

# ENVIRONMENTAL PROTECTION AGENCY

## 40 CFR Parts 257, 261, and 271

[FRL-5528-4]

RIN 2050-AE11

### Criteria for Classification of Solid Waste Disposal Facilities and Practices; Identification and Listing of Hazardous Waste; Requirements for Authorization of State Hazardous Waste Programs

**AGENCY:** Environmental Protection Agency.

**ACTION:** Final rule.

**SUMMARY:** The Environmental Protection Agency today is promulgating revisions to the existing criteria for solid waste disposal facilities and practices. These revisions were developed in response to the 1984 Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA). Today's final revisions establish that only those non-municipal non-hazardous waste disposal units that meet specific standards may receive conditionally exempt small quantity generator (CESQG) hazardous wastes. Today's final revisions establish standards pertaining to location restrictions, ground-water monitoring and corrective action.

The EPA is also finalizing revisions to regulations for hazardous wastes generated by CESQGs. Today's final language will clarify acceptable disposal options under Subtitle D of RCRA by specifying that CESQG hazardous waste may be managed at municipal solid waste landfills subject to Part 258 and at nonmunicipal non-hazardous waste disposal units subject to today's revised Criteria.

**EFFECTIVE DATES:** January 1, 1998, except §§ 257.21 through 257.28 which are effective July 1, 1998, and §§ 261.5(f), 261.5(g) and 271.1 which are effective January 1, 1997, but which have a compliance date of January 1, 1998. The information collection requirements contained in §§ 257.24, 257.25, and 257.27 have not been approved by the Office of Management and Budget (OMB) and are not effective until OMB has approved them.

**ADDRESSES:** The public docket for this rulemaking (docket number F-96-NCEF-FFFFF) is located at the U.S. Environmental Protection Agency, Crystal Gateway Building, 1235 Jefferson Davis Highway, First Floor, Arlington, Virginia. The public docket is available for viewing from 9 a.m. to 4 p.m., Monday through Friday, excluding

federal holidays. Appointments may be made by calling (703) 603-9230. Copies cost \$0.15/page.

**FOR FURTHER INFORMATION CONTACT:** For specific information on aspects of the final rule, please contact Paul Cassidy of the Industrial Solid Waste Branch of the Office of Solid Waste at 1-703-308-7281. For a paper copy of the Federal Register notice or for general information, please contact the RCRA Hotline at 1-800-424-9346 or at 1-703-412-9810.

#### SUPPLEMENTARY INFORMATION:

##### Regulated Entities

Entities potentially regulated by this action are owners/operators of non-municipal non-hazardous waste disposal units that may receive conditionally exempt small quantity generator (CESQG) hazardous waste. Regulated categories and entities include:

Category	Examples of regulated entities
Construction and demolition waste disposal firms.	Owners/operators of construction and demolition waste disposal units that may receive CESQG hazardous waste.
Industrial manufacturing plants.	Owners/operators of non-municipal non-hazardous waste disposal units that may receive CESQG hazardous waste.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the type of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your non-municipal non-hazardous waste disposal unit is regulated by this action, you should carefully examine the applicability section of this final rule (i.e., section 257.5). If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

This Federal Register notice will be available in electronic format on the Internet system through the EPA Public Access Server @ [gopher.epa.gov](http://gopher.epa.gov).

#### How to Access the Net

1. Through Gopher: Go to: [gopher.epa.gov](http://gopher.epa.gov). From the main menu, choose "EPA Offices and Regions".

Next, choose "Office of Solid Waste and Emergency Response (OSWER)". Next, choose "Office of Solid Waste". Then, choose "Non-Hazardous Waste—RCRA Subtitle D". Finally, choose "Industrial".

2. Through FTP: Go to: [ftp.epa.gov](http://ftp.epa.gov).

Login: anonymous

Password: Your Internet Address

Files are located in directories/pub/gopher. All OSW files are in directories beginning with "OSW".

3. Through MOSAIC: Go to: <http://www.epa.gov>. Choose the EPA Public Access Gopher. From the main (Gopher) menu, choose "EPA Offices and Regions". Next, choose "Office of Solid Waste and Emergency Response (OSWER)". Next, choose "Office of Solid Waste". Then, choose "Non-Hazardous Waste—RCRA Subtitle D". Finally, choose "Industrial".

4. Through dial-up access: Dial 919-558-0335. Choose EPA Public Access Gopher. From the main (Gopher) menu, choose "EPA Offices and Regions". Next, choose "Office of Solid Waste and Emergency Response (OSWER)". Next, choose "Office of Solid Waste". Then, choose "Non-Hazardous Waste—RCRA Subtitle D". Finally, choose "Industrial".

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## I. Authority

Today's rule is being promulgated 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)—Non-Hazardous Waste Management: Municipal Wastes

As added by the Hazardous and Solid Waste Amendments (HSWA) of 1984, 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.

On October 9, 1991, EPA promulgated revised Criteria for Solid Waste Disposal Facilities accepting household hazardous wastes. Those 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 conditionally exempt small quantity generator (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. Sierra Club Lawsuit

The Sierra Club, on October 21, 1993, filed suit against the EPA in the United States District Court for the District of Columbia, seeking to compel the EPA to promulgate revised Criteria for non-municipal 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. On May 15, 1995, the Administrator signed proposed standards for non-municipal non-hazardous waste disposal units that may receive CESQG hazardous wastes. These proposed standards were published in the Federal Register on June 12, 1995 (see 60 FR 30964).

### C. Summary of Proposed Regulatory Approach

The June 12, 1995 proposal stated that any non-municipal non-hazardous waste disposal unit<sup>1</sup> that meets the proposed requirements may receive CESQG hazardous waste; if such units do not meet the proposed requirements, they may not receive CESQG waste. Sections 257.5 through 257.30 were proposed to address appropriate facility standards for owners/operators of non-municipal non-hazardous waste disposal units that receive CESQG hazardous wastes. The requirements proposed in §§ 257.5 through 257.30 were substantially the same as 40 CFR part 258. The location restrictions were proposed to be effective 18 months after publication of the final rule, while the ground-water monitoring and corrective action requirements were proposed to be effective 24 months after publication of the final rule.

The June 12, 1995 proposal also proposed to amend the existing language of § 261.5 clarifying acceptable Subtitle D management options for CESQGs. The existing language in § 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), a reuse or recycling facility, or a non-hazardous solid waste facility that is permitted, licensed, or registered by a State to manage municipal or

industrial waste. The June 12 proposal proposed to continue to allow CESQG waste to be managed at a hazardous waste facility or at a reuse or recycling facility; however, 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 non-hazardous waste disposal unit that would be subject to the facility standards in §§ 257.5 through 257.30.

### III. Summary of Regulatory Approach of Today's Final Rule

Based on comments received on the proposed regulatory approach, the EPA is today finalizing a rule that is almost identical to the proposed requirements for non-municipal non-hazardous waste disposal units that receive CESQG hazardous wastes. Commentors clearly did not favor imposing additional requirements, beyond those proposed, based on the lack of risks presented by non-municipal non-hazardous waste disposal units that receive CESQG hazardous wastes. Furthermore, commentors were somewhat divided on whether to use the part 258 requirements or general performance standards in writing the requirements. The EPA has elected to use the part 258 requirements.

Elsewhere in today's final rule, and again based on comments that agreed with the EPA's proposed regulatory approach for CESQGs, EPA is finalizing the proposed changes to the special requirements for CESQGs (i.e., § 261.5) to clarify the obligation that the generators of CESQG wastes have to ensure proper management of such wastes. 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.

As previously discussed, today's final rule responds to the statutory language in RCRA section 4010(c). 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 discussed in the proposed rule, the subject of today's final rule—non-municipal non-hazardous waste disposal units that receive CESQG waste—present 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 final rule at this time. In a time of limited resources,

<sup>1</sup> Proposed phrase "Non-municipal solid waste disposal facility" has been replaced in the final rule with the phrase "non-municipal non-hazardous waste disposal unit". See Section VI, A2 of today's preamble for an explanation.

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. However, given the D.C. Circuit's reading of RCRA section 4010(c), *Sierra Club v. EPA*, 992 F.2d 337, 347 (D.C. Cir. 1993), and a schedule established as a result of litigation, the Agency must issue this final rule now. Faced with having to issue this final rule for a class of facilities that do not generally pose risks as high as municipal solid waste landfills, the Agency is finalizing requirements that address only the statutory minimum requirements in an attempt to reduce the economic burden on the regulated community.

A complete discussion of the main issues associated with today's final rule is presented in the next section of today's preamble while a discussion of today's requirements is presented later in today's preamble.

#### IV. Major Issues

##### *A. Non-Municipal Non-Hazardous Waste Disposal Units That May Receive CESQG Hazardous Waste*

The proposed rule was written to provide that only those non-municipal non-hazardous waste disposal units which meet the requirements in §§ 257.5 through 257.30 "may receive" CESQG waste, as required by RCRA section 4010(c). Any non-municipal non-hazardous waste disposal unit that did not meet the proposed requirements may not receive CESQG hazardous wastes. The proposal was written to apply to non-municipal non-hazardous waste disposal units that receive CESQG waste for storage, treatment, or disposal, including such units as surface impoundments, landfills, land application units and waste piles. The regulatory definition of the term "disposal" cover all placement of wastes on the land. See 40 CFR 257.2.

Several commentors addressed the Agency's interpretation of the statutory language "may receive". One commentor supported the Agency's decision to limit the proposed regulatory requirements to only those non-municipal non-hazardous waste disposal units that receive CESQG wastes. Another commentor, however, stated that a closer reading of Section 4010(c) reveals that Congress was not only concerned about modifying the criteria for "facilities that may receive hazardous household wastes or hazardous wastes from small quantity generators \* \* \*" but also for "facilities potentially receiving such wastes." According to the commentor, the "may

receive" clause of the first sentence in Section 4010(c) merely refers to whether a facility may legally receive CESQG waste for disposal. The "potentially receiving such wastes" clause of the third sentence of Section 4010(c) refers to the actual potential for such facilities to receive CESQG wastes. The potential for CESQG waste to be disposed of at many types of industrial D landfills is high even with the proposed prohibition under § 261.5. It is the "potentially receiving" clause that specifically commands the Agency to promulgate provisions for all industrial facilities that could potentially receive CESQG wastes.

EPA disagrees with the commentor's interpretation of the statutory language in RCRA section 4010(c). More specifically, for a number of reasons, the Agency does not believe that the statutory language cited by the commentor evidences congressional intent that the revised criteria being promulgated today should address disposal of solid waste in all industrial disposal facilities. First, EPA believes that the commentor errs by focusing only on the "facilities potentially receiving" language in the last sentence of section 4010(c). If one reviews this language together with the statutory language in RCRA section 4010(a), it is clear that Congress did not intend for the revised criteria being promulgated today to apply to all industrial landfills.

RCRA section 4010(a) required EPA to conduct a study of the then existing guidelines and criteria issued under RCRA sections 1008 and 4004 which were applicable to "solid waste management and disposal facilities, including, but not limited to landfills and surface impoundments." 42 U.S.C. § 6949a(a). This statutory language does indeed suggest that EPA was to study a wide range of solid waste disposal facilities, including industrial landfills. (As the commentor stated, because the information on industrial disposal facilities was quite limited, EPA's report to Congress did focus on municipal landfills.)

However, the statutory language in section 4010(c) directing EPA to promulgate a rule revising the criteria in 40 CFR Part 257 limits the rule's applicability only to those facilities which may receive hazardous household waste or small quantity generator waste. 42 U.S.C. 6949a(c). If Congress had intended the revised criteria under section 4010(c) to apply to all solid waste disposal facilities, including industrial landfills and surface impoundments, it clearly could have done so by enacting language

similar to that already used in section 4010(a).

Secondly, the legislative history of RCRA section 4010 suggests that Congress expressly rejected a provision that would have required rules to be promulgated under section 4010(c) to apply to the entire universe of RCRA Subtitle D solid waste disposal facilities. Indeed, the House version of section 4010 would have required EPA to promulgate revised guidelines and criteria such that they would be applicable to all "solid waste management and disposal facilities, including, but not limited to landfills and surface impoundments \* \* \*." H.R. 2867, section 30, 98th Cong., 1st Sess. (as introduced in the Senate on November 9, 1983). However, the Conference Committee instead adopted a Senate amendment which limited the scope of the revised criteria to those facilities that may receive hazardous household waste or small quantity generator waste. H. Rept. No. 98-1133, 98th Cong., 2d Sess., at 116-117.

Another indication that RCRA section 4010(c) was not intended to cover the entire universe of solid waste disposal facilities is the fact that subsequent to the enactment of section 4010(c) (as part of the Hazardous and Solid Waste Amendments in 1984), a number of bills were introduced in Congress which would have either authorized or required EPA to issue additional regulations that would address all disposal facilities receiving industrial waste as opposed to addressing those which may receive CESQG waste as stated in Section 4010(c). See, e.g., H.R. 3735, "Waste Materials Management Act of 1989," section 324 (would have required EPA to promulgate standards for the management of industrial solid waste) (Luken Bill); S. 1113, "Waste Minimization and Control Act of 1989," section 204 (would have required EPA to promulgate requirements for facilities that manage different types of industrial waste) (Baucus Bill). Neither of these provisions (although neither was enacted) would have been necessary if RCRA section 4010(c) required EPA to promulgate revised criteria for all types of industrial disposal facilities.

This same commentor cites to language in both the Report to Congress (as provided for in RCRA section 4010(b)) and the MSWLF rulemaking to suggest that EPA acknowledged that all industrial landfills, even those not receiving CESQG waste, should fall within the scope of today's rule. EPA acknowledges that it expressed a concern about the potential risks that industrial solid waste disposal facilities might pose; however, EPA indicated

that it did not have the level of information necessary to conduct a rulemaking for such disposal facilities. At the time of issuing the final MSWLF rule, EPA indicated that it would attempt to study these facilities to gain a better understanding of the risks that they may pose. See 56 FR 51000 (Oct. 9, 1991).

