of State programs that had requirements for the statutory minimum components specified in RCRA Section 4010(c). The numbers, discussed below, correspond to the number of States that impose the requirement or standard on off-site construction and demolition waste facilities. Generally, a smaller number of States impose requirements on on-site facilities.

The most common location restrictions that States apply to C&D facilities relate to airports and bird hazards, wetlands and

floodplains. A majority of the States (35) have restrictions applicable to construction and demolition facilities being located within the 100-yr. floodplain. Twenty-five (25) States have location restrictions pertaining to construction and demolition disposal facilities in wetlands. Similarly, 21 States have location restrictions for some or all construction and demolition facilities pertaining to airports and bird hazards. Fewer States have adopted location restrictions pertaining to seismic impact zones, fault areas, or unstable areas.

With regard to ground-water monitoring and corrective action, 29 States require some or all construction and demolition facilities to monitor ground-water and 22 States have corrective action requirements. For those States that impose ground-water monitoring requirements, most States have requirements that are substantially less stringent than the Municipal Solid Waste Landfill Criteria (Part 258). With regard to those States that impose corrective action requirements, States usually require that either the permit applicant submit a corrective action plan with the permit or require the facility owner/operator to submit a plan after a release to ground water is detected.

V. Discussion of Today's Regulatory Proposal

A. Non-Municipal Solid Waste Disposal Facilities that Receive CESQG Hazardous Waste

This rule applies to non-municipal solid waste disposal facilities that receive CESQG hazardous waste, and the rule would provide that only such facilities which meet the requirements in

Section 257.5 "may receive" CESQG waste, as required by RCRA Section 4010(c). Any non-municipal solid waste disposal facility that does not meet the proposed requirements may not receive CESQG hazardous waste. The non-municipal units that are subject to this rule are surface impoundments, landfills, land application units and waste piles that receive CESQG waste for storage, treatment, or disposal. This is based on the existing applicability of Part 257 to all solid waste disposal facilities (40 CFR 257.1(c)). Disposal is defined at 257.2 to mean "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waster, including ground waters." This is also the statutory definition of "disposal" in RCRA Section 1004(3). The definition covers any placement of waste on the land whether it is intended to be temporary or permanent.

The Agency believes that two types of facilities are potentially subject to this rule. The first type would be a facility where a CESQG co-disposes industrial non-hazardous waste and CESQG hazardous waste on-site. The Agency believes that only a very few CESQG facilities currently continue on-site disposal of CESQG waste. For purposes of the Regulatory Impact Analysis (RIA), the Agency assumes these facilities will cease that practice to avoid the cost of compliance with this proposed rule. However, should CESQGs continue to dispose of their hazardous waste on-site

they must comply with these revised facility standards. The Agency believes that generators who meet the conditions of the exemption in 261.5 and choose to send their waste off-site to an acceptable facility (as specified in proposed sections 261.5(f)(3) and (g)(3)) would not be subject to the new 40 CFR 257.5 standards for any continued on-site disposal of only non-hazardous waste.

The other type of facility subject to today's rule is a non-municipal solid waste disposal facility that receives wastes generated off-site that includes CESQG hazardous wastes. Such facilities include construction and demolition waste disposal facilities and commercial industrial solid waste disposal facilities.

Some interested parties have suggested that revised facility standards promulgated under the authority of RCRA section 4010 (c) should be applicable to all on-site and off-site industrial non-hazardous waste disposal. This interpretation would impose standards for CESQG disposal on all industrial solid waste regardless of whether or not there was any likelihood that CESQG waste might be present. The Agency believes that this interpretation is overly broad. If Congress had intended to authorize EPA to revise disposal standards for all non-municipal solid waste, the Agency believes that the statute would have stated that. Instead, the language of section 4010(c) clearly ties revised criteria to solid waste facilities that may receive small quantity generator waste (CESQG hazardous wastes under current Subtitle C regulations) and not to those facilities receiving non-

hazardous solid wastes.

Facilities that are uncertain about their status because of the restricted nature of the wastes that they accept are encouraged to consult with their approved State to determine whether they are subject to the new 257.5 criteria.

B. Decision to Impose or Go Beyond the Statutory Minimum Components

RCRA Section 4010(c) requires that these revised Criteria must at a minimum include location restrictions, ground-water monitoring as necessary to detect contamination, and corrective action, as appropriate. The Part 258 Municipal Solid Waste Landfill Criteria went beyond the statutory minimum requirements (see 56 FR 50977) and included the following additional requirements: operational requirements, design standards, closure and post-closure care requirements and financial assurance standards. The Municipal Solid Waste Landfill Criteria went beyond the statutory minimum components for a variety of reasons. Some of these reasons included:

- 163 case studies that revealed ground-water contamination at 146 MSWLFs, along with 73 MSWLFs that had documented cases of surface water contamination,
- 29 documented cases of uncontrolled methane releases at MSWLFS causing fires and explosions at 20 of the 29 facilities,
- a high percentage of National Priority List (NPL) sites were MSWLFs (184 sites out of 850 as of May 1986), and
- a belief, based on risk modelling, that some MSWLFs

presented unacceptable risks to human health .

Taken together, these problems demonstrated a pattern of recurring problems and potential hazards associated with MSWLFs best addressed by requiring a comprehensive set of facility standards.

Today's proposal imposes only the statutory minimum components for non-municipal solid waste disposal facilities that receive CESQG hazardous wastes. Based on the data reviewed below, the Agency believes that these facilities do not pose risks that would warrant more comprehensive facility standards.

1. Construction and Demolition Waste Facilities

The Agency analyzed existing leachate and ground-water monitoring data, and damage cases associated with construction and demolition waste management to assess potential risks associated with construction and demolition waste disposal facilities. Landfill leachate sampling data and ground-water monitoring data were collected from states and from general literature provided to the Agency by the National Association of Demolition Contractors (NADC).

a. Construction and Demolition Leachate

EPA evaluated representative construction and demolition waste leachate values ("Construction and Demolition Waste Landfills"). (This data was complied by NADC). Leachate sampling data for 305 parameters sampled for at one or more of 21 construction and demolition landfills were compiled into a database.

Of the 305 parameters sampled for, 93 were detected at least

once. The highest detected concentrations of these parameters were compared to regulatory or health-based "benchmarks," or concern levels, identified for each parameter. Safe Drinking Water Act Maximum Contaminant Levels (MCLs) or Secondary Maximum Contaminant Levels (SMCLs) were used as the benchmarks if available. Otherwise, health-based benchmarks for a leachate ingestion scenario were identified; these were either reference doses (RfDs) for non-carcinogens, or 10^{-6} risk-specific doses (RSDs) for carcinogens. Benchmarks were unavailable for many parameters because they have not been studied sufficiently.

Of the 93 parameters detected in C&D landfill leachate, 25 had at least one measured value above the regulatory or health-based benchmark. For each of these 25 parameters, the median leachate concentration was calculated and compared to its benchmark. The median value was first calculated among the samples taken at each landfill, and then across all landfills at which the parameter was detected. Due to anomalies and inconsistencies among the sampling equipment used at different times and at different landfills, non-detects were not considered in determining median values; i.e., the non-detects were discarded before calculating both individual landfill concentration medians and medians across landfills. Thus, the median leachate concentrations represent the median among the detected values, rather than the median among all values. The median concentration among all values would in most cases have been lower than those calculated here.

Based on (1) the number of landfills at which the benchmark

was exceeded and (2) a comparison between the median detected concentration and the benchmark, seven parameters emerge as being potentially problematic. The Agency identified this list of 7 potentially problematic parameters by eliminating from the original list of 25 parameters any parameter that was only detected at one landfill (this was determined to be not representative) and, furthermore, eliminating any parameter whose median concentration did not exceed the benchmark value for that parameter. The 7 potentially problematic parameters are as follows:

1,2-Dichloroethane

Methylene chloride

Cadmium

Iron

Lead

Manganese

Total dissolved solids

The benchmark values for three of the parameters (total dissolved solids, iron, and manganese) are secondary MCLs (SMCLs). Secondary MCLs are set to protect water supplies for aesthetic reasons, e.g., taste, rather than for health-based reasons. The remaining 4 constituents, their calculated medians, and health-based benchmark values are as follows:

Constituent	Median Concentration	Health-Based Values	
		Value	Source
1,2-Dichloroethane	19 ug/l	5 ug/l	MCL
Methylene chloride	15.2 ug/l	5 ug/l	10^{-6} RSD

Cadmium	10.5 ug/l	5 ug/l	MCL
Lead	55 ug/l	15 ug/l	Action Level

The next step in evaluating the significance of these constituent concentrations is to apply an exposure model to develop a relationship between the constituent concentration in the environment at an assumed exposure point and the constituent concentration in the waste. This is because constituents released from a waste undergo a variety of environmental fate and transport processes that result in exposure point concentrations that are lower than levels in the waste stream or in leachate.

The Agency assumed a dilution attenuation factor (DAF) of 100 for the fate and transport analysis. The value of 100 was selected based on the development of the Toxicity Characteristic (40 CFR 261.24). The DAF is an estimate of the factor by which the concentration is expected to decrease between the waste management facility and a hypothetical downgradient drinking water well. A multiplier of 100 corresponds to a cumulative frequency close to the 85th percentile from the EPACML simulations used to support the TC rule. In other words, in this exposure scenario, an estimated 15 percent of the drinking water wells closest to unlined municipal landfills could have contaminated concentrations above MCLs. Dividing the calculated median concentration by the DAF of 100 and comparing the new concentration allows for an estimate as to whether the new concentration will exceed the health-based value at an exposure point. In using the DAF of 100, the resulting new concentrations are all below their respective health-based values.

The resulting concentrations as compared to the health-based values are presented in the table below.

Constituent	Median Concentration Divided by DAF of 100	Health-Based Value
1,2-Dichloroethane	.19 ug/l	5 ug/l
Methylene chloride	.152 ug/l	5 ug/l
Cadmium	.105 ug/l	5 ug/l
Lead	.55 ug/l	15 ug/l

b. Construction and Demolition Damage Case Analysis

EPA conducted a study ("Damage Cases: Construction and Demolition Waste Landfills") to determine whether the disposal of C&D debris in C&D landfills has led to the contamination of ground or surface water or damages to ecological resources. All of the damage case information EPA evaluated came from existing information in State files and literature sources. EPA was able to identify only 11 C&D landfills with evidence of ground water or surface water contamination. EPA found no documented evidence of existing human health risks or ecosystem damages at construction and demolition landfills and little documented evidence of off-site contamination.

When the Agency reviewed existing sources of data for C&D damage cases, the Agency reviewed existing Superfund databases (NPL), contacted EPA regional representatives, 32 States, county environmental Agencies, and existing studies or reports providing background information on C&D facilities and damages.

When EPA searched for C&D damage cases, several criteria were

used to identify where the damages could reasonably be associated with construction and demolition facilities and construction and demolition waste disposal. First and foremost, the Agency sought to identify C&D facilities that accepted predominately C&D wastes. Landfills that had received significant quantities of municipal waste, non-hazardous industrial waste, or hazardous waste in the past were excluded from consideration. Additionally construction and demolition sites located near other facilities or leaking underground storage tanks that could reasonably be the source of contamination were excluded as possible C&D damage cases. Lastly, there needed to be documented evidence of contamination at the C&D site.