After investigating available information in more detail, it became clear that of all industrial solid waste disposal facilities, only construction and demolition and off-site commercial facilities typically receive CESQG waste. As discussed in the proposed rule, recent information and discussions with the relevant industries indicate that on-site industrial disposal facilities (which make up the vast majority of industrial disposal facilities) generally do not receive CESQG waste. However, the commentor should be aware that EPA has drafted the rule such that it will apply to such industrial on-site facilities if they receive CESQG waste. See sections 257.5(a) (1) and (3).

#### *B. Decision To Impose or Go Beyond the Statutory Minimum Components*

RCRA section 4010(c) requires that the revised criteria must at a minimum include location restrictions, ground-water monitoring as necessary to detect contamination, and corrective action, as appropriate. The June 12, 1995, proposal discussed how the Part 258 Municipal Solid Waste Landfill Criteria went beyond these requirements. (See 60 FR 30968.) The proposal for non-municipal non-hazardous waste disposal units did not, however, go beyond these statutory minimum requirements. The Agency presented data, in the June 12 proposal, which showed that the establishment of additional facility management requirements, beyond these types of requirements, for non-municipal non-hazardous waste disposal units that may receive CESQG waste was not warranted.

The Agency received comments on both sides of this issue. Some commentors felt that the statutory minimum components were adequate to address the potential risks from non-municipal non-hazardous waste disposal units that may receive CESQG wastes. However, other commentors believed that additional regulatory controls should have been required.

Commentors stated that the level of documented releases and environmental problems do not merit extensive regulations. Commentors also stated that the final regulations should be limited to the proposed requirements as they felt that those requirements were indeed

adequate given the low risks associated with the disposal of CESQG waste in non-municipal non-hazardous waste disposal units. Some commentors argued that less stringent requirements, less than the proposed requirements, would have been more appropriate.

On the other hand, some commentors raised the concern that the cumulative effect of allowing small quantities of hazardous waste to be disposed of in non-municipal non-hazardous waste disposal units would result in a major source of ground-water pollution. Commentors further felt that because MSWLF owners/operators have upgraded their units to meet the requirements in Part 258 in order to minimize the risk associated with the disposal of household hazardous wastes and CESQG wastes, non-municipal non-hazardous waste disposal units disposing of CESQG wastes should be required to meet the same standards as in Part 258 (e.g., closure and post-closure care, financial assurance and operating requirements). In addition, one commentor believed that the Agency's conclusions, concerning the potential risks associated with non-municipal non-hazardous waste disposal units receiving CESQG wastes, were based on outdated and limited data. The commentor felt that the data cited by EPA failed to justify the Agency's conclusion that non-municipal non-hazardous waste disposal units pose low risk but rather simply indicate a lack of information on the subject.

The Agency agrees with those commentors who believe that the proposed requirements are adequate to address the potential risks from non-municipal non-hazardous waste disposal units that receive CESQG hazardous wastes. In the June 1995 proposal, the Agency took the position that only the proposed requirements were necessary because "construction and demolition (C&D) waste units, in general, do not currently pose significant risks and that individual damage cases are limited in occurrence" and that off-site commercial landfills are subject to more "stringent environmental controls". The Agency requested additional data concerning C&D units to further assess the potential risks these types of units may pose as well as additional data on commercial industrial solid waste units or other types of units that may be subject to the proposal.

The Agency did not receive any new data concerning the potential risks associated with C&D units or any other types of units potentially subject to the proposal. Thus, EPA has no information suggesting that the facilities subject to

this rule pose any risks beyond those limited ones discussed in the proposed rule. (One commentor submitted leachate data on bulky waste landfills but that data was previously considered by the Agency during the development of the proposal.) In response to the commentor that suggested that the cumulative effects of allowing small amounts of hazardous waste would result in a major source of ground-water pollution the Agency disagrees. The Agency believes that the limited number of documented damage cases and cases of ground-water contamination, discussed in the proposal to this rule, do not support the commentor's concern about the creation of major sources of ground-water pollution. As such, the Agency believes that it should not go beyond the requirements that were proposed.

For those commentors who expressed the need to impose Federal controls on C&D units beyond the proposed requirements, in the form of closure/post-closure standards and/or financial assurance requirements, the Agency wishes to point out that these types of standards are prevalent among State programs for C&D units. Most States (44) specify some thickness for a final cover, 34 States require post-closure care for some period of time while 33 and 32 States require financial assurance for closure and post-closure care, respectively, for C&D units. Given the lack of data suggesting that C&D facilities pose the same risks as MSWLFs and the fact that most States already require additional regulatory controls, EPA does not believe it is appropriate to establish requirements that go beyond the statutory minimum requirements of Section 4010(c).

#### *C. Decision To Use the Part 258 Criteria Language or General Performance Language*

The June 12, 1995 proposal identified two options for writing the proposed requirements. One was to use the Part 258 criteria as the baseline for these requirements. Part 258 is a combination of performance standards and additional detail to help the owner/operator achieve compliance with the performance standards. Part 258 also establishes minimum national criteria for municipal solid waste landfills, and as such, a minimum national level of protection. The second option was to use general performance standards that could 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).

Reasons cited in the proposal for using the Part 258 Criteria included: (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 for collection of reliable and consistent ground-water monitoring data and to allow the owner/operator and States 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; (4) Some States expressed strong support for using 258 standards as the baseline for solid waste disposal facilities that receive CESQG hazardous waste; and (5) While some States have standards for non-municipal facilities that are not identical to the 258 standards, the Agency believed there was a strong likelihood that many State programs would be approvable.

Reasons cited in the preamble in support of using the general performance standard approach included: (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; (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; and (4) a general performance standard would provide the maximum flexibility for States and owners to adopt new methodologies and technologies (e.g., detecting ground-water contamination using technologies other than monitoring wells) to meet the standard at the lowest possible cost.

Comments were received in support of both approaches. Commentors supported the use of the Part 258 Criteria because they thought general performance standards would be difficult to implement and enforce. Another commentator stated that Section 4010(c) requires EPA to spell-out the requirements that facilities must implement; he argues that by not specifying how to attain the statutory minimum requirements, a performance-based approach would fall short of the

statute. The performance-based approach would spawn endless uncertainty, requiring the wheel to be re-invented for each facility. This uncertainty would fall most heavily on citizens who are concerned about individual facilities. Other commentors argued against promulgating general performance standards and stated that the Part 258 rules provide a clear, flexible, common sense approach. Using Part 258 provides both the regulated community and the State Agencies a familiar, well-thought out scheme that is easy to administer and implement and offers sufficient flexibility to address site-specific conditions in approved States. The Agency received extensive comment in the Part 258 rulemaking indicating why general performance standards were inappropriate for landfills; those comments are as relevant today for landfills receiving CESQG waste. Finally, developing a significantly different set of rules from either Part 257 or Part 258 would also be confusing to the regulated community because it would create one set of rules for household wastes (Part 258), one for sites that accept CESQG wastes (this rule) and one for all other non-hazardous wastes (Part 257).

Other commentors supported the use of general performance standards by reiterating the reasons provided in the proposal in support of such an approach. Other commentors stated that due to the nature of the demolition waste stream being landfilled, they supported the use of general performance standards vs. all of the Part 258 standards. Commentors supported maximum State flexibility to address local conditions and requirements tailored to the perceived risk, not automatically adopting the more restrictive MSWLF regime. Another commentator stated that the Part 258 ground-water monitoring standards were developed for MSWLFs and if the ground-water monitoring program for non-municipal non-hazardous waste disposal units is not based on a performance standard that allows for site-specific design, certain facilities will be overregulated. Another commentator stated that the general performance standard is preferable as long as it provides an adequate description of the performance objective. Guidance manuals could be used to implement the general performance standards.

The Agency agrees with the majority of commentors who supported the use of the Part 258 Criteria. The Agency believes, for all of the reasons discussed by the commentors, that the use of the Part 258 criteria is the preferable option

to utilize in the final rule. The Part 258 Criteria are a clear, flexible set of regulations that can be tailored by approved States to address site-specific conditions while protecting human health and the environment. The ground-water and corrective action requirements of today's final rule offer owners/operators in approved States great flexibility in establishing a ground-water monitoring program and in selecting a corrective measure should corrective action become necessary.

In a sense, the Part 258 Criteria for ground-water monitoring and corrective action are general performance standards. However, the big difference between the use of the Part 258 Criteria and the use of a general performance standard approach is the detail that is contained in the Part 258 Criteria, the same detail would not be a part of a general performance standard approach. Both the Part 258 Criteria and the general performance standard approach use performance standards; the general performance standard approach would provide only general standards to be followed by the owner/operator, while the Part 258 Criteria would provide additional detail and guidance to an owner/operator in trying to comply with the performance standards contained in Part 258. This additional detail in the Part 258 Criteria is what the Agency believes commentors were referring to when they stated that "using Part 258 provides both the regulated community and the State Agencies a familiar, well-thought out scheme that is easy to administer and implement and offers sufficient flexibility to address site-specific conditions". It is this additional detail in Part 258 that if not contained in the general performance standard approach would create confusion among the regulated community and "spawn endless uncertainty".

The Agency believes that the use of the detail in the Part 258 Criteria for ground-water monitoring and corrective action, in the form of factors to consider vs. design standards, clearly guides an owner/operator in achieving compliance with the performance standards in Part 258 while maximizing the owners/operators ability to take into account and use site-specific data. Part 258 guides an owner/operator and State Agencies by specifying (1) what factors should be considered in determining the number, depth, and spacing of the wells in the monitoring system, (2) how wells should be cased, (3) that any statistical test comply with basic performance standards, (4) what factors should be considered in establishing an initial list of monitoring parameters and frequency, (5) what factors should be

considered in selecting any potential remedy under corrective action, and (6) what factors should be considered in developing interim measures under a corrective action program. The Agency does not believe that the use of the detail in the Part 258 Criteria will result in "facilities being overregulated". EPA also believes that this detail is necessary to protect human health and the environment.

#### V. Summary of Today's Final Rule

Today's final rule specifies that non-municipal non-hazardous waste disposal units that do not meet the requirements (i.e., location restrictions, ground-water monitoring and corrective action) in sections 257.5 through 257.30 may not receive CESQG hazardous waste. The ground-water monitoring and corrective action requirements being finalized today are substantially the same as those that were proposed. The location restrictions have been changed from the proposal with the major change being that in the proposal 6 location restrictions were proposed but in today's final rule only 2 location restrictions are being finalized (floodplains and wetlands). Differences between the final requirements and those that were proposed are discussed in the appropriate sections of today's preamble.

The location restrictions will be effective 18 months after publication of the final rule. The location restrictions being finalized today are the floodplains and wetlands restrictions. The floodplains restriction is applicable to new units, existing units, and lateral expansions of existing units that receive CESQG waste. Only new units and lateral expansions of existing units that receive CESQG hazardous waste must comply with the wetlands location restriction.

The ground-water monitoring and corrective action requirements will be effective 24 months after publication of the final rule. Any existing unit, new unit, or lateral expansion of an existing unit that receives CESQG hazardous waste after the effective date will be required to comply with the final ground-water monitoring and corrective action requirements. The ground-water monitoring provisions are being finalized to ensure that units that receive CESQG hazardous waste will have monitoring systems in place that will enable the detection of any contamination of ground-waters along with appropriate sampling and analysis procedures to allow for the statistical analysis of monitoring results. The corrective action requirements will allow for the evaluation, selection, and

implementation of an appropriate remedial technology to clean-up any contamination of ground-waters.

Today's final rule also amends the existing language of § 261.5 clarifying acceptable Subtitle D management options for CESQGs. The language in § 261.5, paragraphs (f)(3) and (g)(3) currently allows a CESQG hazardous waste to be managed at a hazardous waste facility (either in interim status or permitted), a reuse or recycling facility, or a non-hazardous waste disposal unit that is permitted, licensed, or registered by a State to manage municipal or industrial waste. Today's final rule would continue to allow CESQG waste to be managed at a hazardous waste facility or at a reuse or recycling facility. Today's final rule will require that if CESQG waste is managed in a Subtitle D disposal facility, it may be managed in a MSWLF that is subject to Part 258 or managed in a non-municipal non-hazardous waste disposal unit that is subject to the standards being finalized in §§ 257.5 through 257.30.

#### VI. Specifics of Today's Final Rule

##### A. Section 257.5—Applicability

##### 1. Applicability

EPA proposed that any owner/operator of a non-municipal non-hazardous waste disposal unit that wanted to receive CESQG hazardous waste would have to comply with the proposed requirements in §§ 257.5–257.30 prior to the actual receipt of the CESQG waste. The proposal stated that owners/operators of non-municipal non-hazardous waste disposal units that do not meet the proposed criteria may not receive CESQG hazardous waste.

The proposal further stated that owners/operators of non-municipal non-hazardous waste disposal units that receive CESQG hazardous waste after the effective date would have to comply with the location restrictions (§§ 257.7–257.12) within 18 months after the date of publication of the final rule and with the ground-water monitoring and corrective action requirements (§§ 257.21–257.28) within 24 months after the date of publication of the final rule.

The Agency is finalizing the applicability of the final rule as proposed and retaining the effective dates as proposed. The Agency received no specific comments in regard to the effective dates with the exception of one comment that stated that the commentator had no problem with the two-year effective date for the ground-water monitoring and corrective action requirements.