The 11 damage cases that the Agency has identified are from New York, Virginia, and Wisconsin. Virginia and Wisconsin have required groundwater monitoring since 1988 at C&D facilities. The facilities in New York were among 9 C&D sites investigated due to public concerns about possible hazardous waste disposal and potential human health and environmental impacts.

A study of the 11 C&D sites revealed on-site ground-water contamination at all of the facilities and surface water contamination at 6 of the 11 sites, with the main contaminants being metals and other inorganics. At 3 of the 11 facilities, sediment contamination was also detected. Although most of the contamination associated with these damage cases occurred on-site, 2 of the eleven facilities did have off-site contamination (both facilities had sediments and surface water contamination occurring

off-site).

Although most of the 11 sites were monitored for a wide range of organic and inorganic constituents, virtually all of the contamination was associated with inorganics. Constituents that exceeded State ground-water protection standards or Federal drinking water criteria most frequently were manganese (9 sites), iron (8 sites), total dissolved solids (6 sites), lead (5 sites), magnesium (4 sites), sodium (4 sites), Ph (3 sites) and sulfate (3 sites). The other 8 constituents that were detected in ground water at these 11 sites were detected at only one or two sites.

For the 6 sites that had surface water contamination, the constituents that exceeded State surface water standards or Federal Ambient Water Quality Criteria most frequently were iron (4 sites), zinc (3 sites), lead (2 sites), and copper (2 sites). The other 5 constituents that were detected in surface water at these 6 sites were detected only once. No fish kills or other observable impacts on aquatic life were reported in any of the references that the Agency reviewed.

A look at the most frequently detected constituents in ground water or surface water reveals that of the 10 constituents, 7 are a concern due to SMCLs; only lead, magnesium, and sodium are not. Magnesium was found to exceed only an applicable State standard by a factor of 4 times, while sodium was found to exceed an applicable State standard by a factor of 14. Lead was found in ground water to exceed the Federal action level at the tap (15ug/l) by a factor of 6. Lead was also found in surface water to exceed the

established Federal Ambient Water Quality Criteria by a factor of 16 to 300 (although for the higher factor the reported value of lead in the surface water was "estimated").

c. Construction and Demolition Ground-Water Monitoring Data

Limited ground-water monitoring data suggests that a similar set of parameters that are detected in C&D leachate and that appear in damage cases associated with C&D facilities are also detected in ground water. Based on the limited ground-water data, only 19 parameters had a maximum value exceeding a health-based benchmark. Of these 19 parameters, 8 exceeded a secondary MCL (TDS, sulfates, Ph, manganese, chlorides, iron, copper, and aluminum). For the remaining 11 parameters, 5 are organics (Bis(2-ethylhexyl) phthalate, methylene chloride, tetrachloroethene, 1,2,4-trichlorobenzene, and 1,1,1-trichloroethane), 5 are inorganics (arsenic, cadmium, lead, mercury, and nickel), and 1 is a conventional parameter (nitrate). Only one constituent (cadmium) exceeded its health-based value by an order of magnitude. Some constituents had a maximum ground-water value just exceeding its health-based value. It is important to remember that when looking at the limited ground-water monitoring data what is being discussed in this paragraph are maximum levels; additional sampling events for these constituents resulted in lower levels or non-detects.

d. Conclusions for Construction and Demolition Facilities

While the data on construction and demolition waste landfills are limited, the Agency has reached some conclusions. Based on evaluation of the data analyzed above, individual

construction and demolition waste facilities may have caused limited damage to ground water and surface water and potentially, may pose a risk to human health and the environment. Individual C&D facilities may also affect usability of drinking water due to aesthetic impacts. However, the Agency believes that C&D facilities, in general, do not currently pose significant risks and that individual damage cases are limited in occurrence. The small number of damage cases and the leachate concentration data reviewed above support these conclusions. Ground-water monitoring and corrective action at these facilities will ensure that any releases and potential risks at individual facilities will be identified and corrected in a timely fashion to protect human health and the environment. Location restrictions will ensure that non-municipal solid waste disposal facilities that receive CESQG waste will be located in acceptable areas, thereby, providing further protection of human health and the environment. Because construction and demolition waste facilities, in general, do not currently pose significant risk, the Agency has concluded that the statutory minimum requirements will ensure protection of human health and the environment.

2. Off-Site Commercial Landfills

As for the 10-20 commercial off-site facilities that accept only industrial wastes, the Agency understands that corporate policy has been to subject these types of facilities to stringent environmental controls. In addition, State regulations also apply to these types of facilities. A facility of this type generally

employs a liner, has closure and post-closure care requirements and financial assurance standards. These State and corporate controls go beyond the statutory minimum controls and therefore the Agency believes that there is no need, on the Federal level, to impose additional standards beyond the statutory minimum.

3. Request for Additional Data and Comments Concerning Statutory Minimum or More Comprehensive Facility Requirements

The Agency solicits comments on the two reports referenced above "Construction and Demolition Waste Landfills" and "Damage Cases: Construction and Demolition Landfills" The leachate and ground-water monitoring data and the damage cases analyzed above represent a small number of facilities relative to the construction and demolition facility universe. The Agency solicits any additional data concerning C&D facilities to further assess the potential risks they may pose, as well as additional data on commercial industrial solid waste facilities or other types of facilities that may be subject to today's proposal.

The Agency also requests comment on whether the requirements being proposed today should go beyond the statutory minimum components. Requirements beyond the statutory minimum components could include all or any of the following components: operational criteria, design standards, closure and post-closure care requirements, and financial assurance standards. The Agency is requesting that commentors document the need to go beyond the statutory minimum components. The Agency is also requesting that

commentors be specific as to whether any additional controls should be identical to the Part 258 Criteria for municipal landfills or should require a different standard and what that standard should be.

C. Decision to Establish Facility Standards Under Part 257 and Revisions to Part 261

The Agency proposes today to establish facility standards, in Part 257, for non-municipal solid waste disposal facilities that receive CESQG hazardous wastes. Section 4010(c) states that the Agency should revise the existing Part 257 Criteria for facilities that "may receive" CESQG waste. Clearly today's proposal responds to the statutory language. The Agency is proposing to establish facility standards, in a separate section in Part 257, for non-municipal solid waste disposal facilities that receive CESQG hazardous waste. By providing that only those facilities meeting the new standards "may receive" CESQG waste, the Agency believes it will satisfy the statutory mandate of RCRA Section 4010(c).

The Agency is also proposing revisions to the language in Section 261.5 (Special requirements for hazardous waste generated by conditionally exempt small quantity generators). These revisions will clarify the types of acceptable treatment, storage, or disposal facilities that can be used to manage CESQG hazardous waste while making it clear that CESQGs are responsible for ensuring that their CESQG hazardous wastes destined for storage, treatment, or disposal are sent to acceptable facilities. This will help ensure that CESQG waste is not sent to facilities that do

not meet the new Part 257 regulations (i.e., to facilities that "may not receive" CESQG wastes.

Acceptable facilities are either interim status or permitted Subtitle C facilities; municipal facilities permitted, licensed, or registered by a State and subject to Part 258 or an approved State program; non-municipal solid waste disposal facilities that are permitted, licensed, or registered by a State and subject to Part 257.5 or an approved State program; or solid waste management facilities that are permitted, licensed, or registered by a State (i.e., municipal solid waste combustor). EPA encourages CESQGs to consult with their State solid waste agency to determine which facilities are acceptable. Today's proposed changes to Section 261.5 make no changes to the provisions allowing CESQGs to send their hazardous waste for beneficial use, reuse, legitimate recycling or reclamation.

D. Request for Comment on the Use of an Alternative Regulatory Approach in Today's Rule

The Agency previously discussed its proposed approach to impose only the statutory minimum requirements on non-municipal solid waste facilities that receive CESQG hazardous waste. The Agency has identified two options for writing the statutory minimum components. One option is to use the Part 258 Criteria as the baseline for these requirements. The second option would be to specify general performance standards to be met by facility owners/operators as they implement the standards as well as to guide States in designing new regulatory programs (or revising

existing regulatory programs).

There are several reasons why the Agency is considering using the Part 258 Criteria. 1) Part 258 Criteria provide sufficient detail so that an individual owner/operator can self-implement them without State interaction in those instances where States do not seek approval of their permitting program as required in RCRA Section 4005(c). 2) EPA believes that the national minimum requirements are necessary to collect reliable and consistent ground-water monitoring data and to respond to contamination from the unit. 3) They contain a substantial amount of flexibility that allows approved States to tailor standards to individual and classes of facilities. Also, EPA and State success in accomplishing 42 State program approvals demonstrates that a variety of State approaches are consistent with the Part 258 Criteria. As an example, States have established different design standards based on State-specific or site-specific factors that comply with the Part 258 criteria. The Agency expects States to likewise use this same flexibility in tailoring their ground-water monitoring programs. 4) Some States have expressed strong support for using 258 standards as the baseline for solid waste disposal facilities that receive CESQG hazardous waste. 5) While some States have standards for non-municipal facilities that are not identical to the 258 standards, the Agency believes there is a strong likelihood that many state programs would be approvable.

Reasons cited in support of using the general performance standard approach include: 1) Although the Part 258 standards

contain substantial flexibility for States to tailor the programs to their conditions, the Part 258 standards put certain limits on State flexibility to design a program tailored to local conditions; 2) The Part 258 standards also include certain national minimum requirements (which States can not modify) that EPA promulgated because of the risks posed by MSWLFs. However, since EPA has found that facilities that receive CESQG waste may pose substantially less risk than MSWLFs, these national minimum standards may be overly stringent at certain facilities; 3) In the absence of a significant Federal program, over half of the States have adopted location standards, ground-water monitoring requirements, and corrective action requirements that are significantly less extensive than the Part 258 standards. If a State believes that its existing program satisfies the general RCRA performance standard -- protects human health and the environment, taking into account the practicable capability of these facilities -- it could seek approval of their existing programs and avoid substantial regulatory or legislative changes; and 4) a general performance standard would provide the maximum flexibility for States and owners to adopt new methodologies and technologies (e.g., detecting groundwater contamination from the surface, not from wells) to meet the standard at the lowest possible cost.

In order to give the regulated community a better idea of how the ground-water monitoring and corrective action requirements could be written using a general performance standard approach, the Agency has developed the following examples of general performance

language for each of the main elements of a ground-water and corrective action program.

For section 257.5-2.2, ground-water monitoring systems, the regulatory language for the general performance approach could require that the owner/operator install a ground-water monitoring system capable of detecting contamination that would consist of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water monitoring samples from the uppermost aquifer that represent both the quality of background ground-water and the quality of ground-water passing the point of compliance. However, this section would not specify how the monitoring wells should be cased or the proper depth and spacing of the wells. The Part 258 approach establishes the point of compliance for units under today's proposed rulemaking to no more than 150 meters from the edge of a unit boundary. However, a general performance standard could be written to allow states to set the point of compliance at other protective locations. The Agency specifically requests comment on whether a flexible approach to establishing the point of compliance is particularly well suited to low-risk facilities such as those addressed by this rulemaking, and if so, which factors should be considered in making a determination at these facilities.