#### 2. Definitions

EPA proposed a number of definitions for terms in the proposal and received limited comments. One commentator thought that the term "non-municipal solid waste disposal facility" should be more appropriately called "non-municipal non-hazardous waste disposal facility". The commentator stated that by discussing only "solid waste" facilities, hazardous waste facilities are not excluded because they are a subset of "solid waste". Furthermore, this commentator thought the term "non-municipal solid waste landfill" should also more appropriately be called a "non-municipal non-hazardous waste disposal facility". This same commentator also expressed a concern that the terms "facility" and "unit" as used in §§ 257.7 through 257.9 were used interchangeably and that some clarification and/or consistency was necessary.

The EPA agrees that the term "non-municipal solid waste disposal facility" could be confusing and that the term "non-municipal non-hazardous waste disposal facility" more clearly defines the types of facilities potentially subject to today's final rule. The EPA also agrees that the terms "facility" and "unit" were used interchangeably and that the term "unit" is more appropriate to use in defining what is potentially subject to today's final rule. Therefore, in today's preamble and in the final rule language the term non-municipal non-hazardous waste disposal unit is used. Correspondingly, the terms "existing facility" and "new facility" have been changed in the final rule to refer to "existing unit" and "new unit". Existing unit refers to any non-municipal non-hazardous waste disposal unit that is receiving CESQG hazardous waste as of the effective date (i.e., 18 months after the final rule is published in the Federal Register). A new unit is any non-municipal non-hazardous waste disposal unit that has not received CESQG hazardous waste prior to the effective date (i.e., 18 months after the final rule is published in the Federal Register).

Today's applicability section (§ 257.5) has also been changed to clarify the situation where a non-municipal non-hazardous waste disposal unit decides to receive CESQG hazardous waste after the effective date of today's rule. The applicability section (section 257.5(a)(5)) has been changed to clarify that any non-municipal non-hazardous waste disposal unit that first receives CESQG hazardous waste after the date 18 months after the date of publication of this final rule in the Federal Register

must be in compliance with all the requirements prior to the receipt of the CESQG hazardous waste.

One additional change from the proposed rule language concerns the definition of the term State/Tribal Director. In the proposal the term State/Tribal Director was defined to mean the chief administrative of the State/Tribal agency responsible for implementing the State/Tribal permit program for Subtitle D regulated facilities. The remainder of the proposed rule language, however, consistently used the term State Director. This was done as a means of efficiency and the Agency did not imply any other substantive effect on the character, authority, and/or rights of Tribes. The final rule will include Indian Tribes in the definition of the term "State" (as was proposed) and Tribal Director in the definition of "State Director". This change is being made to be consistent with the proposed changes to Part 258 language in the proposed State/Tribal Permit Program Determination of Adequacy (See 61 *FR* 2584, January 26, 1996). The State/Tribal Permit Program Determination of Adequacy contains a complete discussion of the opportunities that are available to Indian Tribes to apply for program approval.

#### *B. Sections 257.7–257.13—Location Restrictions*

EPA proposed a set of location restrictions for new and existing units that receive CESQG waste which mirrored restrictions already established for MSWLFs. 40 CFR 258.10 to 258.16. However, in response to comment received on the proposal, EPA has modified the proposed location restrictions in a number of ways. Because units receiving CESQG waste pose a smaller risk to human health and the environment than do MSWLF facilities and for the reasons discussed below, EPA believes that the restrictions being promulgated today satisfy the statutory standard contained in RCRA Section 4010(c). 42 U.S.C. § 6949a(c).

##### 1. Airport Safety

EPA proposed that new, existing, and lateral expansions of existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous waste, demonstrate that the unit does not pose a bird hazard to aircraft. The proposed airport safety provision was the same as the current Part 257 requirement; only the demonstration requirement to the affected airport and to the FAA for new and lateral expansions of existing units was new.

Several commentors objected to the airport safety provision in Section 257.7 and requested that the provision be removed. Commentors stated that units that accept CESQG wastes will be non-putrescible operations that do not provide a source of food or nesting for birds. One commentor stated that actual observations of over 30 sites across the country support the conclusion that birds are virtually nonexistent at C&D units. Lastly, one commentor referenced the recent FAA report titled "Draft Report to Congress on Potential Hazards to Aircraft by Locating Waste Disposal Sites in Vicinity of Airports", wherein, the FAA stated that recent FAA sponsored research has shown that non-putrescible waste landfills (i.e., construction and demolition waste landfills, . . . ) do not attract wildlife that could create a wildlife/aircraft strike hazard.

In response to commentors concerns, the Agency has eliminated the airport safety provision from today's final rulemaking. The Agency's original requirement under Part 257 was designed to regulate units that dispose of putrescible wastes; based on the fact that units potentially subject to today's final rule do not receive putrescible wastes (e.g., C&D units), the Agency sees no reason to have this requirement as part of today's final rule.

##### 2. Floodplains

EPA proposed that new, existing, and lateral expansions of existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous wastes, located in the 100-year floodplain demonstrate that the unit 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.

No comments were received on the substance of the floodplain provision; therefore, the Agency is finalizing the floodplain provision as it was proposed.

##### 3. Wetlands

The Agency proposed that new facilities and lateral expansions of existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous wastes, not be located in a wetland unless specified demonstrations can be met by the owner/operator. The demonstrations were to ensure that if a non-municipal non-hazardous waste disposal unit needed to be located in a wetland, protection of state water quality standards and protection of the wetland will be achieved. Furthermore, the

proposal was consistent with the Agency's goal of achieving no net loss of the nation's wetlands.

No comments were received on the substance of the wetlands provision, therefore, the Agency is finalizing the wetlands provision as it was proposed.

##### 4. Fault Areas

EPA proposed that new and lateral expansions of existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous waste, not be located within 200 feet of a fault that has had displacement in Holocene time unless the owner/operator demonstrates that an alternative setback distance of less than 200 feet will not affect the structural integrity of the unit during displacement and will be protective of human health and the environment.

One commentor questioned the need for a fault area restriction because this location provision is premised on the fact that if movement along a fault occurs, the structural integrity of the engineering features will be disrupted. Given the low risks imposed by many of the facilities potentially subject to the rule and the fact the Agency is not regulating the design features (i.e., liners, leachate collection systems) of these facilities, imposing siting restrictions is not warranted.

The Agency agrees that the fault area restriction is designed to guard against disruptions to the engineering features that provide structural integrity to the unit. Because of the low-risks posed by non-municipal non-hazardous waste units that receive CESQG waste, EPA did not propose any liner requirements or other provisions bearing on the structural integrity of the units. Thus, the Agency agrees that imposing this restriction is not warranted, and as such, the fault area restriction is not a part of today's final rule.

##### 5. Seismic Impact Zones

EPA proposed that new and lateral expansions of existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous waste, not be located in seismic impact zones unless the owner/operator demonstrates that all containment structures are designed to resist the maximum horizontal acceleration in lithified earth material for the site.

No specific comments were received on this provision. However, this provision like the fault area provision, was designed to guard against disruptions to liners, leachate collection systems, and surface water control systems, therefore, EPA considers that the logic of the comments on fault area



restrictions applies to this restriction as well, and as such, the Agency sees no reason to include this location restriction as part of today's final rulemaking.

#### 6. Unstable Areas

EPA proposed that new, existing and lateral expansions of existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous waste, located in an unstable area demonstrate that engineering measures have been incorporated into the facility design to ensure that the integrity of the structural components of the facility will not be disrupted.

As with the seismic impact zone restriction, no specific comments were received on this part of the proposal. However, for the same reasons as discussed above under the fault area and seismic impact zone restrictions, this location restriction is also not part of today's final rule.

#### 7. Deadline for Making Demonstrations

EPA proposed that existing non-municipal non-hazardous waste disposal units, that receive CESQG hazardous wastes, that could not make the demonstrations pertaining to airports, floodplains, or unstable areas, would not be allowed to accept CESQG hazardous waste for disposal 18 months after the date of publication of the final rule.

No specific comments were received on this provision of the proposal. As the final rule only applies to existing units located in floodplains, this provision has been changed to require that only existing units in floodplains will not be allowed to accept CESQG hazardous waste for disposal 18 months after the date of publication of the final rule.

### C. Sections 257.21–257.28—Ground-Water Monitoring and Corrective Action

#### 1. Applicability

The Agency proposed a number of requirements under the heading "applicability." The Agency proposed that the ground-water monitoring requirements could be suspended by the Director of an approved State if the owner/operator could demonstrate that there was no potential for migration of hazardous constituents from the facility to the uppermost aquifer during the active life plus 30 years.

The Agency also proposed the existing units had to be in compliance with the groundwater monitoring requirements within 2 years after the date of publication of the final rule in the Federal Register. EPA proposed that new facilities meet the ground-water

monitoring requirements when waste is first placed in the unit. The Director of an approved State could specify an alternative schedule for compliance for existing units. The proposed alternative schedule called for 50% of existing units to be in compliance within 2 years and for all existing units to be in compliance within 3 years.

The Agency also proposed that ground-water monitoring be conducted throughout the active life plus 30 years. The director of an approved State could decrease the 30 year period.

Lastly, the Agency proposed to grant the Director of an approved State the flexibility to establish and use an alternative list of indicator parameters for some or all of the constituents listed in Appendix I (appendix I to Part 258) and to allow small, dry, remote non-municipal non-hazardous waste disposal units to use an alternative form of detecting ground-water contamination.

The Agency received no adverse comment on most of these provisions. The flexibility for small, dry, remote non-municipal units was considered an example of increased flexibility by a commentator. The Agency has slightly altered the regulatory language for the proposed flexibility for small, dry, remote non-municipal non-hazardous waste disposal units that may be allowed to use alternative forms of detecting ground-water contamination. The proposed language required, in two places, that an owner or operator had to submit results or seek approval of corrective measures within 60 days. These deadlines have been removed to allow for increased flexibility. The deadlines have been replaced with language that allows the Director of an approved State to establish a schedule for the owner or operator for the above mentioned activities. This change is also being done to be consistent with the rule language that was proposed for MSWLFs, allowing small, dry, remote MSWLFs to use alternative forms of detecting ground-water contamination. See 60 *FR* 40799, August 10, 1995. The proposed language allowing for alternatives to be used for small, dry, remote MSWLFs was the basis for the proposed language to allow small, dry, remote non-municipal, nonhazardous waste disposal units to also use alternative forms of detecting ground-water monitoring. See 60 *FR* 30976, June 12, 1995.

The length of the ground-water monitoring period (i.e., active life plus 30 years) generated some disagreement. In regard to the length of the ground-water monitoring period, two commentators concurred with the

Agency's decision to impose the ground-water monitoring period through the active life plus 30 years. The commentators believed that the time frame was consistent with other similar rules, and based upon the flexibility in the rule, was not overly burdensome to units in comparison to the environmental protection it affords.

Several commentators requested that the Agency reduce the ground-water monitoring period to a shorter time period or to a time period based on an individual unit's performance standard. In regard to a performance standard, one commentator argued a performance standard could be used by an owner/operator to demonstrate that an alternative time period is appropriate. One example suggested was that the performance standard be based on a specified number of years without significant changes in ground-water quality. No specific number of years was provided.

In regard to a shorter period of time, commentators generally agreed that the 30 years was not reflective of the low risks posed by units that may potentially receive CESQG wastes. One commentator requested 10 years for existing and 15 years for new units. Another commentator stated that a shorter period was necessary because most States have a post-closure period that ranges from 5–10 years. A third commentator stated that applying an extremely burdensome 30 years period places an economic burden on operators that is not remotely balanced by any real environmental benefit. This commentator suggested a 5-year period and that the rules could be extended if problems are discovered during the 5 years. Lastly, one commentator questioned what incentive existed to monitor groundwater for 30 years beyond the final receipt of waste. This commentator considered it unreasonable to expect that the monitoring program will be met after a disposal unit has no further economic value.

After a consideration of the comments, the Agency has elected to retain the requirement that ground-water monitoring be conducted for 30 years after the active life of the unit for the same reasons that were discussed in the proposal. The Agency believes that there is sufficient flexibility within § 257.21(e) for an approved State to decrease the 30-year period. The final regulation allows the Director of an approved State to reduce the length of the monitoring period if the owner/operator demonstrates that a shorter period is adequate to protect human health and the environment. The Agency expects that States will reduce



the length of the monitoring period if an owner/operator can demonstrate, for example, that no adverse changes in ground-water quality have been detected for some period of time less than 30 years. Furthermore, although some commentors expressed concern over the length of the 30-year period, the Agency did not receive any data supporting any such reduction in the length of the monitoring period.

Today's final rule continues to provide flexibility for an approved State to suspend the ground-water monitoring requirements in hydrogeologic settings that may preclude the migration of hazardous constituents from the unit to the ground water.

## 2. Ground-Water Monitoring Systems

The Agency proposed a number of requirements under the proposed section "ground-water monitoring systems". The Agency proposed that ground-water monitoring systems consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that represent the quality of background ground water and the quality of ground water passing the relevant point of compliance. The downgradient monitoring system was to be installed at the relevant point of compliance, as allowed by the Director of an approved State, or at the waste management unit boundary in unapproved States. The relevant point of compliance specified by the Director of an approved State was proposed to be no more than 150 meters from the waste management unit boundary and located on land owned by the owner/operator. Furthermore, the proposal allowed for multi-unit monitoring under specific conditions.

The only area to receive comments was the point of compliance. A number of commentors expressed concern regarding the 150 meter limit for the point of compliance. One commentor requested EPA to either allow a site-specific decision regarding the point of compliance or allow the use of a point of compliance within the facility boundary. A second commentor requested that EPA not specify a specific distance but rather authorize a site-specific identification of a compliance point based on the location for the potential for exposure. For example, if a unit is located a considerable distance from a drinking water well, having the point of compliance 150 meters from the unit boundary may be needlessly stringent. A third commentor stated that a flexible approach to establishing the point of

compliance is well suited to low-risk facilities.