The Agency also is currently evaluating a performance-based approach to locating the point of compliance for clean-up of releases in the hazardous waste program as part of the corrective action rule development in subpart S of 40 CFR part 264. The

states are participating in the subpart S rulemaking as co-regulators. Point of compliance options under consideration include: the unit boundary, the facility boundary, use of a buffer zone and anywhere in the plume of contamination beyond the unit boundary. We are contemplating that the subpart S approach could provide a basis for flexible, site-specific decision making for waste management facilities covered by today's rule.

For section 257.5-2.3, ground-water sampling and analysis requirements, the regulatory language for the general performance language could require that the owner/operator establish a ground-water monitoring program that includes consistent sampling and analysis procedures that ensure monitoring results that provide an accurate representation of background ground-water quality and down-gradient ground-water quality. The Agency would also state that the sampling and analysis procedures should also ensure that appropriate sampling and analytical methods are used and that ground-water quality data is based on appropriate statistical procedures. However, the regulatory language would not require that any specific statistical test be used nor would the regulatory language require that general performance standards be met as a condition of using an alternative statistical test.

For section 257.5-2.4, detection monitoring program, the regulatory language for the general performance language could require that the owner/operator establish a list of indicator or detection parameters that are monitored for and that enable the owner/operator to detect contamination. The Agency would also

state that the monitoring frequency should be determined based on site specific factors and that the owner/operator must also establish a process for assessing any potential contamination, based on the statistical procedures established in section 257.5-2.3. However, EPA's regulatory language would not specify any factors that an owner/operator should consider in selecting his/her indicator/detection monitoring parameters nor would the regulatory language specify the site-specific factors that would need to be evaluated by the owner/operator in determining the frequency of monitoring.

For section 257.5-2.5, assessment monitoring program, the regulatory language for the general performance standard approach could require that the owner/operator establish a process for assessing any potential contamination based on 1) additional monitoring for hazardous constituents that are expected to be present at the facility and 2) the establishment of background standards and health-based standards for the constituents that are monitored. The Agency would also state that the process must allow for a comparison, based on the statistical procedures established in section 257.5-2.3, of those background and health-based standards in order to determine when a health-based standard has been exceeded and to allow for the assessment of corrective measures when it is determined that an exceedance has occurred. However, the regulatory language would not specify any steps that must be complied with as part of the process in assessing the monitoring program.

For section 257.5-2.6, assessment of corrective action, the regulatory language for the general performance standard approach could require that the owner/operator assess the potential range of corrective measures that could be used to meet the performance standard established in section 257.5-2.7. However, the regulatory language would not list any factors that should be considered by the owner/operator in assessing any potential remedy. It may allow the States flexibility to use different risk assumptions than those in Part 258 to establish triggers for corrective action.

For section 257.5-2.7, selection of remedy, the regulatory language for the general performance standard approach could require that the owner/operator select the most appropriate remedy that 1) controls the source of releases to the maximum extent possible, 2) attains the health-based standard(s) developed in the assessment monitoring program, and 3) protects human health and the environment. The Agency would also state that the owner/operator would also need to establish a time period for initiating and completing the selected remedy. However, the regulatory language would not list any factors that an owner/operator should consider in selecting the remedy, in establishing a schedule for initiating and completing the remedy, or in deciding that remediation is not necessary.

For section 257.5-2.8, implementation of the corrective action program, the regulatory language for the general performance standard approach could require that the owner/operator implement the selected remedy, based on the schedule established in section

257.5-2.7, and attain compliance with the health-based standards established in section 257.5-2-5. The Agency would also state that the implementation of the corrective action program should include a consideration of interim measures that may need to be considered during corrective action and a consideration of alternative corrective measures if, after implementation of the selected remedy, the health-based standards in section 257.5-2.5 are not being achieved. However, the regulatory language would not list any factors that an owner/operator should consider in developing interim measures or in the selection of an alternative remedy.

The Agency believes that the general performance standard approach has some advantages. The approach would offer more flexibility to States to determine how best to run their State program for non-municipal solid waste facilities that receive CESQG hazardous waste, while allowing States to tailor regulations based on anticipated risks. In the absence of a State program, owners/operators would have to determine how to comply based on risk. However, the Agency is concerned that such a performance standard approach may result in greater uncertainty for owners/operators.

While the Agency has not proposed the general performance standard approach in today's proposal, the Agency believes that the performance standard approach provides some interesting options/advantages for owners/operators and State agencies. Therefore, the Agency is requesting comments on the use of general performance standards in lieu of the approach used in today's

proposal.

E. Highlights of Today's Statutory Minimum Requirements for Non-Municipal Solid Waste Disposal Facilities that Receive CESQG Hazardous Waste

For today's proposed regulatory language, the Agency has used the Part 258 Criteria as a baseline. The highlights of the Part 258 requirements are presented in the next section of today's preamble. The flexibility that was developed for the Part 258 Criteria has been incorporated into today's proposal for the location restrictions and the ground-water monitoring and corrective action requirements. The Agency solicits comments from the regulated community on whether these standards would provide sufficient flexibility for construction and demolition waste facilities. Commentors are requested to review the proposal with an eye towards identifying those areas in the proposal that they believe do not contain sufficient flexibility and would unduly hinder or place unnecessary burdens on construction and demolition waste facilities or other facilities potentially affected by the rule. The Agency requests that if commentors identify a provision that is lacking in flexibility, that the commentors clearly identify alternative rule language that provides the necessary flexibility.

Today's proposal requires that non-municipal solid waste disposal facilities that receive CESQG hazardous waste are subject to the requirements being proposed in §257.5. Any non-municipal solid waste disposal facility that does not meet the proposed

requirements may not receive CESQG hazardous waste. Section 257.5 specifies location restrictions, ground-water monitoring and corrective action standards that are substantially the same as the statutory minimum standards that were developed under 40 CFR Part 258. A complete summary of the statutory minimum standards developed under Part 258 can be found in the MSWLF Criteria. See 56 FR 50977. A general discussion of the requirements being proposed under §257.5 is provided below. A discussion is also provided in those instances where a requirement being proposed in §257.5 has been slightly modified from the requirement in Part 258.

1. Applicability

Today's proposal establishes a separate section in Part 257 (i.e., Section 257.5) that applies to any non-municipal solid waste disposal facility that receives CESQG hazardous wastes. Owners/operators of non-municipal solid waste disposal facilities that receive CESQG hazardous waste after the effective date (i.e., 18 months after the date of promulgation in the FEDERAL REGISTER) must comply with the requirements in Section 257.5. Today's proposal does not apply to municipal solid waste landfills subject to Part 258 or hazardous waste facilities subject to regulations under Subtitle C of RCRA.

Owners/operators of non-municipal solid waste disposal facilities whose facilities do not meet the proposed requirements may not receive CESQG hazardous waste. Owners/operators of such facilities would continue to be subject to the requirements in Sections 257.1 - 257.4.

Owners/operators of non-municipal solid waste disposal facilities that receive CESQG hazardous waste and become subject to the separate requirements in Section 257.5 continue to be subject to several existing requirements in Sections 257.1 - 257.4. The existing requirements in Sections 257.1 - 257.4 that continue to be applicable include: §§257.3-2 (Endangered Species), 257.3-3 (Surface Water), 257.3-5 (Application to food-chain crops), 257.3-6 (Disease), 257.3-7 (Air), and 257.3-8 (a), (b), and (d) (Safety). A non-municipal solid waste disposal facility that becomes subject to the CESQG requirements in Section 257.5 would no longer be subject to the following existing requirement in Section 257.1 - 257.4: §§257.3-1 (Floodplains), 257.3-4 (Ground water), and 257.3-8(c) (bird hazards to aircraft) because Section 257.5 would contain separate standards in each of the areas. Today's proposal establishes new requirements pertaining to ground-water monitoring, corrective action, and location restrictions (airports and floodplains) for non-municipal solid waste disposal facilities that receive CESQG hazardous waste.

Certain facilities may implement screening procedures to effectively eliminate the receipt of CESQG hazardous wastes. If an owner/operator has a question concerning applicability of the rule, he/she is encouraged to contact his/her State Agency to determine that the screening procedure ensures that the facility does not receive CESQG hazardous waste.

2. Specific Location Restrictions

The requirements in §257.5-1 will establish location

restrictions for any non-municipal solid waste disposal facility that receives CESQG hazardous wastes. The location restrictions are for airport safety, floodplains, wetlands, fault areas, seismic impact zones, and unstable areas. The location restrictions being proposed today for non-municipal solid waste disposal facilities that receive CESQG hazardous wastes are based on the location restrictions that were promulgated under Part 258 for municipal solid waste landfills. A detailed discussion of these location restrictions can be found in the MSWLF Criteria (See 56 FR 51042 - 51049). A summary of each location restriction is presented below.

a. Airport Safety

Existing Criteria under Part 257

Non-municipal solid waste disposal facilities are currently subject to an airport safety provision in the existing Part 257 Criteria (i.e, Section 257.3-8(c)). Section 257.3-8(c) requires that a facility disposing of putrescible wastes that may attract birds and which occurs within 10,000 feet of any airport runway used by turbojet aircraft or within 5000 feet of any airport runway used by only piston-type aircraft shall not pose a bird hazard to aircraft.

MSWLF Criteria under Part 258 (Section 258.10)

The Criteria apply to new, existing, and lateral expansions of existing MSWLFs and establish that MSWLF owners/operators located within the same distance specifications as in Part 257 place a demonstration in the operating record that the facility does not pose a bird hazard to aircraft. New MSWLFs and lateral expansions

of existing MSWLFs located within a five-mile radius of any runway must notify the affected airport and the Federal Aviation Administration (FAA).

Today's Proposed Language Regarding Airport Safety (§257.5-1.1)

Today's proposal uses the identical airport safety language that was established for MSWLFs. Today's proposal will require that new, existing, and lateral expansions of non-municipal solid waste disposal facilities that receive CESQG hazardous waste demonstrate that the facility does not pose a bird hazard to aircraft. For existing facilities that become subject to today's rule only the demonstration requirement is different from the current airport safety standard in Section 257.3-8(c). The demonstration requirement is being proposed because today's airport safety requirement is written to be self-implementing and the demonstration documents compliance and may protect the owner/operator from a citizen suit. For new and lateral expansions of non-municipal solid waste disposal facilities, the notification to the FAA and affected airport is a new provision. This provision is being proposed in order for the Agency to be consistent with existing FAA Order #5200.5A. This FAA Order establishes that any disposal site that attracts or sustains hazardous bird movements from feeding, watering or roosting areas may be incompatible with airport operations.

b. Floodplains

Existing Criteria under Part 257

Non-municipal solid waste disposal facilities are currently

subject to a floodplain provision in the existing Part 257 (i.e., Section 257.3-1). Section 257.3-1 requires that facilities not restrict the flow of the base flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste, so as to pose a hazard to human life, wildlife, or land or water resources.