After a consideration of the comments, the Agency has decided to retain the proposed language regarding the point of compliance. The final rule will require that the downgradient monitoring wells be installed at the waste management unit boundary in unapproved States or at the relevant point of compliance, as allowed by the Director of an approved State. The relevant point of compliance can be up to 150 meters from the waste management unit boundary. The Agency retained the 150 meter limit because the Agency believes it is essential to set a maximum distance limit for the point of compliance that would limit ground-water contamination, yet still provide flexibility to owners/operators of non-municipal non-hazardous waste disposal units that receive CESQG wastes. A point of compliance set some distance much farther from the unit boundary would result in a situation where ground-water contamination, when first detected, would be more wide-spread and result in higher corrective action costs to remedy the situation.

The Agency realizes that the point of compliance can have significant implications associated with the scope, magnitude and cost of ground-water remedial actions. Because of these implications, the point of compliance continues to be an area of discussion and debate. At this point in time, the Agency is finalizing the point of compliance language for Subtitle D units as described in the proposal for this rule. However, the Agency is addressing the point of compliance issue in an Advance Notice of Proposed Rulemaking (ANPR) (See 61 FR 19432, May 1, 1996) as part of developing regulations concerning "Corrective Action for Releases from Solid Waste Management Units at Hazardous Waste Management Facilities" (subpart S of 40 CFR part 264). The Agency intends to use the ANPR to invite comments on a number of issues, including the point of compliance pertaining to corrective action under Subtitle C of RCRA. It is possible that future regulations, which address new point of compliance approaches for Subtitle C facilities, could also address Subtitle D units subject to today's final rule.

## 3. Ground-Water Sampling and Analysis Requirements

The proposal required the use of consistent sampling and analysis procedures that would be designed to ensure monitoring results that provide

an accurate representation of ground-water quality at the background and downgradient monitoring wells. The Agency received no substantial comments on this section of the proposal; therefore, the sampling and analysis requirements are being finalized as proposed. Comments concerning sampling and analysis requirements are addressed in the comment response document associated with this final rule.

## 4. Detection Monitoring Program

The proposal addressed numerous requirements associated with detection monitoring, the first phase of ground-water monitoring. The majority of the proposed requirements pertained to which constituents had to be monitored for and the required frequency of monitoring. The proposal required that those constituents identified in Appendix I of part 258 were to be monitored for during the detection monitoring phase of ground-water monitoring and that the frequency of monitoring was to be at least semi-annual. The proposal also specified the areas of flexibility that existed for an owner/operator during detection monitoring.

The Agency received no comments on the frequency of monitoring during the detection monitoring period, and as such, the final rule requires at least semi-annual monitoring during detection monitoring. The final rule also continues to allow the Director of an approved State to specify an alternative frequency of monitoring during the active life plus 30 years (no less than annual during the active life).

The Agency did receive some comments regarding the constituents to be monitored for during detection monitoring. A commentor raised the issue of developing a new list of ground-water parameters for facilities that accept CESQG wastes. Another commentor stated that MSWLFs contain a much larger portion of waste that is biodegradable and therefore creates its own chemical degradation byproducts. Unless EPA has data that shows that leachates from non-municipal non-hazardous waste facilities are similar to municipal solid waste landfills, the Agency should not be imposing similar requirements. According to the commentor, the ground-water monitoring program should require testing only for constituents that are related to the waste accepted at the facility, not a list of constituents that could be found at any facility that may accept CESQG wastes. Lastly, the commentor stated that the monitoring parameters should be representative of

those constituents that are most mobile in the ground-water environment so that early detection is accomplished without undue cost of over regulation.

After a consideration of the comments, the Agency has decided to retain the requirements as proposed in the detection monitoring section of the proposal. The Agency believes that developing a new list of ground-water constituents for facilities that accept CESQG wastes would cause undue confusion for the regulated community. However, EPA has provided some flexibility for approved States in regard to testing for constituents that are related to the wastes accepted at the unit. Today's final rule provides flexibility to the Director of an approved State to remove from the detection monitoring list of constituents, any constituent that is not reasonably expected to be in or derived from the waste contained in the unit. Furthermore, the Director of an approved State may establish an alternative list of indicator parameters in lieu of some or all of the constituents in appendix I of part 258, if the alternative indicator parameter(s) provides a reliable indication of releases from the unit to the ground water.

The June 1995 proposal allowed the Director of an approved State to develop only an alternative list of inorganic indicator parameters; the organic parameters in appendix I of part 258 were to be monitored for and no substitutions were allowed. However, in today's final rule, the Agency has provided additional flexibility in that the Director of an approved State can establish an alternative list of indicator parameters for some or all of the constituents in appendix I of part 258 including the organic constituents. The Agency has provided this area of increased flexibility because an alternative list of indicator parameters, approved by the Director of an approved State, could be appropriate in specific circumstances, and the Agency continues to believe that the risks posed by non-municipal non-hazardous waste disposal units that may elect to receive CESQG wastes is relatively small when compared to MSWLFs. Non-municipal non-hazardous waste units that elect to receive CESQG wastes will be mostly C&D units. The Agency stated in the proposal for this rulemaking, that these types of units, in general, do not pose a significant risk. As such, the Agency believes that Directors of approved State programs can exercise additional flexibility in establishing the appropriate list of detection monitoring constituents or indicator parameters.

This area of increased flexibility can serve to alleviate commentor's concerns regarding the appropriate parameters to monitor for during detection monitoring. This area of flexibility will allow the Director of an approved State to tailor the detection monitoring list to those wastes accepted at the facility and/or those that are expected to be a concern due to mobility. One commentor expressed concern that the detection monitoring list (Appendix I to Part 258) for today's final rule should not be identical to the detection monitoring list developed for municipal solid waste landfills. The Agency, however, believes that leachates from non-municipal units are somewhat similar, in that some of same types of organics and inorganics can appear in non-municipal leachates but at lesser concentrations, and as such, saw no reason to create a separate and new detection monitoring list.

#### 5. Assessment Monitoring Program

The proposal would have required that once a statistically significant increase over background was detected during detection monitoring, a full assessment of any impacts on ground-water quality had to be undertaken. The purpose of assessment monitoring was to sample for a larger list of constituents to determine which were present. The assessment monitoring program also required the establishment of ground-water protection standards.

The Agency received no comments on the proposed assessment monitoring requirements; therefore, the assessment monitoring program requirements are being finalized as proposed.

#### 6. Assessment of Corrective Measures, Selection of Remedy, and Implementation of the Corrective Action Program

The proposal required that once a statistically significant increase was detected over the ground-water protection standard for any constituent detected during assessment monitoring, the owner/operator was required to assess available corrective measures. Available corrective measures were those that could meet the performance standards established under the proposed selection of remedy requirements. Lastly, the proposal would have required that once a corrective measure was selected, the owner/operator would be required to implement the selected remedy.

The Agency received no comments on the proposed corrective action requirements; therefore, the corrective action requirements are being finalized as proposed.

#### D. Section 257.30—Recordkeeping Requirements

EPA proposed that owners/operators of non-municipal non-hazardous waste disposal units record and retain various pieces of information in an operating record. The operating record was proposed to be at the facility or at an alternative location as approved by the Director of an approved State. The following type of information was proposed to be retained: any location restriction demonstration and any demonstration, certification, finding, monitoring, testing, or analytical data required as part of complying with the ground-water monitoring and corrective action requirements.

No comments were received on the substance of the recordkeeping requirements; therefore, the Agency is finalizing the recordkeeping requirements provision as it was proposed.

#### E. Special Requirements for Hazardous Waste Generated by Conditionally Exempt Small Quantity Generators

##### 1. Changes to Section 261.5

The proposal would have amended the existing language of § 261.5 by establishing acceptable Subtitle D management options for CESQG waste. The existing language in § 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), a reuse or recycling facility, or a non-hazardous solid waste facility that is permitted, licensed, or registered by a State to manage municipal or industrial wastes. The proposed rule would have continued to allow CESQG waste to be managed at a hazardous waste facility, or at a reuse or recycling facility; however, the proposal would have required that if CESQG waste was to be managed at a Subtitle D disposal facility, it must be managed in a MSWLF that is subject to Part 258 or a non-municipal non-hazardous waste disposal unit that is subject to the standards that were proposed for units receiving CESQG waste.

Commentors supported the proposed rule changes to paragraphs (f)(3) and (g)(3) in § 261.5 regarding waste generated by CESQGs. Commentors stated that the continuation of the CESQG rules was very important as these rules were developed to ease the burden of small generators. Other commentors also supported the proposed generator changes for various reasons: proposed changes will help CESQGs ensure that their wastes are properly managed, CESQGs may

investigate the recycling or reuse of their waste streams, or use of alternative, less-hazardous materials in their operations, and the proposed changes are a wise-policy decision.

Given the agreement that commentors had with the proposed changes to § 261.5, the Agency has decided to largely finalize the requirements as proposed.

One small change has been made in today's final rule language, however, in paragraphs (f)(3) and (g)(3). This small conforming change deals with final regulatory language that was developed in the universal waste rule (see 60 FR 25541, May 11, 1995). Universal wastes are the following hazardous wastes that are subject to the universal waste rule: batteries as described in 40 CFR 273.2, pesticides as described in 40 CFR 273.3, and thermostats as described in 40 CFR 273.4. The conforming changes are found in today's final rule language in paragraphs (f)(3)(vii) and (g)(3)(vii). The conforming changes in today's final rule allow a CESQG to manage universal wastes in a facility that is a universal waste hauler or destination, provided that facility is subject to the universal waste requirements in 40 CFR Part 273. See 60 FR 25492, May 11, 1995. The possibility that some CESQG waste could be considered a universal waste was discussed in the proposal to this final rule. See 60 FR 30968, June 12, 1996.

RCRA Section 3010(b) states that regulations respecting requirements applicable to the generation, transportation, treatment, or disposal of hazardous waste that are promulgated under Subtitle C shall take effect six months after the date of promulgation. The Administrator is authorized to establish a shorter effective date. 42 U.S.C. 6930(b).

The revisions to 40 CFR Section 261.5 and 271.1 are being promulgated, in part, under RCRA section 3001(d)(4), and thus, are subject to the six month effective date provision in section 3010(b). In the proposed rule, EPA stated that it intended to make these revisions to the Subtitle C regulations effective 18 months after their publication so as to coincide with the effective dates of the Subtitle D provisions. See 60 FR 30979. In the final rule, EPA is making the Subtitle C provisions effective in six months in accordance with RCRA section 3010(b). However, to ensure that there will be consistency in implementation of both the Subtitle C and D provisions, as suggested in the proposal, EPA has chosen to delay the compliance date for the Subtitle C provisions until 18 months after today's date. Thus,

although the Subtitle C revisions go into effect in six months, those who generate CESQG waste will have to comply with the revised disposal standards in section 261.5 (f) and (g) only when the Subtitle D revised location restrictions for CESQG waste go into effect in 18 months. The final rule language for section 261.5 and 271.1 reflect this delayed compliance date.

## 2. CESQG Wastes

Comments were received concerning various aspects related to the requirements for CESQGs. Comments were also received requesting that the Agency provide a clearer picture of what constitutes a CESQG waste. Lastly, other commentors stated that the final rule needed to have a screening requirement in place for facilities that elect not to receive CESQG wastes.

In regard to the comments concerning the need to better identify what is a CESQG waste, the proposal identified examples of CESQG wastes, particularly for the construction and demolition waste industry. See 60 FR 30967, June 12, 1995. CESQG hazardous wastes generated in the construction, renovation, and demolition waste industry are more likely to be specific chemicals or products used in these activities. Building demolition debris can be a CESQG waste if based on generator knowledge or a representative sample of the entire building debris, the building debris is determined to be a hazardous waste (i.e., it exhibits one of the four characteristics of a hazardous waste), and if hazardous, is under the waste quantity cutoff limit for a CESQG waste (See 60 FR 30967, June 12, 1995).

Commentors requested a comprehensive listing of C&D wastes which may be typically hazardous. The Agency's supporting document "Construction and Demolition Waste Landfills" identified a number of wastes that were considered potentially "hazardous" by various sources. The Agency continues to believe, as stated in the proposal, that not all of the wastes identified in the report are hazardous as determined under Subtitle C; however, the listing provided in the supporting document provides an indication of the types of wastes that may be present in the construction and demolition waste industry that could be a concern. Given that the Subtitle C and D regulations are generally implemented by the States, the Agency believes that owners/operators should work with their State Agencies to determine what specific rules or guidance applies with regard to the types of wastes that their State Agency considers to be hazardous.

## 3. Screening Procedures

Comments were also received requesting that the Agency acknowledge the use of existing screening procedures. With regard to the comments concerning the need to acknowledge the use of existing screening procedures and the need to have a screening procedure in place for facilities that elect not to receive CESQG wastes, the proposal did not require non-municipal non-hazardous waste disposal units to screen incoming wastes in order to assure that they were not receiving CESQG wastes. Rather, it left it up to the owner/operator to assure, through what ever means he/she determined, that the facility was not receiving CESQG waste. This could include certifications by waste haulers that their wastes destined for the facility will not contain CESQG wastes, written prohibitions in contracts between waste haulers and the owner/operator stating that the facility does not receive CESQG waste for disposal, and/or random screening procedures at the facility. Commentors were concerned that CESQG wastes would find their way into C&D landfills that elect not to upgrade and comply with today's final requirements, particularly given that the proposal did not require the use of a formal screening procedure to prove that the facility was not receiving CESQG wastes. Specifically, one commentor stated that without a stringent method of restricting wastes and documenting these efforts, C&D landfills that do not meet the proposed requirements may become low-cost alternatives for the unscrupulous. Two other commentors stated that the proposed rule, as written, lacked an affirmative demonstration on the part of a facility that elected not to comply with the proposed requirements, that the facility was in reality not receiving CESQG waste for disposal. The commentor argued that "without a screening method at facilities that elect not to comply, the proposed rule is insufficient to satisfy the mandate of RCRA Section 4010(c)". Several of these commentors suggested the use of the screening procedure specified in the Part 258 Criteria for municipal solid waste landfills.

Other commentors acknowledged that screening exists today for C&D facilities and that it is successful. Screening is done at most C&D facilities and, thus, regulatory criteria made applicable to such facilities should take into account screening practices that significantly reduce the risks that C&D facilities present to human health and the environment. These commentors wanted EPA to expressly acknowledge

that screening programs reduce risks at C&D facilities or to develop a regulatory approach that allows C&D facilities with established screening programs to be exempted from a majority of the proposed criteria or EPA should develop relaxed regulatory criteria that take into account such risk-reduction operational practices.

The proposal explained that owners/operators implementing a screening procedure should contact their State Agency to determine that the screening procedure ensures that the facility does not receive CESQG wastes. Responding to this statement, one commentator said that the Agency should not delegate this obligation to the states because doing so will lead to unwarranted lawsuits against owners/operators that do not want to accept CESQG wastes and confusion at the state level caused by widely divergent screening requirements that may or may not be acceptable.

In response to the comments about the need for screening requirements as part of today's final rule, the Agency is concerned that the establishment of specific and/or detailed screening standards would limit flexibility that owners/operators and State Agencies have in developing an appropriate screening method, if one is considered necessary. Under the rule as proposed and promulgated, if an owner/operator of a non-municipal non-hazardous waste disposal unit elects not to receive CESQG wastes, and therefore, does not upgrade to meet the requirements in today's final rule, he/she is not legally allowed to accept CESQG wastes. See 40 CFR 257.5(a)(3). If the owner/operator does accept CESQG wastes, then he/she would be in violation of today's final rule and would be subject to enforcement actions. See 40 CFR 257.5(a)(1). CESQGs that send their CESQG waste to landfills that are not subject to today's requirements for non-municipal units would, likewise, be subject to enforcement actions.

Owners/operators that elect not to upgrade and therefore not receive CESQG hazardous wastes, may on their own elect to develop a screening procedure that is effective in screening out CESQG materials. Owners/operators who elect to develop a screening procedure are encouraged to work with their State Agency to determine what screening procedures, may at a State level be required, recommended or in guidance. The Agency believes that the adoption of a Federal screening program as a condition of not receiving CESQG hazardous waste, will limit the flexibility that both States and owners/operators can exercise in developing a

successful screening program. The Agency does not want to interfere in the development of acceptable screening programs that, based on comments received on this rule, can be developed and are being used in the field.

## VII. Implementation of Today's Final Rule

### A. State Activities Under Subtitle C (*Regulation of CESQGs of Hazardous Waste*)

#### 1. Hazardous and Solid Waste Amendments to RCRA

Today's final rule changes the existing requirements in § 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 finalized pursuant to section 3001(d)(4) of RCRA, which is a provision added by HSWA. Therefore, the Agency has added the requirements 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.

#### 2. Effect on State Authorizations

As noted above, EPA will implement today's rule (i.e., the revision to § 261.5) 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 has been finalized 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 modify its program to adopt these regulations and submit its application for approval is specified in 40 CFR 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 act in lieu of Subtitle C RCRA requirements.

States with authorized RCRA programs may already have adopted requirements under State law similar to those in today's rule. These State regulations have not been assessed against the Federal regulations being finalized 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 Parts 257 and 261 are being finalized, for the purpose of authorization under Subtitle C, only the final 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.

### 3. States With More Stringent Programs

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 (i.e., some States do not allow permitted MSWLFs to accept CESQG hazardous waste). For these States, today's final 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 final 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 authorized regulatory language. Further, the authorized State requirements in such States, since they would be more stringent than today's final 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 final rule, the State must have provisions that are authorized by EPA and that are more stringent than the analogous Subtitle C provisions in today's rule. For those States that would not be required to revise their authorization, EPA encourages States to inform their EPA Regional Office by letter that for this final rule, they are 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 requirements contained in today's final rule. Otherwise, EPA might conclude that a revised authorization application is required.

#### *B. State Activities Under Subtitle D (Regulation of Receiving Non-Municipal Non-Hazardous Units)*

States are the lead entities in implementing and enforcing Subtitle D rules. The Agency intends to maintain the State's lead in implementing the Subtitle D program. RCRA Section 4005 requires States to adopt and implement, within 18 months of the publication of a final rule, a permit program or other system of prior approval and conditions to ensure that non-municipal non-hazardous waste disposal units receiving CESQG waste comply with today's standards. The statute requires EPA to determine whether States have developed adequate permit programs. States will need to review their existing programs to determine where their programs need to be revised and to complete program changes, if changes are necessary. The process for evaluating the adequacy of State programs has been set forth in a separate proposal, the State/Tribal Permit Program Determination of Adequacy. See 61 FR 2584, January 26, 1996.

For the purpose of determining adequacy and granting approval under Subtitle D for today's rule, only the proposed technical changes in §§ 257.5 through 257.30 will be evaluated by the Agency. The State may need to meet other procedural and administrative provisions identified in the State/Tribal Permit Program Determination of Adequacy. EPA policy on approval of permit programs for non-municipal non-hazardous waste disposal units receiving CESQG waste 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 State program. For example, if non-municipal non-hazardous waste disposal units subject to this rule are already subject to an approved State MSWLF program (i.e., the non-municipal non-hazardous waste disposal units receiving CESQG waste are currently subject to the Part 258

location restrictions, ground-water monitoring, and corrective action criteria), the State may only be required to submit documentation that the non-municipal non-hazardous waste disposal units receiving CESQG waste are subject to their approved program. In most cases, the Agency anticipates that a streamlined approval process would be appropriate. States are encouraged to contact their appropriate EPA Regional office to determine the specifics of the approval process.

In the proposed State/Tribal permit program determination of adequacy, the Agency originally proposed that a streamlined approval process would not be used for permit programs that related to additional classifications other than MSWLFs. See 61 FR 2599, January 26, 1996. As suggested above, the Agency is re-evaluating its proposed position and a final determination will be made in the final State/Tribal permit program determination of adequacy.

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 §§ 257.5 through 257.30. For purposes of today's rule, 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 finalized 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, in the State permit programs which implement it. EPA provides for public participation in its decisions on whether State permit 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 239 (specifically § 239.6).

Permit programs have been defined in the proposed State/Tribal Permit Program Determination of Adequacy to include other systems of prior approval and conditions, including licenses or registrations.

### *C. Summary of Comments and EPA Response*

Several commenters supported EPA's approach in the proposal toward States with approved Subtitle D programs that have CESQG disposal restrictions in their Subtitle D programs. In particular, the commenters supported EPA's statement that States which require CESQG waste to be disposed of in either Subtitle C facilities or facilities subject to the part 258 MSWLF Criteria do not need EPA approval for a permit program based on today's final (Subtitle D) standards. However, the commenters believed that for these States, the absence of a required EPA approval should be extended to the Subtitle C program.

EPA believes that its approach toward States with programs that are more stringent than this final rule is the same for both the Subtitle C and Subtitle D programs. Those States with approved Subtitle D or authorized Subtitle C program that do not allow CESQG waste to be disposed of in a landfill addressed by today's technical standards do not need approval by EPA for that program. EPA's position is detailed in sections VII.A. and VII.B. above. EPA believes that since the existing approved State requirements are more stringent than the provisions in today's rule, in such States, program revisions are not necessary for the State programs to remain at least equivalent to the Federal rules.

Other commenters raised the possibility of State self-certification for State authorization for both the RCRA Subtitle C and D programs, particularly where the State already has rules that are equivalent to today's rule in its waste management programs. The commenters argued that this self-certification will result in significant resource savings.

Regarding the commenters suggestion on allowing State self-certification, EPA is currently examining this issue for Subtitle C authorization as part of the HWIR-Media rulemaking (see 61 *FR* 18780, April 29, 1996). In the proposed Phase IV LDR rule, EPA proposed an abbreviated authorization process for new minor rule changes (see 60 *FR* 43686, August 22, 1995). Although this authorization proposal did not address the rule changes in the June 12, 1995 proposal, EPA is committed to

streamlining the Subtitle C authorization process.

EPA believes that the authorization process for the Subtitle C portion of today's final rule will be very straightforward because today's rule only added two new provisions to the hazardous waste regulations. EPA will work with States and EPA regions to ensure that the Subtitle C authorization process for this rule will be completed swiftly. EPA believes that it can take such certifications into account to a large degree, thereby, greatly reducing review time. Further, EPA believes that many States will not require revisions to their authorized programs because their authorized programs are currently more stringent than today's rule.

### *D. Owner/Operator Responsibilities*

#### *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 final rule and can be used by approved States in determining facility specific requirements. Owners/operators of non-municipal non-hazardous waste disposal units that are receiving CESQG wastes as of the effective dates of today's final rule, due to the self-implementing nature of this final rule, would be required to comply with the promulgated standards regardless of the status of the States approval determination under Subtitle D. If an owner/operator of a non-municipal non-hazardous waste disposal unit is receiving CESQG waste and is located in a State that has not been approved under Subtitle D for these revised criteria, 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 non-hazardous waste disposal units that receive CESQG waste and are located in approved States may be subject to alternate requirements based on the approved State standards.

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

Today's final rule allows that CESQG waste go to either a hazardous waste facility, a reuse or recycling 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 §§ 257.5 through 257.30 or a solid waste management facility (i.e., incinerator) that is permitted, licensed, or registered by a State to manage municipal or non-municipal waste. Today's final rule does not mandate that CESQG waste go to a MSWLF or to a non-municipal non-hazardous waste disposal unit subject to today's final requirements. These are just two of the options as to where CESQG hazardous waste can be sent for management.

The Agency does not believe that today's final rule amendment to § 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, this practice can continue to occur, as long as allowed under State regulations, as all MSWLFs where CESQG waste could be sent are subject to Part 258. Hazardous waste regulations applicable to CESQGs require that CESQG hazardous waste be managed in a unit permitted, licensed, or registered by the State to manage municipal or industrial waste. Those CESQGs, including construction and demolition waste generators, who wish to send their CESQG waste to a non-municipal non-hazardous waste disposal unit and are uncertain whether the unit has the appropriate permit, license, or registration should contact his/her State Agency to ascertain if the non-municipal non-hazardous waste disposal unit in question can legally accept CESQG waste.

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 compliance with today's final amendments to § 261.5(f)(3) and (g)(3). The remaining non-hazardous waste would not be subject to the final requirements in § 261.5; however, it must be managed in a facility that complies with either the Part 258 Criteria or the existing Criteria in §§ 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 or Subtitle D facility as per today's final language in § 261.5.

#### *E. Enforcement*

##### **1. Hazardous Waste Enforcement**

Today's final rule amends § 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 enforcement actions which could include loss of CESQG status for any CESQG waste that is improperly disposed of.

##### **2. Subtitle D Enforcement**

States that adopt programs meeting the standards in §§ 257.5 through 257.30 may enforce them in accordance with State authorities. Under RCRA Section 7002, citizens may seek enforcement of the standards in §§ 257.5 through 257.30 independent of any State enforcement program. Section 7002 provides that any person may commence a civil action on his/her 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 §§ 257.5 through 257.30 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.

#### **VIII. Executive Order 12866**

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.

Pursuant to the terms of the Executive Order 12866, it has been determined that this rule is a "significant regulatory action" because it raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

#### *A. Cost Impacts*

In the Cost and Economic Impact Analysis (May, 1995) accompanying the proposed rule, the Agency estimated the total annual costs to the economy resulting from the proposed rule ranged from \$10.0 million to \$47.0 million.

The national 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/dispersing the hazardous portion at a Subtitle C facility, and the costs of screening incoming wastes at all of the construction and demolition waste facilities.

The national annual 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.

Upon receipt and incorporation of public comments, the Agency prepared

a revised Cost and Economic Impact Analysis (June, 1996). In the revised analysis, the Agency estimates the total annual costs to the economy for today's final rule will range from \$12.65 to \$51.0 million dollars. These costs fall upon approximately three types of facilities: 600 manufacturing-sector CESQGs, at an average annual cost of \$280 per facility; 10,000 construction-sector CESQGs, at an average cost of \$930 per facility; and 700 construction/demolition waste landfills, at an average cost of \$4500 per facility.

One commentator suggested that EPA had understated the costs of compliance with the new regulation. The commentator supported this conclusion based on several contentions:

(1) The commentator maintained that EPA's estimates of total construction and demolition wastes were flawed because some data sources were inappropriate, including European data. Although EPA agrees that U.S. data would be preferable, the European information provided an important and relevant insight for our analysis. EPA believes that many aspects of construction technology are similar from one developed western country to another. EPA also notes that the costing methodology used in the analysis rests mostly on costs per facility, rather than costs per ton.

(2) The commentator suggested that EPA underestimated the labor required for screening hazardous waste at construction/demolition waste landfills. Data that EPA has collected from construction/demolition landfill owner/operators, however, indicates that screening programs are already in effect at most of these facilities. EPA has collected information on the number of hours required for screening wastes per year per landfill, and believes that the nationwide estimate of one additional hour of labor per day per landfill is reasonable.

(3) The commentator also suggested that EPA had underestimated the amount of labor which would be required to separate wastes at construction sites. The Cost and Economic Impact Analysis estimated one labor hour per week per company for separating hazardous wastes. Since a company can have multiple job-sites operating simultaneously, the commentator indicated that it would be more reasonable to estimate one hour per job-site, rather than per company. EPA agrees, and notes that the wording in the original analysis was incorrect; the estimate was actually labor hours per establishment, where each establishment represents a group of job sites. Therefore, EPA has used the



costing methodology that the commentor recommends.