MSWLF Criteria Under Part 258 (Section 258.11)

The Criteria apply to new, existing, and lateral expansions of MSWLFs and establish that MSWLF owners/operators located within the 100-year floodplain demonstrate that the MSWLF will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain or result in washout of solid waste so as to pose a hazard to human health and the environment.

Today's Proposed Language Regarding Floodplains (Section 257.5-1.2)

Today's proposal uses the identical language from the MSWLF Criteria. The demonstration requirement for new, existing, and lateral expansions of non-municipal solid waste disposal facilities is the only change to the existing Part 257 language and as stated above the demonstration requirement is being proposed due to the self-implementing nature of today's proposal and to document compliance on the part of the owner/operator.

c. Wetlands

Existing Criteria under Part 257

Non-municipal solid waste disposal facilities currently are not subject to any provisions regarding wetland protection.

MSWLF Criteria Under Part 258 (Section 258.12)

The Criteria apply to new and lateral expansions of MSWLFs and establish that MSWLFs locating in a wetland ensure that if the MSWLF must be constructed in a wetland location, the MSWLF will not cause or contribute to violations of any applicable State water quality standards, will not cause or contribute to the degradation of a wetland, and lastly that steps have been taken to offset any unavoidable impacts on the wetland. Siting of a MSWLF in a wetland location is only allowed to be approved by the Director of an approved State program after a successful demonstration by an owner/operator.

Today's Proposed Language Regarding Wetlands (Section 257.5-1.3)

Today's proposal establishes requirements applicable for new and lateral expansions of non-municipal solid waste disposal facilities regarding the siting in wetland locations. These requirements are identical to the requirements established for MSWLFs. The Agency has determined that new and lateral expansions of non-municipal solid waste disposal facilities, similar to MSWLFs, may be sited in wetlands only under very certain conditions. Therefore, the comprehensive demonstration requirements that are in the MSWLF Criteria are being proposed today. These demonstration requirements will ensure that if a non-municipal solid waste disposal facility needs to be located in a wetland, protection of State water quality standards and protection of the wetland will be achieved. Furthermore, today's proposal is consistent with the Agency's goal of achieving no net loss of the nation's wetlands.

d. Fault Areas

Existing Criteria under Part 257

Non-municipal solid waste disposal facilities currently are not subject to any provision regarding fault areas.

MSWLF Criteria Under Part 258 (Section 258.13)

The Criteria established for MSWLFs locating in a fault area apply only to new or lateral expansions of existing MSWLFs. The intent of the MSWLF Criteria is to prohibit siting within 200 feet of an active fault. The 200 foot limit was chosen because it is generally believed that the structural integrity of a MSWLF cannot be unconditionally guaranteed when they are built within 200 feet of a fault that is likely to move. Flexibility is provided for owners/operators in an approved State to be located within 200 feet of a fault area if the owner/operator makes the necessary demonstration.

Today's Proposed Language Regarding Fault Areas

Today's proposal for non-municipal solid waste disposal facilities that receive CESQG hazardous waste contains a location restriction regarding fault areas. Today's proposal bans the siting of new non-municipal solid waste disposal facilities or lateral expansions of these facilities in areas that are susceptible to faulting (i.e., areas located within 200 feet of a fault that has had displacement in recent times). The Agency believes that locating a new facility or lateral expansion in a location that has experienced faulting has inherent dangers. If a facility is located near a fault and displacement occurs, release

of solid waste and hazardous constituents will occur. The Agency, however, believes that some flexibility should be incorporated into the proposal for approved States and, as such, today's proposal allows approved States to site a new non-municipal solid waste disposal facility or lateral expansion within 200 feet of an active fault if the owner/operator demonstrates that such an action will be protective of human health and the environment. Existing non-municipal solid waste disposal facilities that receive CESQG hazardous wastes would not be subject to today's proposed fault area restriction.

The Agency requests comments on the necessity of requiring a fault area restriction for new non-municipal solid waste disposal facilities or lateral expansions of these types of facilities that receive CESQG hazardous waste.

e. Seismic Impact Zones

Existing Criteria under Part 257

Non-municipal solid waste disposal facilities currently are not subject to any provision regarding seismic impact zones.

MSWLF Criteria Under Part 258 (Section 258.14)

The Criteria established for MSWLFs locating in a seismic impact zone apply only to new or lateral expansions of existing MSWLFs. The intent of the MSWLF Criteria is to prohibit the siting of new MSWLFs or lateral expansions of these types of facilities in seismic impact zones. If, however, the owner/operator demonstrates to the Director of an approved State that all containment structures, including liners, leachate collection systems, and

surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material, a new MSWLF or lateral expansion may be located within a seismic impact zone.

Today's Proposed Language Regarding Seismic Impact Zones

Today's proposal for non-municipal solid waste disposal facilities that receive CESQG hazardous waste contains a location restriction regarding seismic impact zones. Today's proposal bans the siting of new non-municipal solid waste disposal facilities or lateral expansions of these facilities in seismic impact zones. Existing non-municipal solid waste disposal facilities that receive CESQG hazardous wastes would not be subject to today's proposed seismic zone restriction. Seismic activity manifests itself in the form of ground shaking and fracturing. These activities can, like faulting, result in the release of solid waste and hazardous constituents. The Agency has incorporated the flexibility found in the MSWLF Criteria in today's proposal. As such, if owners/operators of new non-municipal solid waste disposal facilities that receive CESQG hazardous waste or lateral expansions of such facilities can demonstrate to the Director of an approved State that the facility and any containment devices used in the construction of the facility are designed to withstand the effects of seismic activity, then such a facility may be located in a seismic impact zone.

f. Unstable Areas

Existing Criteria under Part 257

Non-municipal solid waste disposal facilities currently are

not subject to any provision regarding unstable areas.

MSWLF Criteria Under Part 258 (Section 258.15)

The Criteria established for MSWLFs locating in an unstable area apply to new MSWLFs, lateral expansions of existing MSWLFs, and existing MSWLFs. The intent of the MSWLF Criteria again focuses on the ability of engineering measures to compensate for unstable location conditions and a demonstration that these engineering measures will ensure the integrity of the structural components of the MSWLF.

Today's Proposed Language Regarding Unstable Areas

Today's proposal for non-municipal solid waste disposal facilities that receive CESQG hazardous waste contains a location restriction regarding unstable areas. Today's proposal applies to existing non-municipal solid waste facilities, new non-municipal solid waste facilities, and lateral expansions of these types of facilities. These facilities that receive CESQG waste must demonstrate that engineering measures have been incorporated into the facility design to ensure that the integrity of the structural components will not be disrupted. The rationale for requiring this location restriction is the same as that provided for fault areas and seismic activity zones: waste placed in locations susceptible to mass movement or placed in areas with poor foundation conditions can result in the release of solid waste and hazardous constituents. The Agency, therefore, believes that these unstable areas should be avoided and locating in an unstable area should only be allowed after a successful demonstration by the

owner/operator that the structural integrity of the facility will not be disrupted.

In summary, six location restrictions are being proposed: airport safety, floodplains, wetlands, fault areas, seismic impact zones, and unstable areas. Existing non-municipal solid waste disposal facilities that receive CESQG hazardous wastes are only required to comply with the airport safety, floodplain, and unstable area location restrictions. New or lateral expansions of non-municipal solid waste disposal facilities that receive CESQG hazardous wastes must comply with all six location restrictions prior to accepting waste for disposal.

EPA is proposing that existing non-municipal solid waste disposal facilities that cannot make the required demonstrations pertaining to airports, floodplains, or unstable areas by 18 months after the final rule is promulgated must stop receiving CESQG hazardous wastes. This 18-month period is much shorter than the 5-year period that was given to MSWLFs under 40 CFR 258.16. EPA provided five years to MSWLFs because there was concern about capacity shortages if existing owners/operators of MSWLFs had to close in the short term. For this proposal, existing non-municipal solid waste disposal facilities only have to comply with three location restrictions: airport safety, floodplains, and unstable areas. Two of these three restrictions being proposed are technically identical to the existing Part 257 standards that existing non-municipal solid waste disposal facilities have been subject to since 1979 (i.e., airport safety and floodplains). The

new requirements for these two location restrictions are the demonstrations documenting compliance with these provisions and a notification to the FAA if a new or lateral expansion of an existing non-municipal solid waste disposal facility wants to site within a five-mile radius of an airport runway end. The last location restriction applicable to existing facilities is the unstable area restriction. The Agency believes that 18 months is sufficient time for a owner/operator to demonstrate that the integrity of the facility will not be disrupted. Furthermore, the Agency does not believe that capacity concerns apply to the types of facilities that may potentially become subject to today's proposal.

With the effective date 18 months after the date of promulgation, existing non-municipal solid waste disposal facilities that receive CESQG hazardous waste will need to make the necessary demonstrations prior to this 18-month period. In the event that an existing non-municipal solid waste facility can not make the demonstrations, the existing facility may not receive CESQG hazardous wastes after this 18-month period. If the existing non-municipal solid waste disposal facility fails to make the necessary demonstrations within 18 months and thereafter stops receiving CESQG hazardous waste, it can continue to stay open and operate; however, it must comply with the existing standards in §§257.1 - 257.4 vs. the requirements being proposed today under §257.5.

3. Specific Ground-Water Monitoring and Corrective Action

Requirements

The requirements in §§257.5-2.1 - 257.5-2.8 will establish ground-water monitoring and corrective action requirements for any non-municipal solid waste disposal facility that receives CESQG hazardous wastes. Section 257.5-2 establishes the criteria for determining an acceptable ground-water monitoring system, the procedures for sampling and analyzing ground-water samples, the steps and factors to be used in proceeding from an initial detection monitoring phase, up to, and including corrective action for clean-up of contaminated ground water.

The ground-water monitoring and corrective action requirements being proposed today for non-municipal solid waste disposal facilities that receive CESQG hazardous wastes are based on the ground-water monitoring and corrective action requirements that were promulgated under Part 258 for municipal solid waste landfills. As such the areas of flexibility that exist within the MSWLF Criteria will also apply to non-municipal solid waste disposal facilities that receive CESQG hazardous waste. A detailed discussion of the MSWLF Criteria regarding ground-water monitoring and corrective action requirements can be found at 56 FR 51061 - 51093 and has been made part of this rulemaking record.

Today's proposal is substantively identical to the Part 258 MSWLF Criteria. The two areas of difference concern when the ground-water and corrective action requirements become effective and the time period during which ground-water monitoring must be conducted after the active life of the facility. A summary of the

applicability of the ground-water monitoring and corrective action requirements and each provision is presented below.