(4) Finally, the commentor disputes EPA's estimate of the hourly labor cost for screening wastes at the landfill and separating wastes at the generator site. EPA re-examined the labor costs, consulting with the Bureau of Labor Statistics and a standard construction industry costing guide. As a result, EPA agrees with this comment and has adjusted the labor figure by 27% (from \$13.60 per hour to \$17.32 per hour).

Further discussion of the cost analysis can be found in Cost and Economic Impact Analysis of the CESQG Rule, June 1996, available in the docket.

#### 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 final rule will require that any ground-water contamination that is occurring at units that continue to receive CESQG hazardous waste will be quickly detected, and therefore, corrective action can be initiated sooner avoiding a more costly corrective action.

To the extent that existing non-municipal non-hazardous waste disposal units that receive CESQG hazardous waste upgrade their units to include ground-water monitoring, and to the extent that new facilities will be located outside of floodplains and wetlands, public confidence in these types of units will be increased. Having a higher level of confidence should result in these types of units being easier to site in the future.

Finally, to the extent that CESQGs separate out the small volumes of hazardous waste, the resulting mass of clean non-hazardous waste would have a better potential to be recycled.

#### IX. Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, Pub. L. 96-

354), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 ("SBREFA"), EPA must consider whether a regulatory action will have a significant adverse impact on small entities. For a rule promulgated after June 27, 1996, EPA must either certify that the regulation will not have a significant impact on a substantial number of small entities or prepare a final regulatory flexibility analysis that contains an evaluation of five factors. 5 U.S.C. 604(a). Because EPA promulgated this rule prior to June 28, 1996, the revised requirements of SBREFA for an expanded regulatory flexibility analysis if a certification is not made do not apply. At the same time, however, EPA has conducted an analysis to determine whether the rule will have a significant impact on small entities. On the basis of that analysis, EPA certifies that this rule will not have a significant impact on a substantial number of small entities. The factual basis for this certification is as follows.

EPA anticipates that this rule will increase costs for two classes of facilities. CESQG generators that still handle their CESQG waste on site are expected to send their CESQG waste to Subtitle C facilities, at a maximum per-facility cost of \$570 per year. Construction waste generators will incur maximum additional per-firm costs of \$1,469 per year, for separation, transportation, and disposal of hazardous wastes. In each case, EPA's analysis shows that the impacts are less than one percent of annual revenues, for all sizes and types of companies.

This determination is based on EPA's projection of the response of CESQG waste generators and disposal facilities to today's rule. EPA performed a high end analysis, predicated on an assumption that C&D landfills upgrade to meet these standards. In this scenario, cost impacts would be higher. EPA does not expect C&D landfills to upgrade, however, since they would be unlikely to recover the high costs of upgrading. The analysis of effects on small entities is predicated on an assumption that the owners of C&D landfills act rationally, i.e., they choose not to upgrade but rather choose to stop accepting CESQG wastes.

Moreover, EPA has modified the proposed rule in a number of ways so that cost to small entities may be decreased. For example, EPA has included a provision which authorizes Directors of approved state programs to establish an alternative list of indicator parameters not only for the inorganic constituents but also for the organic constituents to be monitored for in the detection monitoring phase of ground

water monitoring. Thus, owner/operators of non-municipal, non-hazardous waste disposal units in approved states may have lower ground water monitoring costs.

In addition, EPA has removed four location restrictions (airports, fault areas, seismic impact zone, and unstable areas) from the final rule for the reasons set forth in Section VI.B of today's preamble. Costs for small entities that own non-municipal, non-hazardous waste disposal units that must comply with this rule would thus be reduced because no demonstrations to establish that these location restrictions have been met would need to be made.

#### X. Submission to Congress and the General Accounting Office

Under section 801(a)(1)(A) of the Administrative Procedure Act (APA) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996, EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of the rule in today's Federal Register. This rule is not a "major rule" as defined by section 804(2) of the APA as amended.

#### XI. Paperwork Reduction Act

The information collection requirements in this 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.* An Information Collection Request (ICR) document has been prepared by EPA (ICR No. 1745.01) and a copy may be obtained from Sandy Farmer, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2136), 401 M St., S.W. Washington, DC 20460 or by calling (202) 260-2740. The information requirements are not effective until OMB approves them.

The information to be collected under this rulemaking would be used primarily by the States to regulate and ensure that non-municipal non-hazardous waste disposal units that may receive CESQG wastes are complying with the final requirements. The information collected would be used by the State Director to confirm compliance on the part of the owner/operator with the final requirements. All information will be reported to the States or kept in an operating record at the facility. EPA will not collect information from any of the facilities subject to today's requirements, except in any potential enforcement case.

The total annual public recordkeeping and reporting burden is estimated to be 12,100 hours with an average of 67 hours per respondent. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPE Regulatory Information Division, U.S. Environmental Protection Agency (2136), 401 M St., S.W., Washington, DC 20460 or to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., N.W., Washington, DC 20503, marked "Attention: Desk Officer for EPA." Include the ICR number in any correspondence.

## XII. Environmental Justice

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 final rule (i.e., construction and demolition landfills). The Agency does not believe, however, that today's final rule will adversely impact minority or low-income populations. The facilities affected by the final rule pose limited risk to surrounding populations. In addition,

today's final rule 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 final rule will 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 will not be adversely affected.

## XIII. Unfunded Mandates Reform Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (the Act), Public Law 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 today's final rule 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 today's final 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 \$12.65-48.9M.

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 units comply with the final rule. Adoption and implementation of such State permit programs is required under RCRA section 4005(c)(1)(B). 42 USC 6945(c)(1)(B). 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 final rule, 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 final rule 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. This issue is discussed in the proposal STIR. See 61 FR 2584, January 26, 1996. 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 final rule, EPA expects that the costs which a tribal government might face in developing a permit program for CESQG units should be less than \$7,000.

EPA has also finalized amendments to the requirements for generators of CESQG hazardous waste. These amendments to 40 CFR 261.5 (f)(3) and (g)(3) are finalized 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 less.

As to section 203 of the Act, EPA has determined that the requirements being finalized today will not significantly or uniquely affect small governments, including tribal governments. EPA recognizes that small governments may own or operate waste disposal units that receive CESQG waste. However, EPA continues to estimate that the majority of construction and demolition landfills, which are the primary facilities to be subject to this 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 finalized today. Thus, EPA believes that today's final 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 final rule by seeking comments on the proposed CESQG rule and by attempting to adequately address issues and concerns expressed by these entities in their comments. Furthermore, the Agency highlighted, in the June 12, 1995 proposal, those actions that it took to get meaningful and timely input from these entities prior to proposal.

#### List of Subjects

#### 40 CFR Part 257

Environmental protection, Reporting and recordkeeping requirements, Waste disposal.

#### 40 CFR Part 261

Hazardous materials, Recycling, Waste treatment and disposal.

#### 40 CFR Part 271

Administrative practice and procedure, Hazardous materials transportation, Hazardous waste, Indian-lands, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control, Water supply.

Dated: June 21, 1996.

Carol M. Browner,  
Administrator.

For reasons set out in the preamble, title 40, Chapter I of the Code of Federal Regulations is amended as set forth below:

### PART 257—CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES

1. The authority citation for part 257 is revised to read as follows:

Authority: 42 U.S.C. 6907(a)(3), 6912(a)(1), 6944(a) and 6949(c), 33 U.S.C. 1345 (d) and (e).

#### §§ 257.1 through 257.4 [Redesignated as Subpart A]

2. Sections 257.1 through 257.4 are designated as Subpart A—Classification of Solid Waste Disposal Facilities and Practices.

3. Section 257.1(a) is revised to read as follows:

#### § 257.1 Scope and purpose.

(a) Unless otherwise provided, the criteria in §§ 257.1 through 257.4 are adopted for determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment under sections 1008(a)(3) and 4004(a) of the Resource Conservation and Recovery Act (The Act). Unless otherwise provided, the criteria in §§ 257.5 through 257.30 are adopted for purposes of ensuring that non-municipal non-hazardous waste disposal units that receive conditionally exempt small quantity generator (CESQG) waste do not present risks to human health and the environment taking into account the practicable capability of such units in accordance with Section 4010(c) of the Act.

(1) Facilities failing to satisfy either the criteria in §§ 257.1 through 257.4 or §§ 257.5 through 257.30 are considered open dumps, which are prohibited under section 4005 of the Act.

(2) Practices failing to satisfy either the criteria in §§ 257.1 through 257.4 or §§ 257.5 through 257.30 constitute open dumping, which is prohibited under section 4005 of the Act.

\* \* \* \* \*

4. Part 257 is amended by adding a new Subpart B to read as follows:

### Subpart B—Disposal Standards for the Receipt of Conditionally Exempt Small Quantity Generator (CESQG) Wastes at Non-Municipal Non-Hazardous Waste Disposal Units

#### Sec.

257.5 Disposal standards for owners/operators of non-municipal non-hazardous waste disposal units that receive Conditionally Exempt Small Quantity Generator (CESQG) waste

#### Location Restrictions

257.7 Reserved  
257.8 Floodplains.  
257.9 Wetlands  
257.10 Reserved  
257.11 Reserved  
257.12 Reserved  
257.13 Deadline for making demonstrations.

#### Ground-Water Monitoring and Corrective Action

257.21 Applicability.  
257.22 Ground-water monitoring systems.  
257.23 Ground-water sampling and analysis requirements.  
257.24 Detection monitoring program.  
257.25 Assessment monitoring program.  
257.26 Assessment of corrective measures.  
257.27 Selection of remedy.  
257.28 Implementation of the corrective action program.

#### Recordkeeping Requirement

257.30 Recordkeeping requirements.

### Subpart B—Disposal Standards for the Receipt of Conditionally Exempt Small Quantity Generator (CESQG) Wastes at Non-Municipal Non-Hazardous Waste Disposal Units

§ 257.5 Disposal standards for owners/operators of non-municipal non-hazardous waste disposal units that receive Conditionally Exempt Small Quantity Generator (CESQG) waste.

(a) *Applicability.* (1) The requirements in this section apply to owners/operators of any non-municipal non-hazardous waste disposal unit that receives CESQG hazardous waste, as defined in 40 CFR 261.5. Non-municipal non-hazardous waste disposal units that meet the requirements of this section may receive CESQG wastes. Any owner/operator of a non-municipal non-hazardous waste disposal unit that receives CESQG hazardous waste continues to be subject to the requirements in §§ 257.3–2, 257.3–3, 257.3–5, 257.3–6, 257.3–7, and 257.3–8 (a), (b), and (d).

(2) Any non-municipal non-hazardous waste disposal unit that is receiving CESQG hazardous waste as of January 1, 1998, must be in compliance with the requirements in §§ 257.7 through 257.13 and § 257.30 by January 1, 1998, and the requirements in §§ 257.21 through 257.28 by July 1, 1998.

(3) Any non-municipal non-hazardous waste disposal unit that does not meet the requirements in this section may not receive CESQG wastes.

(4) Any non-municipal non-hazardous waste disposal unit that is not receiving CESQG Hazardous waste as of January 1, 1998, continues to be subject to the requirements in §§ 257.1 through 257.4.

(5) Any non-municipal non-hazardous waste disposal unit that first receives CESQG hazardous waste after January 1, 1998, must be in compliance with §§ 257.7 through 257.30 prior to the receipt of CESQG hazardous waste.

**(b) Definitions.**

*Active life* means the period of operation beginning with the initial receipt of solid waste and ending at the final receipt of solid waste.

*Existing unit* means any non-municipal non-hazardous waste disposal unit that is receiving CESQG hazardous waste as of January 1, 1998.

*Facility* means all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of non-municipal non-hazardous waste.

*Lateral expansion* means a horizontal expansion of the waste boundaries of an existing non-municipal non-hazardous waste disposal unit.

*New unit* means any non-municipal non-hazardous waste disposal unit that has not received CESQG hazardous waste prior to January 1, 1998.

*State* means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands, and Indian Tribes.

*State Director* means the chief administrative officer of the lead State/Tribal agency responsible for implementing the State/Tribal permit program for Subtitle D regulated facilities.

*Uppermost aquifer* means the geologic formation nearest the natural ground surface that is an aquifer, as well as, lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

*Waste management unit boundary* means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

**Location Restrictions**

**§ 257.7 [Reserved]**

**§ 257.8 Floodplains.**

(a) Owners or operators of new units, existing units, and lateral expansions located in 100-year floodplains must demonstrate that the unit 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. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record.

(b) For purposes of this section:

(1) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(2) "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

(3) "Washout" means the carrying away of solid waste by waters of the base flood.

**§ 257.9 Wetlands.**

(a) Owners or operators of new units and lateral expansions shall not locate such units in wetlands, unless the owner or operator can make the following demonstrations to the Director of an approved State:

(1) Where applicable under section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that a practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted;

(2) The construction and operation of the unit will not:

(i) Cause or contribute to violations of any applicable State water quality standard;

(ii) Violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act;

(iii) Jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973; and

(iv) Violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary;

(3) The unit will not cause or contribute to significant degradation of wetlands. The owner/operator must demonstrate the integrity of the unit and its ability to protect ecological resources by addressing the following factors:

(i) Erosion, stability, and migration potential of native wetland soils, muds and deposits used to support the unit;

(ii) Erosion, stability, and migration potential of dredged and fill materials used to support the unit;

(iii) The volume and chemical nature of the waste managed in the unit;

(iv) Impacts on fish, wildlife, and other aquatic resources and their habitat from release of the waste;

(v) The potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(vi) Any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected.

(4) To the extent required under section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by paragraph (a)(1) of this section, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(5) Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(b) For purposes of this section, wetlands means those areas that are defined in 40 CFR 232.2(r).

**§ 257.10 [Reserved]**

**§ 257.11 [Reserved]**

**§ 257.12 [Reserved]**

**§ 257.13 Deadline for making demonstrations.**

Existing units that cannot make the demonstration specified in § 257.8(a) pertaining to floodplains by January 1, 1998, must not accept CESQG hazardous waste for disposal.

**Ground-water monitoring and corrective action.**

**§ 257.21 Applicability.**

(a) The requirements in this section apply to units identified in § 257.5(a), except as provided in paragraph (b) of this section.

(b) Ground-water monitoring requirements under §§ 257.22 through 257.25 may be suspended by the Director of an approved State for a unit identified in § 257.5(a) if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that unit to the uppermost aquifer during the active life of the unit plus 30 years. This demonstration must be certified by a qualified ground-water scientist and

approved by the Director of an approved State, and must be based upon:

(1) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport; and

(2) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and environment.

(c) Owners and operators of facilities identified in § 257.5(a) must comply with the ground-water monitoring requirements of this section according to the following schedule unless an alternative schedule is specified under paragraph (d) of this section:

(1) Existing units and lateral expansions must be in compliance with the ground-water monitoring requirements specified in §§ 257.22 through 257.25 by July 1, 1998.

(2) New units identified in § 257.5(a) must be in compliance with the ground-water monitoring requirements specified in §§ 257.22 through 257.25 before waste can be placed in the unit.

(d) The Director of an approved State may specify an alternative schedule for the owners or operators of existing units and lateral expansions to comply with the ground-water monitoring requirements specified in §§ 257.22 through 257.25. This schedule must ensure that 50 percent of all existing units are in compliance by July 1, 1998, and all existing units are in compliance by July 1, 1999. In setting the compliance schedule, the Director of an approved State must consider potential risks posed by the unit to human health and the environment. The following factors should be considered in determining potential risk:

- (1) Proximity of human and environmental receptors;
- (2) Design of the unit;
- (3) Age of the unit;
- (4) The size of the unit; and
- (5) Resource value of the underlying aquifer, including:
  - (i) Current and future uses;
  - (ii) Proximity and withdrawal rate of users; and
  - (iii) Ground-water quality and quantity.

(e) Once established at a unit, ground-water monitoring shall be conducted throughout the active life plus 30 years. The Director of an approved State may decrease the 30 year period if the owner/operator demonstrates that a shorter period of time is adequate to protect human health and the environment and the Director approves the demonstration.

(f) For the purposes of this section, a qualified ground-water scientist is a

scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in ground-water hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding ground-water monitoring, contaminant fate and transport, and corrective action.

(g) The Director of an approved State may establish alternative schedules for demonstrating compliance with § 257.22(d)(2), pertaining to notification of placement of certification in operating record; § 257.24(c)(1), pertaining to notification that statistically significant increase (SSI) notice is in operating record; § 257.24(c)(2) and (3), pertaining to an assessment monitoring program; § 257.25(b), pertaining to sampling and analyzing appendix II of Part 258 constituents; § 257.25(d)(1), pertaining to placement of notice (appendix II of 40 CFR part 258 constituents detected) in record and notification of notice in record; § 257.25(d)(2), pertaining to sampling for appendix I and II of 40 CFR Part 258; § 257.25(g), pertaining to notification (and placement of notice in record) of SSI above ground-water protection standard; §§ 257.25(g)(1)(iv) and 257.26(a), pertaining to assessment of corrective measures; § 257.27(a), pertaining to selection of remedy and notification of placement in record; § 257.28(c)(4), pertaining to notification of placement in record (alternative corrective action measures); and § 257.28(f), pertaining to notification of placement in record (certification of remedy completed).

(h) Directors of approved States can use the flexibility in paragraph (i) of this section for any non-municipal non-hazardous waste disposal unit that receives CESQG waste, if the non-municipal non-hazardous waste disposal unit:

- (1) Disposes of less than 20 tons of non-municipal waste daily, based on an annual average; and
- (2) Has no evidence of ground-water contamination; and either
- (3) Serves a community that experiences an annual interruption of at least three consecutive months of surface transportation that prevents access to a regional waste management facility; or
- (4) Serves a community that has no practicable waste management alternative and the non-municipal solid waste disposal facility is located in an

area that annually receives less than or equal to 25 inches of precipitation.

(5) Owners/operators of any non-municipal non-hazardous waste disposal unit that meets the criteria in paragraph (h) of this section must place in the operating record information demonstrating this.

(i) Directors of approved States may allow any non-municipal non-hazardous waste disposal unit meeting the criteria in paragraph (h) of this section to:

(1) Use alternatives to the ground-water monitoring system prescribed in §§ 257.22 through 257.25 so long as the alternatives will detect and, if necessary, assess the nature or extent of contamination from the non-municipal non-hazardous waste disposal unit on a site-specific basis; or establish and use, on a site-specific basis, an alternative list of indicator parameters for some or all of the constituents listed in Appendix I (Appendix I of 40 CFR Part 258. Alternative indicator parameters approved by the Director of an approved State under this section must ensure detection of contamination from the non-municipal non-hazardous waste disposal unit.

(2) If contamination is detected through the use of any alternative to the ground-water monitoring system prescribed in §§ 257.22 through 257.25, the non-municipal non-hazardous waste disposal unit owner or operator must perform expanded monitoring to determine whether the detected contamination is an actual release from the non-municipal solid waste disposal unit and, if so, to determine the nature and extent of the contamination. The Director of the approved State shall establish a schedule for the non-municipal non-hazardous waste disposal unit owner or operator to submit results from expanded monitoring in a manner that ensures protection of human health and the environment.

(i) If expanded monitoring indicates that contamination from the non-municipal non-hazardous waste disposal unit has reached the saturated zone, the owner or operator must install ground-water monitoring wells and sample these wells in accordance with §§ 257.22 through 257.25.

(ii) If expanded monitoring indicates that contamination from the non-municipal non-hazardous waste disposal unit is present in the unsaturated zone or on the surface, the Director of an approved State shall establish a schedule for the owner or operator to submit a description of any necessary corrective measures. The schedule shall ensure corrective

measures, where necessary, are undertaken in a timely manner that protects human health and the environment. The proposed corrective measures are subject to revision and approval by the Director of the approved State. The owner or operator must implement the corrective measures according to a schedule established by the Director of the approved State.

(3) When considering whether to allow alternatives to a ground-water monitoring system prescribed in §§ 257.22 through 257.25, including alternative indicator parameters, the Director of an approved State shall consider at least the following factors:

(i) The geological and hydrogeological characteristics of the site;

(ii) The impact of manmade and natural features on the effectiveness of an alternative technology;

(iii) Climatic factors that may influence the selection, use, and reliability of alternative ground-water monitoring procedures; and

(iv) The effectiveness of indicator parameters in detecting a release.

(4) The Director of an approved State can require an owner or operator to comply with the requirements of §§ 257.22 through 257.25, where it is determined by the Director that using alternatives to ground-water monitoring approved under this paragraph are inadequate to detect contamination and, if necessary, to assess the nature and extent of contamination.

#### **§ 257.22 Ground-water monitoring systems.**

(a) A ground-water monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield ground-water samples from the uppermost aquifer (as defined in § 257.5(b)) that:

(1) Represent the quality of background ground water that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(i) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or

(ii) Sampling at other wells will provide an indication of background ground-water quality that is as representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the relevant point of compliance specified by the Director of an approved State or at the waste

management unit boundary in an unapproved State. The downgradient monitoring system must be installed at the relevant point of compliance specified by the Director of an approved State or at the waste management unit boundary in an unapproved State that ensures detection of ground-water contamination in the uppermost aquifer. The relevant point of compliance specified by the Director of an approved State shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the facility. In determining the relevant point of compliance the State Director shall consider at least the following factors: the hydrogeologic characteristics of the unit and surrounding land, the volume and physical and chemical characteristics of the leachate, the quantity, quality and direction of flow of ground water, the proximity and withdrawal rate of the ground-water users, the availability of alternative drinking water supplies, the existing quality of the ground water, including other sources of contamination and their cumulative impacts on the ground water, and whether the ground water is currently used or reasonably expected to be used for drinking water, public health, safety, and welfare effects, and practicable capability of the owner or operator. When physical obstacles preclude installation of ground-water monitoring wells at the relevant point of compliance at existing units, the down-gradient monitoring system may be installed at the closest practicable distance hydraulically down-gradient from the relevant point of compliance specified by the Director of an approved State that ensures detection of groundwater contamination in the uppermost aquifer.

(b) The Director of an approved State may approve a multi-unit ground-water monitoring system instead of separate ground-water monitoring systems for each unit when the facility has several units, provided the multi-unit ground-water monitoring system meets the requirement of § 257.22(a) and will be as protective of human health and the environment as individual monitoring systems for each unit, based on the following factors:

(1) Number, spacing, and orientation of the units;

(2) Hydrogeologic setting;

(3) Site history;

(4) Engineering design of the units; and

(5) Type of waste accepted at the units.

(c) Monitoring wells must be cased in a manner that maintains the integrity of

the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(1) The owner or operator must notify the State Director that the design, installation, development, and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

(d) The number, spacing, and depths of monitoring systems shall be:

(1) Determined based upon site-specific technical information that must include thorough characterization of:

(i) Aquifer thickness, ground-water flow rate, ground-water flow direction including seasonal and temporal fluctuations in ground-water flow; and

(ii) Saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(2) Certified by a qualified ground-water scientist or approved by the Director of an approved State. Within 14 days of this certification, the owner or operator must notify the State Director that the certification has been placed in the operating record.

#### **§ 257.23 Ground-water sampling and analysis requirements.**

(a) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of ground-water quality at the background and downgradient wells installed in compliance with § 257.22(a). The owner or operator must notify the State Director that the sampling and analysis program documentation has been placed in the operating record and the program must include procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

(b) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents and other monitoring parameters in ground-water samples. Ground-water samples shall not be field-filtered prior to laboratory analysis.

(c) The sampling procedures and frequency must be protective of human health and the environment.

(d) Ground-water elevations must be measured in each well immediately prior to purging, each time ground water is sampled. The owner or operator must determine the rate and direction of ground-water flow each time ground water is sampled. Ground-water elevations in wells which monitor the same waste management area must be measured within a period of time short enough to avoid temporal variations in ground-water flow which could preclude accurate determination of ground-water flow rate and direction.

(e) The owner or operator must establish background ground-water quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular ground-water monitoring program that applies to the unit, as determined under § 257.24(a), or § 257.25(a). Background ground-water quality may be established at wells that are not located hydraulically upgradient from the unit if it meets the requirements of § 257.22(a)(1).

(f) The number of samples collected to establish ground-water quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph (g) of this section. The sampling procedures shall be those specified under § 257.24(b) for detection monitoring, § 257.25 (b) and (d) for assessment monitoring, and § 257.26(b) for corrective action.

(g) The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of

contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method that meets the performance standards of paragraph (h) of this section. The owner or operator must place a justification for this alternative in the operating record and notify the State Director of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of paragraph (h) of this section.

(h) Any statistical method chosen under paragraph (g) of this section shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(4) If a tolerance interval or a prediction interval is used to evaluate ground-water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(i) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular ground-water monitoring program that applies to the unit, as determined under §§ 257.24(a) or 257.25(a).

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the ground-water quality of each parameter or constituent at each monitoring well designated pursuant to § 257.22(a)(2) to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (g) and (h) of this section.

(2) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well.



**§ 257.24 Detection monitoring program.**

(a) Detection monitoring is required at facilities identified in § 257.5(a) at all ground-water monitoring wells defined under §§ 257.22 (a)(1) and (a)(2). At a minimum, a detection monitoring program must include the monitoring for the constituents listed in appendix I of 40 CFR Part 258.

(1) The Director of an approved State may delete any of the appendix I (Appendix I of 40 CFR Part 258) monitoring parameters for a unit if it can be shown that the removed constituents are not reasonably expected to be contained in or derived from the waste contained in the unit.

(2) The Director of an approved State may establish an alternative list of indicator parameters for a unit, in lieu of some or all of the constituents in appendix I to 40 CFR Part 258, if the alternative parameters provide a reliable indication of releases from the unit to the ground water. In determining alternative parameters, the Director shall consider the following factors:

(i) The types, quantities, and concentrations of constituents in waste managed at the unit;

(ii) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the unit;

(iii) The detectability of indicator parameters, waste constituents, and reaction products in the ground water; and

(iv) The concentration or values and coefficients of variation of monitoring parameters or constituents in the groundwater background.

(b) The monitoring frequency for all constituents listed in appendix I to 40 CFR Part 258, or in the alternative list approved in accordance with paragraph (a)(2) of this section, shall be at least semiannual during the active life of the unit plus 30 years. A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the appendix I (Appendix I of 40 CFR, Part 258) constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the first semiannual sampling event. At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events. The Director of an approved State may specify an appropriate alternative frequency for repeated sampling and analysis for appendix I (Appendix I of 40 CFR Part 258) constituents, or the alternative list approved in accordance with paragraph (a)(2) of this section, during the active life plus 30 years. The alternative

frequency during the active life shall be no less than annual. The alternative frequency shall be based on consideration of the following factors:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Ground-water flow rates;

(4) Minimum distance between upgradient edge of the unit and downgradient monitoring well screen (minimum distance of travel); and

(5) Resource value of the aquifer.