The Agency has two reasons for adopting the ground-water monitoring and corrective action provisions from the MSWLF Criteria. First, the MSWLF Criteria provides sufficient specificity for owners/operators to develop an acceptable ground-water monitoring and corrective action program. Secondly, State solid waste program implementers have expressed strong support for adopting the MSWLF requirements with the flexibility available in the MSWLF Criteria. Defining a ground-water standard with different language and substantially different requirements would unnecessarily complicate and confuse implementation of the ground-water monitoring requirements. The flexibility available to approved States will allow the States to tailor requirements to a particular facility subject to today's proposed requirements.

a. Applicability of Ground-water and Corrective Action Requirements

Existing Criteria Under Part 257

Part 257 currently states that any facility or practice shall not contaminate an underground drinking water source beyond the solid waste boundary or beyond an alternative boundary as determined based on a series of factors (40 CFR 257.3-4). No procedural steps or components of the ground-water monitoring program are required. Contamination of an underground drinking water source is defined to be an exceedance of an MCL as currently in Appendix I of Part 257 or any additional increase in concentration for a constituent that has a concentration already in

exceedance of its MCL. No procedural requirements are specified for corrective action.

MSWLF Criteria Under Part 258 (Subpart E)

The Criteria establish ground-water monitoring and corrective action requirements for MSWLFs that receive only household wastes or household waste together with other types of wastes, including industrial and CESQG wastes. Existing MSWLFs are required to have ground-water monitoring in place 3 to 5 years after the date of promulgation of the MSWLF Criteria based on proximity to the nearest drinking water intake. The Director of an approved State has the discretion to establish an alternative schedule for when existing MSWLFs must have ground-water monitoring in place. The ground-water monitoring requirements for MSWLFs must be conducted through the active life plus post-closure which is 30 years. The Director of an approved State can reduce the length of the post-closure-care period. The MSWLF Criteria also allow the Director of an approved State program to suspend the ground-water monitoring requirements if the owner/operator can demonstrate that there is no potential for migration of hazardous constituents from the unit to the uppermost aquifer during the active life. Hazardous constituents can be found in Appendix VIII to Part 261.

Today's Proposed Language Regarding Applicability of the Ground-Water Monitoring and Corrective Action Requirements

Today's proposal establishes ground-water monitoring and corrective action requirements (discussed separately below) for non-municipal solid waste disposal facilities that receive CESQG

hazardous wastes. Existing non-municipal solid waste disposal facilities subject to this rule must be in compliance with the ground-water monitoring requirements within 2 years after the date of promulgation of this rule. The Agency is proposing a shorter effective date for today's proposal than for the MSWLF Criteria because these ground-water requirements can be phased-in over a much shorter time frame.

The MSWLF Criteria were phased in over a three to five year period based on a lack of qualified well drillers. The Agency has decided on a two year effective date for a variety of reasons. First, 24 States prohibit hazardous waste from being managed in a construction/demolition waste facility (see Chapter 4 of the EPA reference Construction and Demolition Waste Landfills). Construction and demolition waste disposal facilities in these 24 States will not be impacted because they, under State law, cannot receive hazardous waste. These 24 States account for 1060 of the approximate total of 1900 construction and demolition waste landfills. Further, 8 States require ground-water monitoring and corrective action that is similar to Part 258. These 8 States account for an additional 111 construction and demolition facilities. Therefore, a total of 1,171 construction and demolition waste facilities in 32 States will not be affected by this proposal. A total of 718 construction and demolition waste landfills in 17 States (New Hampshire has no construction and demolition landfills) will be affected after this proposal is finalized. Some States from the remaining 17 States have existing

State regulations that allow them to impose ground-water monitoring requirements on a case-by-case basis. There are a total of 5 States that may impose ground-water monitoring requirements at their construction and demolition waste landfills (a total of 84 construction and demolition landfills exist in these 5 States). If only 718 construction and demolition waste owners/operators may have to have ground-water monitoring wells installed, the Agency believes that there are a sufficient number of firms that are qualified to install wells within 2 years.

The Agency is concerned that some States (3 States have a total of 491 construction and demolition waste landfills out of the 718 total that may be affected) may have difficulty in ensuring that all existing non-municipal solid waste disposal facilities that may receive CESQG waste have ground-water monitoring in place within 2 years and has allowed a one-year extension for an approved State. In an approved State, the Director can establish an alternative schedule that allows 50% of existing non-municipal solid waste disposal facilities to be in compliance within 2 years and all land-based non-municipal solid waste facilities that receive CESQG waste to be in compliance with the ground-water monitoring requirements within 3 years. Similar to the MSWLF Criteria, today's proposal list a series of factors that the Director of an approved State should consider in establishing an alternative schedule.

Today's proposal establishes that the ground-water monitoring program must be conducted through the active life of the facility

plus 30 years. Today's proposal does not contain provisions beyond the statutory minimum components and, therefore, no closure or post-closure care standards are being proposed. The Agency believes, however, that ground-water contamination resulting from the operation of a facility may not appear until after the active life of the facility. The Agency is therefore concerned that ground-water monitoring be conducted for some period of time after the active life of the facility. As such, today's proposal establishes the requirement that ground-water monitoring be conducted for 30 years after the active life. The term active life has also been changed from the definition in the MSWLF Criteria. Today's proposal defines active life to be the period of operation beginning with the initial receipt of solid waste and ending at the final receipt of solid waste. In the MSWLF Criteria the term active life was defined to mean the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities in accordance with §258.60 (i.e., closure and post-closure care activities). The change in the definition of the term active life was necessary to reflect the fact that today's proposal does not contain closure or post-closure care requirements.

The Agency selected the 30 year continuance of ground-water monitoring after the final receipt of waste because 30 years is consistent with the period of time that ground-water monitoring is done after the final receipt of waste at MSWLFs. Following the approach that was selected for MSWLFs, the Agency has allowed the

Director of an approved State to decrease or increase the 30 year period of time that ground-water monitoring must be done after the final receipt of waste. Any reduction in the period of time may be granted only after a demonstration by the owner/operator that a shorter period of time is sufficient to protect human health and the environment and the Director of an approved State approves such a demonstration.

The Agency requests comments on the 2-year effective date and the 30-year period of time after the active life that ground-water monitoring must be conducted. Commentors should submit data that supports a shorter or longer effective date and data concerning the necessity of the 30-year ground-water monitoring period.

The flexibility that an approved State/Tribal Director has in suspending the ground-water monitoring requirements for MSWLFs has been provided for non-municipal solid waste disposal facilities that receive CESQG hazardous waste in today's proposal. The provision is proposed for the same reason that it was finalized in the MSWLF Criteria. The Agency believes that certain hydrogeologic settings may preclude the migration of hazardous constituents from the non-municipal solid waste disposal facility to the ground-water. This provision is in the applicability section of today's ground-water monitoring requirements.

The Agency is also proposing to provide to approved States the flexibility to determine alternative ground-water monitoring requirements for small, dry non-municipal solid waste disposal facilities that receive CESQG waste. The Agency had previously

issued an exemption to small, dry municipal solid waste landfills from some of the requirements in the MSWLF Criteria. (See 56 FR 50978, October 9, 1991). Although the D.C. Circuit vacated this exemption in the Sierra Club v. EPA opinion, 992 f.2d at 345, the Court left it to the Agency's discretion to allow for alternative types of ground-water monitoring based upon factors such as size, location, and climate. Concurrent with this proposal, the Agency is proposing that approved States be allowed to determine alternative ground-water monitoring requirements for small, dry MSWLFs. The Agency sees no reason to limit this flexibility to MSWLFs and, therefore, is proposing that approved States may allow alternative monitoring requirements for small, dry non-municipal solid waste disposal facilities that are receiving CESQG waste if the facilities meet the definition of small and dry proposed in §257.5-2.1(i). Additional information concerning the alternative ground-water monitoring requirements for MSWLFs will be published soon in a FR notice.

In order to be considered small, the non-municipal solid waste disposal facility must dispose of less than 20 tons of non-municipal waste daily. The 20 tons per day is proposed in order to be consistent with the small landfill exemption under the municipal solid waste landfill Criteria. However, the Agency recognizes that the size distribution, potential risks, practical capability, and other factors differ for these facilities. The Agency is accepting comments on whether this number should be different for non-municipal solid waste facilities.

b. Overall Performance of the Ground-Water Monitoring System

Existing Criteria in Part 257

The existing Criteria in Part 257 do not specify any particular technical components of the monitoring system.

MSWLF Criteria Under Part 258 (Section 258.51)

The MSWLF Criteria states that the ground-water monitoring system must consist of a sufficient number of wells at appropriate locations and depths to yield ground-water samples that represent background quality and the quality of the ground water passing the relevant point of compliance. The Criteria contain requirements pertaining to the casing of the monitoring wells. The Criteria also allow flexibility in that the Director of an Approved Sate program may allow for an alternative ground-water monitoring boundary (point of compliance) as opposed to the waste management boundary and for multi-unit ground-water monitoring.

Today's Proposed Language Regarding Ground-Water Monitoring Systems

The level of specificity concerning the ground-water monitoring system requirements in the Part 258 Criteria are incorporated into today's proposal to give affected owners/operators the requirements to develop an acceptable ground-water monitoring program. Today's proposal contains the same performance language in the MSWLF Criteria and, as such, will provide owners and operators a performance-based approach to establishment of a monitoring system that will ensure detection of contamination.

Today's proposal continues to allow State Directors the

discretion to establish an alternative monitoring boundary and multi-unit monitoring. The establishment of an alternative boundary provides flexibility to owners/operators and in some cases can serve to reduce corrective action costs by allowing the owner/operator the advantage of a limited dilution and attenuation zone. The establishment of multi-unit monitoring allows for local conditions to be taken into account where individual monitoring systems cannot be established.

c. Ground-Water Sampling and Analysis Requirements

Existing Requirements in Part 257

The existing Criteria in Part 257 do not specify any sampling or analysis procedures.

MSWLF Criteria Under Part 258 (Section 258.53)

The MSWLF Criteria provide procedures for sampling monitoring wells and methods of statistical analysis designed to ensure consistent monitoring results and accurate representation of ground-water quality.

Today's Proposed Language Regarding Sampling and Analysis

Today's proposal contains the same sampling and analysis procedures that are in the MSWLF Criteria. The Agency believes that the sampling and analysis procedures in the MSWLF Criteria are necessary for today's proposal. The sampling and analysis requirements ensure accurate ground-water monitoring results and allow for an accurate representation of both the background ground-water quality and the quality of ground water at the monitoring wells placed downgradient from the facility. Owners/operators need

to ensure that consistent sampling and analysis procedures are in place in order to determine if a statistically significant increase in the level of a constituent has occurred indicating the possibility of ground-water contamination.

In the promulgated Criteria for municipal solid waste landfills, the Agency required that ground-water samples not be field-filtered prior to laboratory analysis. (See §258.53(b)). The preamble discussion for this requirement can be found at 56 FR 51074, October 9, 1991. The Agency has been actively working on the issue of sample filtration due to concerns expressed by some members of the scientific community. The Agency expects to issue, in the near future, a proposal addressing additional flexibility on this issue. This proposal would include any potential revision to the prohibition on field filtering as specified in proposed section 257.5-2.3. Thus, any rule language change to the Part 258 Criteria on this issue will be addressed in the final rule language for non-municipal solid waste facilities that receive CESQG wastes.

d. Detection Monitoring Program

Existing Requirements in Part 257

The existing Criteria in Part 257 do not specify any phases of the ground-water monitoring program.

MSWLF Criteria Under Part 258 (Section 258.54)

The MSWLF Criteria establish an initial phase of ground-water monitoring called detection monitoring. The purpose of detection monitoring is to obtain an early warning that contamination is possibly occurring prior to doing an assessment of the situation.

The MSWLF Criteria establish, that as a first step, background concentrations and semi-annual monitoring for a set of detection monitoring indicator parameters be performed. These indicator parameters include 47 volatile organic compounds and 15 metals. The Director of an approved State may delete any of these indicator parameters if it can be shown that the parameter is not reasonably expected to be in the waste or derived from the waste in the unit. This flexibility allows an approved State to potentially waive the organic constituents (some or all) and some of the metal constituents for a non-municipal solid waste disposal facility that receives CESQG wastes if the State believes that those parameters are not expected to be in the waste. Furthermore, the Director of an approved State can establish an alternative list of parameters (i.e., geochemical parameters) for some or all of the metals. The Director of an approved State program can also specify an alternative frequency for repeat ground-water monitoring during the detection monitoring phase.

Today's Proposed Language Regarding Detection Monitoring Requirements

Today's proposal establishes the same series of steps for ground-water monitoring. The Agency believes that monitoring for a limited set of parameters and determining if there is a statistically significant increase for any of these parameters is an essential first step in evaluating the possibility of a release from a non-municipal solid waste disposal facility that receives CESQG wastes. Today's proposed detection monitoring program

contains the same areas of flexibility that exist within the MSWLF Criteria. This flexibility can be used by the Director of an approved State to delete any parameter from Appendix I (Appendix I of Part 258) where the Director believes that the constituent is not expected to be in or derived from the waste in the unit. Furthermore, the Director of an approved State can establish an alternative list of inorganic indicator parameters for the metals in Appendix I of Part 258. Also, today's proposal allows the Director of an approved State to allow for annual ground-water monitoring vs. semiannual based on a series of factors spelled-out in the proposal.

e. Assessment Monitoring Program

Existing Requirements in Part 257

The existing Criteria in Part 257 do not specify any phases of the ground-water monitoring program.

MSWLF Criteria Under Part 258 (Section 258.55)

The MSWLF Criteria establish a secondary phase of ground-water monitoring called assessment monitoring. Assessment monitoring is designed to determine the extent of any suspected ground-water contamination that has been detected during detection monitoring. Assessment monitoring includes a more complete sampling program designed to capture constituents from Appendix II that were not previously monitored for in detection monitoring. Assessment monitoring also includes the establishment of ground-water protection standards. The ground-water protection standard is established for Appendix II constituents that have been shown to

have a statistically significant increase in their concentration levels. The ground-water protection standard represents the acceptable constituent concentration that remedies are to achieve and are based on health-based concerns.

Assessment monitoring has the same areas of flexibility that exist with detection monitoring. The Director of an approved State may modify the list of constituents (Appendix II) that are monitored for during assessment monitoring, the frequency of monitoring and the number of ground-water monitoring wells that are sampled for during assessment monitoring. The Director of an approved State program may also approve an alternative ground-water protection standard.

Today's Proposed Language Regarding Assessment Monitoring Requirements

Today's proposal establishes the same assessment monitoring program as in the MSWLF Criteria. The assessment monitoring program is essential in that an owner/operator must determine what constituents have entered the ground water and understand the extent of the contaminated plume to develop an efficient and effective corrective action program. The purpose of assessment monitoring is to evaluate, rather than detect, contamination. The Agency believes that a second phase of monitoring is essential for evaluating the nature and extent of contamination. The Agency also believes that the flexibility that exists in the MSWLF Criteria is sufficient to deal with the types of non-municipal facilities that receive CESQG hazardous waste and has, therefore, retained all of

the flexibility in today's proposal.

f. Corrective Action Program

Existing Requirements in Part 257

The existing Criteria in Part 257 do not specify any corrective action requirements.

MSWLF Criteria Under Part 258 (Sections 258.56 - 258.58)

The MSWLF Criteria establish a third and final phase of monitoring called corrective action. Corrective action is designed to evaluate, select an appropriate remedy, and lastly, implement the corrective action remedy that was selected. The first step in the corrective action program includes an evaluation of the effectiveness of any potential remedy. The next step includes a selection of a remedy based on a series of factors that are specified in the MSWLF Criteria. Lastly, there is the implementation of the selected remedy. The selected remedy must be protective of human health and the environment and reduce the concentration of constituents in the ground-water back to acceptable health-based levels. After reducing the levels in the ground-water to an acceptable level over a three year period, implementation of the corrective measure is considered complete. As with detection and assessment monitoring, areas of flexibility exist within the corrective action program. Owners/operators are allowed to select an alternative corrective action remedy if the first remedy selected does not achieve compliance with the health-based standards. Furthermore, the Director of an approved State may select an alternative to the three year period of time before

the corrective measure is considered complete.

Today's Proposed Language Regarding Corrective Action Program

Today's proposal establishes the same corrective action steps as in the MSWLF Criteria. The steps that have been proposed today are those that are necessary for a successful corrective action program. Today's proposal allows the owner/operator to successfully remediate a ground-water contamination problem in a swift manner yet provides flexibility for selecting and implementing the corrective remedy. The proposed language contains performance objectives that must be considered in the evaluation, selection, and implementation of a remedy. The Agency also believes that the flexibility that exists in the MSWLF Criteria is sufficient to deal with the types of non-municipal facilities that receive CESQG hazardous waste and has, therefore, retained all of the flexibility in today's proposal.

4. Recordkeeping requirements

Similar to the recordkeeping requirement contained in the MSWLF Criteria, today's proposal requires that owners/operators of non-municipal solid waste disposal facilities that receive CESQG waste maintain a historical record of the facility. EPA is proposing this requirement to ensure the availability of basic information that will demonstrate compliance with the remainder of today's proposed requirements. Owners/operators would be required to maintain location restriction demonstrations and ground-water monitoring demonstrations, certifications, findings, reports, test results and analytical data in today's proposed operating record.

The goal of today's proposal is to have the owner/operator maintain such demonstrations in a single location that is easily accessible. The Director of an approved State has the flexibility to establish alternative locations for recordkeeping and alternative schedules for recordkeeping and notification requirements.

F. Other Issues Relating to Today's Proposal

1. Owner/Operator Responsibility and Flexibility in Approved States

The regulatory structure of the Part 258 MSWLF Criteria is based on an owner/operator achieving compliance through self-implementation with the various requirements while allowing approved States the flexibility to consider local conditions in setting appropriate alternative standards that still achieve compliance with the basic goal of the Part 258 Criteria. This flexibility that exists for approved States under Part 258 has been retained in today's proposal and can be used by approved States in determining facility specific requirements. Individual areas of flexibility have been discussed in the previous section detailing today's ground-water monitoring and corrective action requirements.

Owners/operators, due to the self-implementing nature of this proposal, would be required to comply with the promulgated standards, as of the appropriate effective date, regardless of the status of the States approval determination. If an owner/operator is located in a State that has not been approved under Subtitle D, then the owner/operator would have to comply with the promulgated standards, without the benefit of the flexibility allowed to be

granted by the Director of an approved State. Owners/operators of non-municipal solid waste disposal facilities located in approved States, that become subject to today's proposed requirements when finalized, may be subject to alternate requirements based on the approved State standards.

2. CESQG's Responsibilities Relating to the Revisions in Section 261.5, Paragraphs (f) and (g)

As stated previously, the Agency is proposing revisions to Section 261.5, paragraphs (f)(3) and (g)(3) clarifying acceptable Subtitle D disposal options for CESQGs. Today's proposal would require that CESQG waste go to either a hazardous waste facility, a municipal solid waste landfill subject to Part 258, a non-municipal solid waste disposal facility that is subject to the requirements being proposed in Section 257.5, or a solid waste management facility that is permitted, licensed, or registered by a State to manage municipal or non-municipal waste. The Agency believes that it is appropriate to establish facility standards for non-municipal solid waste disposal facilities that receive CESQG waste while at the same time specifying acceptable disposal options that are available to CESQGs in order to ensure that their waste is properly managed. The Agency believes that proposing both regulatory changes together clarifies the obligations of both CESQGs and owners/operators of disposal facilities to ensure proper management of CESQG hazardous waste and will lead to better management of these wastes. By regulating the generators, as well as the receiving facilities, today's proposal also helps to fulfill

the statutory mandate that only facilities meeting the location, ground-water monitoring, and corrective action requirements (i.e., the Part 257.5 standards) "may receive" CESQG waste. (See RCRA Section 4010(c)).

The Agency does not believe that today's proposed change to Section 261.5 will result in a larger obligation for any CESQG. The Agency knows that the majority of CESQG waste is managed off-site. For the CESQG waste managed off-site, recycling is the predominant form of management. The Agency assumes that for the small amount of CESQG waste that is currently being sent off-site to a MSWLF, no additional obligation would be imposed on a CESQG by today's proposal because the MSWLF where the CESQG waste is being sent is subject to Part 258. For construction and demolition waste generators who wish to send their CESQG waste to a non-municipal solid waste disposal facility subject to the proposed requirements in Section 257.5, the only additional obligation would be that associated with a phone call to the appropriate State Agency to determine if the non-municipal solid waste disposal facility is subject to the Part 257.5 standards and thus could legally accept CESQG waste. Furthermore, as stated previously, some States require that disposal of CESQG waste occur only at permitted Subtitle C facilities and CESQGs in these States would not face any burden as an result of this rule due to the more stringent State standard that the CESQG is currently subject to. Today's proposal does not change the generator's obligation to first determine if the waste is hazardous and, secondly, to determine if the waste is

below the quantity levels established for a CESQG. If a generator is a CESQG, today's proposal continues an existing obligation on the generator to ensure that acceptable management of the CESQG hazardous waste occurs.

A CESQG may elect to screen-out or segregate out the CESQG hazardous wastes from his non-hazardous waste and then manage the CESQG hazardous portion in a facility meeting the requirements of proposed §261.5(f)(3) and (g)(3). The remaining non-hazardous waste is not subject to today's proposed Section 257.5; however, it must be managed in a facility that complies with either the Part 258 Criteria or the existing Criteria in Part 257.1- 257.4.

On the other hand, a CESQG may elect not to screen-out or segregate the CESQG hazardous waste preferring instead to leave it mixed with the mass of non-hazardous waste. If the CESQG elects this option, the entire mass of material must be managed in a Subtitle C facility or a Subtitle D facility that is subject to Part 258 or the proposed requirements in Section 257.5.

VI. Implementation and Enforcement

A. *State Activities Under Subtitle C*

1. Hazardous and Solid Waste Amendments to RCRA

Today's proposal changes the existing requirements in Section 261.5, paragraphs (f)(3) and (g)(3) pertaining to the special requirements for CESQGs. Under Section 3006 of RCRA, EPA may authorize qualified States to administer and enforce the RCRA program within the State. (See 40 CFR Part 271 for the standards and requirements for authorization). Following authorization, EPA

retains enforcement authority under Sections 3008, 7003 and 3013 of RCRA, although authorized States have primary enforcement responsibilities.

Prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA), a State with final authorization administered its hazardous waste program entirely in lieu of EPA administering the Federal program in that State. The Federal requirements no longer applied in the authorized State, and EPA could not issue permits for any facility which the State was authorized to permit. When, new more stringent, Federal requirements were promulgated or enacted, the State was obliged to enact equivalent authority within specified time frames. New Federal requirements did not take effect in an authorized State until the State adopted the requirements as State law.

In contrast, under Section 3006(g) of RCRA, 42 U.S.C. 6926(g), new requirements and prohibitions imposed by HSWA take effect in authorized States at the same time they take effect in unauthorized States. EPA is directed to carry out these requirements and prohibitions in previously authorized States, including the issuance of permits and primary enforcement, until the State is granted HSWA authorization to do so. While States must still adopt HSWA-related provisions as State law to retain final authorization, the HSWA provisions apply in authorized States in the interim.

The amendments to §261.5, paragraphs (f)(3) and (g)(3), are proposed pursuant to Section 3001(d)(4) of RCRA, which is a provision added by HSWA. Therefore, the Agency is proposing to add

the requirement to Table 1 in §271.1(j) which identifies the Federal program requirements that are promulgated pursuant to HSWA and that take effect in all States, regardless of their authorization status. States may apply for either interim or final authorization for the HSWA provisions identified in Table 1, as discussed in the following section of the preamble.

2. Effect on State Authorizations

As noted above, EPA will implement today's rule in authorized States until they modify their programs to adopt the Section 261.5 rule change and the modification is approved by EPA. Because the rule is proposed pursuant to HSWA, a State submitting a program modification may apply to receive either interim or final authorization under Section 3006(g)(2) or 3006(b), respectively, on the basis of requirements that are substantially equivalent or equivalent to EPA's. The procedures and schedule for State program modifications for either interim or final authorization are described in 40 CFR 271.21. It should be noted that all HSWA interim authorizations will expire January 1, 2003. (See §271.24(c) and 57 FR 60129 (December 18, 1992)).

40 CFR 271.21(e)(2) provides that States that have final authorization must modify their programs to reflect Federal program changes, and must subsequently submit the modifications to EPA for approval. The deadline by which the State must submit its application for approval for this proposed regulation will be determined by the date of promulgation of the final rule in accordance with §271.21(e). These deadlines can be extended in

certain cases (40 CFR 271.21(e)(3)). Once EPA approves the modification, the State requirements become Subtitle C RCRA requirements.

EPA is aware that a number of States have more stringent requirements for the disposal of waste generated by CESQGs. In particular, some States do not allow the disposal of this waste into any Subtitle D landfill. For these States, today's proposed rule would clearly be considered less stringent than the applicable provisions in these States' authorized programs. Section 3009 of RCRA allows States to adopt or retain provisions that are more stringent than the Federal provisions. Therefore, regarding today's proposed rule, EPA believes that States which do not allow the disposal of wastes generated by CESQGs into Subtitle D landfills under their existing authorized Subtitle C program would not be required to revise their programs and obtain authorization for today's proposed rule. Of course this situation would only apply in those cases where a State is not changing its regulatory language. Further, the authorized State requirements in such States, since they would be more stringent than today's proposed rule, would continue to apply in that State, even though today's rule is proposed pursuant to HSWA authority.

For a State to not be required to submit an authorization revision application for today's proposed rule, the State must have provisions that are authorized by EPA and that are more stringent than all the provisions in the new Federal rule. For those States that would not be required to revise their authorization, EPA

strongly encourages the State to inform their EPA Regional Office by letter that for this proposed rule, it is not required to submit a revision application pursuant to 40 CFR 271.21(e), because in accordance with RCRA Section 3009 the authorized State provision currently in effect is more stringent than the requirement contained in today's proposed rule. Otherwise, EPA would conclude that a revised authorization application is required.

Other States with authorized RCRA programs may already have adopted requirements under State law similar to those in today's proposal. These State regulations have not been assessed against the Federal regulations being proposed today to determine whether they meet the tests for authorization. Thus, a State is not authorized to implement these requirements in lieu of EPA until the State program modification is approved. Although revisions to 40 CFR 257 and 261 are being proposed, for the purpose of authorization under Subtitle C, only the proposed changes to §261.5 would be assessed against the Federal program. Of course, States with existing standards may continue to administer and enforce their standards as a matter of State law. In implementing the Federal program EPA will work with States under cooperative agreements to minimize duplication of efforts. In many cases EPA will be able to defer to the States in their efforts to implement their programs, rather than take separate actions under Federal authority.

States that submit their official applications for final authorization less than 12 months after the effective date of these

standards are not required to include standards equivalent to these standards in their application. However, the State must modify its program by the deadlines set forth in §271.21(e). States that submit official applications for final authorization 12 months after the effective date of these standards must include standards equivalent to these standards in their applications. 40 CFR 271.3 sets forth the requirements a State must meet when submitting its final authorization application.

B. State Activities Under Subtitle D

States are the lead Agencies in implementing Subtitle D rules. The Agency intends to maintain the State's lead in implementing the Subtitle D program. RCRA requires States to adopt and implement, within 18 months of the promulgation of a final rule, a permit program or other system of prior approval and conditions to ensure that non-municipal solid waste disposal facilities comply with today's standards. EPA is required to determine whether States have developed adequate programs. States will need to review their existing programs to determine where their programs need to be upgraded and to complete program changes, if changes are necessary. The process that the Agency will use in evaluating the adequacy of State programs will be set forth in a separate rulemaking, the State/Tribal Permit Program Determination of Adequacy. For the purpose of determining adequacy and granting approval under Subtitle D, only the proposed technical changes in §257.5 will be evaluated by the Agency. The State will need to meet other procedural and administrative requirements identified in the

State/Tribal Permit Program Determination of Adequacy. The approval process to be used for non-municipal solid waste disposal facilities is the same process that the Agency used for determining the adequacy of State programs for the Municipal Solid Waste Landfill Criteria. In States already approved for the Part 258 MSWLF Criteria, changes required by this rulemaking will constitute a program revision.

The Agency believes that for many approved States, changes required by this rulemaking will affect the technical Criteria only and should warrant limited changes to the approved application. For example, if non-municipal solid waste disposal facilities subject to this rule are already subject to an approved State MSWLF program (i.e., the non-municipal solid waste disposal facilities are currently subject to the Part 258 location restrictions, ground-water monitoring, and corrective action), the State may only be required to submit documentation that the non-municipal solid waste disposal facilities are subject to their approved program. States are encouraged to contact their appropriate EPA Regional office to determine the specifics of the approval process.

In States that have not been approved for the MSWLF Criteria, these revisions can be incorporated into an application for overall program approval of Part 258 and Section 257.5. States that currently restrict CESQG disposal to Subtitle C facilities (and States that may choose to adopt that restriction) or approved States which currently restrict CESQG disposal to Part 258 municipal solid waste landfills will not need to seek further EPA

approval of their Subtitle D program. RCRA Section 4005(c)(1)(B) requires States to adopt and implement permit programs to ensure that facilities which receive CESQG waste will comply with the revised Criteria promulgated under Section 4010(c). However, the Agency sees no need for approved States that already require CESQG waste to be disposed of in either Subtitle C facilities or facilities subject to the Part 258 MSWLF Criteria to adopt and implement a permit program based upon the standards being proposed today.

RCRA Section 7004(b)(1) requires the Administrator and the States to encourage and provide for public participation in the development, revision, implementation, and enforcement of this regulation, and once it is promulgated, the State programs implemented to enforce it. EPA provides for public participation by seeking public comment on this proposal and its decisions on whether State programs are adequate under RCRA Section 4005(c)(1)(c). In developing and implementing permit programs, States must provide for public participation in accordance with the provisions of 40 CFR Part 256, Subpart G.

C. Relationship Between Subtitle C and D

Today's proposal has an effective date of 18 months for the location restrictions with the ground-water monitoring and corrective action requirements becoming effective 2 years after the date of promulgation. The Agency is proposing that the revisions to §261.5(f)(3) and (g)(3) have the same effective date as the proposed changes in §257.5 (i.e., 18 months after the date of

promulgation). Owners/operators of facilities that receive CESQG hazardous waste will be subject to the requirements in Section 257.5. CESQGs will be subject to the proposed requirements in Section 261.5. Today's proposed 18-month effective date coincides with the period of time that States have, under Subtitle D, to adopt and implement a program to ensure that owners/operators are in compliance with the proposed changes to Section 257.5.

D. Enforcement

1. Hazardous Waste Enforcement

Today's proposal amends Section 261.5, paragraphs (f)(3) and (g)(3), and as such any CESQG who mismanages their CESQG hazardous waste on-site or delivers the CESQG hazardous waste to an inappropriate Subtitle D facility becomes subject to the full set of Subtitle C hazardous waste regulations.

2. Subtitle D Enforcement

States that adopt programs meeting the standards in Section 257.5 may enforce them in accordance with State authorities. Under RCRA Section 7002, citizens may seek enforcement of the standards in section 257.5 independent of any State enforcement program. Section 7002 provides that any person may commence a civil action on his own behalf against any person who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order that has become effective pursuant to RCRA. Once the self-implementing provisions in Section 257.5 become effective, they constitute the basis for citizen enforcement. Federal enforcement by EPA can be done only in States

that EPA has determined have inadequate programs. EPA has no enforcement authorities under Section 4005 in approved States. EPA does, however, retain enforcement authority under Section 7003 to protect against imminent and substantial endangerment to health and the environment in all States. A more complete discussion of the Subtitle D enforcement issue can be found in the MSWLF Criteria (56 FR 50994- 50995).

VII. Executive Order No. 12866 - Regulatory Impacts Analysis

Under Executive Order No. 12866, EPA must determine whether a new regulation is significant. A significant regulatory action is defined as an action likely to result in a rule that may:

1. Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities;
2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in Executive Order 12866.

A. Cost Impacts

The Agency has estimated the total annual costs to the economy resulting from today's rule and because of the estimated annual costs has determined that today's rule is not a significant regulatory action.

The Agency estimates that of the total 1900 construction and demolition waste facilities, 718 would be potentially affected. The national annual low-end cost is estimated to be $10.0M. This low-end cost assumes that all CESQG hazardous waste is separated at the point of generation for the construction industry. It assumes there will be no CESQG waste generated by the demolition industry. The CESQG portion is disposed of at hazardous waste facilities while the remaining non-hazardous waste portion is disposed of in non-upgraded construction and demolition waste facilities. The costs include the separation costs at the point of generation, costs of transporting/disposing the hazardous portion at a Subtitle C facility, and the costs of screening incoming wastes at all of the construction and demolition waste facilities. There are hundreds of thousands of construction and demolition sites active in the U.S. each year. EPA assumes that demolition rubble will not be CESQG waste and affected by this rule. Therefore, separation costs are likely to occur only at construction sites and the 3,742 industrial facilities with on-site non-hazardous waste landfills. The Agency requests comment on the labor and capital necessary to conduct separation at these facilities. The Agency also requests comment on how frequently CESQG hazardous waste is currently being separated at construction sites at these industrial facilities. In

addition, the Agency requests comment on the transportation costs to bring small amounts of hazardous wastes from construction sites to a treatment and disposal facility.

The national annual high-end cost is estimated to be $47.0M. This high-end cost assumes that generators will not separate out CESQG waste from 30% of construction and demolition wastes and that this fraction will be sent to upgraded construction and demolition waste facilities that elect to comply with today's proposed requirements. Under this scenario, the Agency assumed that most medium to large size construction and demolition waste facilities (162) will upgrade. The costs include separation costs at the point of generation for waste not going to an upgraded landfill, costs of screening incoming wastes at 80% of the affected construction and demolition waste facilities which do not upgrade and costs for 20% of the affected construction and demolition wastes facilities to upgrade. Upgrade costs include ground-water monitoring and corrective action.

This rule allows States and individual owners/operators to choose among compliance options. States and owners/operators may determine that facility screening is a successful method to prevent the receipt of CESQG hazardous wastes. Other States and owners/operators may determine that upgrading is necessary or there is a market for upgraded landfill capacity for generators and, as such, some facilities may upgrade. If more States and owners/operators elect to use screening then the estimated cost of this proposal would be closer to the lower-bound estimate.

The full analysis that was used to determine the range of costs for this rulemaking is presented in the Cost and Economic Impact Analysis of the CESQG Rule.

B. Benefits

The Agency believes that the requirements being proposed for non-municipal solid waste disposal facilities will result in more Subtitle D facilities providing protection against ground-water contamination from the disposal of small amounts of hazardous waste. Today's action will force some non-municipal solid waste disposal facilities to either upgrade and install ground-water monitoring and perform corrective action if contamination is detected, or stop accepting hazardous waste. Today's action will also cause some generators of CESQG wastes to separate out these small quantities of hazardous waste and send them to more heavily regulated facilities (i.e., Subtitle C facilities or MSWLFs). These are the direct benefits of today's proposal, however, additional benefits will be realized due to this proposal.

Today's proposal will ensure that any ground-water contamination that is occurring at facilities that continue to accept small quantities of hazardous waste will be quickly detected and corrective action can be initiated sooner.

To the extent that existing non-municipal facilities that receive CESQG hazardous waste upgrade their facilities to include ground-water monitoring and to the extent that new facilities will be sited in acceptable areas with ground-water monitoring, public confidence in these types of facilities will be increased. Having

public confidence increased would result in these types of facilities being easier to site in the future.

VIII. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980 requires Federal agencies to consider "small entities" throughout the regulatory process. Section 603 of the RFA requires an initial screening analysis to be performed to determine whether small entities will be adversely affected by the regulation. If affected small entities are identified, regulatory alternatives must be considered to mitigate the potential impacts. The Agency believes that it is unlikely that any industry will face significant impacts under the low-end scenario.

To help mitigate these impacts, EPA is proposing the minimum regulatory requirements allowed under the statute (which are still protective of human health and the environment). As a result, EPA believes that the lower-bound scenario, where demolition firms separate-out their CESQG waste and continue to send the non-hazardous portion to landfills not subject to the revised Part 257 standards, is the most likely scenario and that small entities will not be significantly impacted.

The Agency's full analysis of the impacts on small entities can be found in the Cost and Economic Impact Analysis of the CESQG Rule.

IX. Paperwork Reduction Act

The information collection requirements in today's proposed rule have been submitted for approval to the Office of Management

and Budget (OMB) under the Paperwork reduction Act, 44 U.S.C. 3501 et seq. Submit comments on these requirements to the Office of Information and Regulatory Affairs, OMB, 726 Jackson Place, NW, Washington, D.C. 20503, marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB comments or public comments on the information collection requirements.

X. Environmental Justice Issues

Executive Order 12898 requires Federal Agencies, to the greatest extent practicable, to identify and address disproportionately high adverse human health or environmental effects of its activities on minority and low-income populations.

The Agency does not currently have data on the demographics of populations surrounding the facilities affected by today's proposal (i.e., construction and demolition landfills). The Agency does not believe, however, that today's proposed rule will adversely impact minority or low-income populations. The facilities affected by the proposal currently pose limited risk to surrounding populations (see section V.B.1.c of today's preamble). In addition, today's proposal would further reduce this risk by requiring the affected facilities to either stop accepting CESQG hazardous waste or to begin ground-water monitoring and, if applicable, corrective action.

Thus, today's proposal would further reduce the already low risk for populations surrounding construction and demolition landfills, regardless of the population's ethnicity or income level. Minority and low-income populations would not be adversely

affected.

XI. Unfunded Mandates Reform Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (the Act), P.L. 104-4, which was signed into law on March 22, 1995, EPA generally must prepare a written statement for rules with Federal mandates that may result in estimated costs to State, local, and tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year. When such a statement is required for EPA rules, under section 205 of the Act EPA must identify and consider alternatives, including the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. EPA must select that alternative, unless the Administrator explains in the final rule why it was not selected or it is inconsistent with law. Before EPA establishes regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must develop under section 203 of the Act a small government agency plan. The plan must provide for notifying potentially affected small governments, giving them meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising them on compliance with the regulatory requirements.

EPA has determined that the proposal discussed in this notice does not include a Federal mandate that may result in estimated costs of $100 million or more to State, local, or tribal governments in the aggregate, or to the private sector, in any one

year. EPA has estimated that the annual costs of the proposed rule on generators of CESQG wastes and those entities which own or operate CESQG disposal facilities, including the private sector, States, local or tribal governments, range from $10.0M to $47.0M.

In addition to compliance costs for those who own or operate CESQG facilities, States will have a cost of developing permit programs or other systems of prior approval to ensure that CESQG facilities comply with the proposal, once it is promulgated. Adoption and implementation of such State permit programs is required under RCRA section 4005(c)(1)(B). 42 USC 6945(c)(1)(B). Forty-two states already have adopted and implemented permit programs to ensure compliance with the MSWLF rule (40 CFR Part 258) which EPA has approved as "adequate." The Agency has estimated that the costs for a state to develop an application for approval of an MSWLF permit program to be approximately $15,000. Because these state permit programs already contain ground water monitoring, corrective action, and location standards for MSWLFs that are quite similar to those in this proposal, EPA believes that the additional costs for states to revise their permit programs to reflect the CESQG requirements are not expected to be significant. Also, because of the reduced level of regulatory requirements contained in this CESQG proposal as compared to the MSWLF Part 258 criteria, state costs for preparing applications for approval of a CESQG permit program should be considerably less than that $15,000 figure.

Indian tribes are not required to develop permit programs for

approval by EPA, but the Agency believes tribal governments are authorized to development such permit programs and have them approved by EPA. EPA has estimated that it will cost a tribal government approximately $7,000 to prepare an application for approval of a MSWLF program. Because of the reduced regulatory provisions of the CESQG proposal, EPA expects that the costs which a tribal government might face in developing a permit program for CESQG facilities should be less than $7,000.

EPA is also proposing to revise the requirements for generators of CESQG hazardous waste. These amendments to 40 CFR Part 261.5 (f)(3) and (g)(3) are proposed pursuant to RCRA Section 3001 (d)(4), which is a provision added by HSWA. The 261.5 amendments are also more stringent than current Federal hazardous waste regulations. Subtitle C regulatory changes carried out under HSWA authority become effective in all states at the same time and are implemented by EPA until states revise their programs. States are obligated to revise their hazardous waste programs and seek EPA authorization of these program revisions, unless their programs already incorporate more stringent provisions. The Agency believes approximately 24 states already have more stringent CESQG hazardous waste provisions and would not have to take action because of these regulatory changes. About 26 states would have to revise their hazardous waste programs and seek authorization. States generally incorporate a number of hazardous waste program revisions and seek authorization for them at one time. The Agency estimates the State costs associated with Subtitle C program revision/authorization

activity are approximately $7,320 per state. Since this estimate covers several separate program components at one time, the cost for revisions only to Section 261.5 in the remaining 26 States would be substantially lower.

As to section 203 of the Act, EPA has determined that the requirements being proposed today will not significantly or uniquely affect small governments, including tribal governments. EPA recognizes that small governments may own or operate solid waste disposal facilities that receive CESQG waste. However, EPA currently estimates that the majority of construction and demolition landfills, which are the primary facilities likely to be subject to any final rule, are owned by the private sector. Moreover, EPA is aware that a number of States already require owners/operators of C&D landfills to meet regulatory standards that are similar to those being proposed today. Thus, EPA believes that the proposed rule contains no regulatory requirements that significantly or uniquely affect small governments.

EPA has, however, sought meaningful and timely input from the private sector, states, and small governments on the development of this notice. Prior to issuing this proposed rule, EPA met with members of the private sector as discussed earlier in the preamble. In addition, EPA met twice with an "Industrial D" Steering Committee of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) to discuss the contents of today's proposal. The Agency provided a draft of the proposed rule to the ASTSWMO Steering Committee and incorporated comments that were

received.

Finally, included in this proposal is a provision that would allow certain small CESQG landfills which are located in either arid or remote locations and which service small communities to utilize alternative methods of ground water monitoring. Prior to developing this provision, which is also being proposed in a separate notice applicable to small MSWLF facilities that are in arid or remote locations, EPA held a series of public meetings. These meetings were held in June 1994 in Texas, Utah, Alaska, and Washington, D.C. EPA received comment from a variety of parties, including States and small governments. Through these meetings and publication of this notice, EPA expects that any applicable requirements of section 203 of the Act will have been satisfied prior to promulgating a final rule.

XII. References

1) Screening Survey of Industrial Subtitle D Establishments, Draft Final Report, U.S. EPA, Office of Solid Waste, Prepared by Westat, December 29, 1987.

2) National Small Quantity Hazardous Waste Generator Survey, U.S. EPA, Office of Solid Waste, Prepared by Abt Associates, Inc., February 1985.

3) Damage Cases: Construction and Demolition Waste Landfills, U.S. EPA, Office of Solid Waste, Prepared by ICF, XXXXX 1995.

4) Construction and Demolition Waste Landfills, U.S. EPA, Office of Solid Waste, Prepared by ICF, XXXXX, 1995.

5) List of Industrial Waste Landfills and Construction and Demolition Waste Landfills, U.S. EPA, Office of Solid Waste, Prepared by Eastern Research Group, September 30, 1994.

6) Generation and Management of CESQG Waste, U.S. EPA, Office of Solid Waste, Prepared by ICF, July 1994.

7) Construction Waste and Demolition Debris Recycling... A Primer, The Solid Waste Association of North America (SWANA), October 1993, Publication #: GR-REC 300

8) Solid Waste Disposal Facility Criteria, 56 FR 50977, October 9, 1991

9) Cost and Economic Impact Analysis of the CESQG Rule, Prepared by ICF, May 1995