(c) If the owner or operator determines, pursuant to § 257.23(g), that there is a statistically significant increase over background for one or more of the constituents listed in appendix I to 40 CFR Part 258, or in the alternative list approved in accordance with paragraph (a)(2) of this section, at any monitoring well at the boundary specified under § 257.22(a)(2), the owner or operator:

(1) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the State Director that this notice was placed in the operating record; and

(2) Must establish an assessment monitoring program meeting the requirements of § 257.25 within 90 days except as provided for in paragraph (c)(3) of this section.

(3) The owner/operator may demonstrate that a source other than the unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in this section. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in § 257.25.

**§ 257.25 Assessment monitoring program.**

(a) Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in appendix I of 40 CFR Part 258 or in the alternative list approved in accordance with § 257.24(a)(2).

(b) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the ground water for all constituents identified in appendix II of 40 CFR Part 258. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as the result of the complete appendix II (Appendix II of 40 CFR Part 258) analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents. The Director of an approved State may specify an appropriate subset of wells to be sampled and analyzed for appendix II (Appendix II of 40 CFR Part 258) constituents during assessment monitoring. The Director of an approved State may delete any of the appendix II (Appendix II of 40 CFR Part 258) monitoring parameters for a unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit.

(c) The Director of an approved State may specify an appropriate alternate frequency for repeated sampling and analysis for the full set of appendix II (Appendix II of 40 CFR part 258) constituents, or the alternative list approved in accordance with paragraph (b) of this section, during the active life plus 30 years considering the following factors:

(1) Lithology of the aquifer and unsaturated zone;

(2) Hydraulic conductivity of the aquifer and unsaturated zone;

(3) Ground-water flow rates;

(4) Minimum distance between upgradient edge of the unit and downgradient monitoring well screen (minimum distance of travel);

(5) Resource value of the aquifer; and

(6) Nature (fate and transport) of any constituents detected in response to this section.

(d) After obtaining the results from the initial or subsequent sampling events required in paragraph (b) of this section, the owner or operator must:

(1) Within 14 days, place a notice in the operating record identifying the appendix II (appendix II of 40 CFR part 258) constituents that have been detected and notify the State Director that this notice has been placed in the operating record;

(2) Within 90 days, and on at least a semiannual basis thereafter, resample all wells specified by § 257.22(a) to this section, conduct analyses for all

constituents in appendix I (Appendix I of 40 CFR part 258) to this part or in the alternative list approved in accordance with § 257.24(a)(2), and for those constituents in appendix II to 40 CFR part 258 that are detected in response to paragraph (b) of this section, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events. The Director of an approved State may specify an alternative monitoring frequency during the active life plus 30 years for the constituents referred to in this paragraph. The alternative frequency for appendix I (Appendix I of 40 CFR part 258) constituents, or the alternative list approved in accordance with § 257.24(a)(2), during the active life shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (c) of this section;

(3) Establish background concentrations for any constituents detected pursuant to paragraphs (b) or (d)(2) of this section; and

(4) Establish ground-water protection standards for all constituents detected pursuant to paragraph (b) or (d) of this section. The ground-water protection standards shall be established in accordance with paragraphs (h) or (i) of this section.

(e) If the concentrations of all appendix II (Appendix II of 40 CFR part 258) constituents are shown to be at or below background values, using the statistical procedures in § 257.23(g), for two consecutive sampling events, the owner or operator must notify the State Director of this finding and may return to detection monitoring.

(f) If the concentrations of any appendix II (Appendix II of part 258) constituents are above background values, but all concentrations are below the ground-water protection standard established under paragraphs (h) or (i) of this section, using the statistical procedures in § 257.23(g), the owner or operator must continue assessment monitoring in accordance with this section.

(g) If one or more appendix II (Appendix II of CFR part 258) constituents are detected at statistically significant levels above the ground-water protection standard established under paragraphs (h) or (i) of this section in any sampling event, the owner or operator must, within 14 days of this finding, place a notice in the operating record identifying the appendix II (Appendix II of 40 CFR part 258) constituents that have exceeded the ground-water protection standard and

notify the State Director and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

(1)(i) Must characterize the nature and extent of the release by installing additional monitoring wells as necessary;

(ii) Must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with paragraph (d)(2) of this section;

(iii) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with paragraph (g)(1) of this section; and

(iv) Must initiate an assessment of corrective measures as required by § 257.26 within 90 days; or

(2) May demonstrate that a source other than the non-municipal non-hazardous waste disposal unit caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground-water quality. A report documenting this demonstration must be certified by a qualified ground-water scientist or approved by the Director of an approved State and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to this § 257.25, and may return to detection monitoring if the appendix II (Appendix II of 40 CFR part 258) constituents are at or below background as specified in paragraph (e) of this section. Until a successful demonstration is made, the owner or operator must comply with § 257.25(g) including initiating an assessment of corrective measures.

(h) The owner or operator must establish a ground-water protection standard for each appendix II (Appendix II of 40 CFR part 258) constituent detected in the ground-water. The ground-water protection standard shall be:

(1) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified under 40 CFR part 141, the MCL for that constituent;

(2) For constituents for which MCLs have not been promulgated, the background concentration for the

constituent established from wells in accordance with § 257.22(a)(1); or

(3) For constituents for which the background level is higher than the MCL identified under subparagraph (h)(1) of this section or health based levels identified under paragraph (i)(1) of this section, the background concentration.

(i) The Director of an approved State may establish an alternative ground-water protection standard for constituents for which MCLs have not been established. These ground-water protection standards shall be appropriate health based levels that satisfy the following criteria:

(1) The level is derived in a manner consistent with Agency guidelines for assessing the health risks of environmental pollutants (51 FR 33992, 34006, 34014, 34028, September 24, 1986);

(2) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(3) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) within the  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  range; and

(4) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this subpart, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

(j) In establishing ground-water protection standards under paragraph (i) of this section, the Director of an approved State may consider the following:

(1) Multiple contaminants in the ground water;

(2) Exposure threats to sensitive environmental receptors; and

(3) Other site-specific exposure or potential exposure to ground water.

#### **§ 257.26 Assessment of corrective measures.**

(a) Within 90 days of finding that any of the constituents listed in appendix II (Appendix II of 40 CFR Part 258) have been detected at a statistically significant level exceeding the ground-water protection standards defined under § 257.25 (h) or (i), the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(b) The owner or operator must continue to monitor in accordance with

the assessment monitoring program as specified in § 257.25.

(c) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described under § 257.27, addressing at least the following:

(1) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross-media impacts, and control of exposure to any residual contamination;

(2) The time required to begin and complete the remedy;

(3) The costs of remedy implementation; and

(4) The institutional requirements such as State or local permit requirements or other environmental or public health requirements that may substantially affect implementation of the remedy(s).

(d) The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

#### **§ 257.27 Selection of remedy.**

(a) Based on the results of the corrective measures assessment conducted under § 257.26, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (b) of this section. The owner or operator must notify the State Director, within 14 days of selecting a remedy, that a report describing the selected remedy has been placed in the operating record and how it meets the standards in paragraph (b) of this section.

(b) Remedies must:

(1) Be protective of human health and the environment;

(2) Attain the ground-water protection standard as specified pursuant to §§ 257.25 (h) or (i);

(3) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of appendix II (Appendix II of 40 CFR part 258) constituents into the environment that may pose a threat to human health or the environment; and

(4) Comply with standards for management of wastes as specified in § 257.28(d).

(c) In selecting a remedy that meets the standards of § 257.27(b), the owner or operator shall consider the following evaluation factors:

(1) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

(i) Magnitude of reduction of existing risks;

(ii) Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;

(iii) The type and degree of long-term management required, including monitoring, operation, and maintenance;

(iv) Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and re-disposal or containment;

(v) Time until full protection is achieved;

(vi) Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, re-disposal, or containment;

(vii) Long-term reliability of the engineering and institutional controls; and

(viii) Potential need for replacement of the remedy.

(2) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors:

(i) The extent to which containment practices will reduce further releases;

(ii) The extent to which treatment technologies may be used.

(3) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

(i) Degree of difficulty associated with constructing the technology;

(ii) Expected operational reliability of the technologies;

(iii) Need to coordinate with and obtain necessary approvals and permits from other agencies;

(iv) Availability of necessary equipment and specialists; and

(v) Available capacity and location of needed treatment, storage, and disposal services.

(4) Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

(5) The degree to which community concerns are addressed by a potential remedy(s).

(d) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration

the factors set forth in paragraphs (d)(1) through (d)(8) of this section. The owner or operator must consider the following factors in determining the schedule of remedial activities:

(1) Extent and nature of contamination;

(2) Practical capabilities of remedial technologies in achieving compliance with ground-water protection standards established under §§ 257.25 (g) or (h) and other objectives of the remedy;

(3) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;

(4) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives;

(5) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;

(6) Resource value of the aquifer including:

(i) Current and future uses;

(ii) Proximity and withdrawal rate of users;

(iii) Ground-water quantity and quality;

(iv) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituent;

(v) The hydrogeologic characteristic of the unit and surrounding land;

(vi) Ground-water removal and treatment costs; and

(vii) The cost and availability of alternative water supplies.

(7) Practicable capability of the owner or operator.

(8) Other relevant factors.

(e) The Director of an approved State may determine that remediation of a release of an appendix II (Appendix II of 40 CFR part 258) constituent from the unit is not necessary if the owner or operator demonstrates to the Director of the approved state that:

(1) The ground-water is additionally contaminated by substances that have originated from a source other than the unit and those substances are present in concentrations such that cleanup of the release from the unit would provide no significant reduction in risk to actual or potential receptors; or

(2) The constituent(s) is present in ground water that:

(i) Is not currently or reasonably expected to be a source of drinking water; and

(ii) Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely

to migrate in a concentration(s) that would exceed the ground-water protection standards established under § 257.25 (h) or (i); or

(3) Remediation of the release(s) is technically impracticable; or

(4) Remediation results in unacceptable cross-media impacts.

(f) A determination by the Director of an approved State pursuant to paragraph (e) of this section shall not affect the authority of the State to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the ground-water, to prevent exposure to the ground-water, or to remediate the ground-water to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

#### **§ 257.28 Implementation of the corrective action program.**

(a) Based on the schedule established under § 257.27(d) for initiation and completion of remedial activities the owner/operator must:

(1) Establish and implement a corrective action ground-water monitoring program that:

(i) At a minimum, meets the requirements of an assessment monitoring program under § 257.25;

(ii) Indicates the effectiveness of the corrective action remedy; and

(iii) Demonstrates compliance with ground-water protection standard pursuant to paragraph (e) of this section.

(2) Implement the corrective action remedy selected under § 257.27; and

(3) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to § 257.27. The following factors must be considered by an owner or operator in determining whether interim measures are necessary:

(i) Time required to develop and implement a final remedy;

(ii) Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

(iii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iv) Further degradation of the ground-water that may occur if remedial action is not initiated expeditiously;

(v) Weather conditions that may cause hazardous constituents to migrate or be released;

(vi) Risks of fire or explosion, or potential for exposure to hazardous

constituents as a result of an accident or failure of a container or handling system; and

(vii) Other situations that may pose threats to human health and the environment.

(b) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements of § 257.27(b) are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practically achieve compliance with the requirements, unless the owner or operator makes the determination under § 257.28(c).

(c) If the owner or operator determines that compliance with requirements under § 257.27(b) cannot be practically achieved with any currently available methods, the owner or operator must:

(1) Obtain certification of a qualified ground-water scientist or approval by the Director of an approved State that compliance with requirements under § 257.27(b) cannot be practically achieved with any currently available methods;

(2) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

(3) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

(i) Technically practicable; and

(ii) Consistent with the overall objective of the remedy.

(4) Notify the State Director within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(d) All solid wastes that are managed pursuant to a remedy required under § 257.27, or an interim measure required under § 257.28(a)(3), shall be managed in a manner:

(1) That is protective of human health and the environment; and

(2) That complies with applicable RCRA requirements.

(e) Remedies selected pursuant to § 257.27 shall be considered complete when:

(1) The owner or operator complies with the ground-water protection standards established under §§ 257.25 (h) or (i) at all points within the plume of contamination that lie beyond the ground-water monitoring well system established under § 257.22(a).

(2) Compliance with the ground-water protection standards established under §§ 257.25 (h) or (i) has been achieved by demonstrating that concentrations of appendix II (Appendix II of Part 258) constituents have not exceeded the ground-water protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in § 257.23 (g) and (h). The Director of an approved State may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of appendix II (Appendix II of 40 CFR part 258) constituents have not exceeded the ground-water protection standard(s) taking into consideration:

(i) Extent and concentration of the release(s);

(ii) Behavior characteristics of the hazardous constituents in the ground-water;

(iii) Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and

(iv) Characteristics of the ground-water.

(3) All actions required to complete the remedy have been satisfied.

(f) Upon completion of the remedy, the owner or operator must notify the State Director within 14 days that a certification that the remedy has been completed in compliance with the requirements of § 257.28(e) has been placed in the operating record. The certification must be signed by the owner or operator and by a qualified ground-water scientist or approved by the Director of an approved State.

#### **Recordkeeping Requirements**

##### **§ 257.30 Recordkeeping requirements.**

(a) The owner/operator of a non-municipal non-hazardous waste disposal unit must record and retain near the facility in an operating record or in an alternative location approved by the Director of an approved State the following information as it becomes available:

(1) Any location restriction demonstration required under §§ 257.7 through 257.12; and

(2) Any demonstration, certification, finding, monitoring, testing, or analytical data required in §§ 257.21 through 257.28.

(b) The owner/operator must notify the State Director when the documents from paragraph (a) of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished

upon request to the State Director or be made available at all reasonable times for inspection by the State Director.

(c) The Director of an approved State can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs (a) and (b) of this section, except for the notification requirements in § 257.25(g)(1)(iii).

#### **PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTES**

5. The authority citation for Part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

##### **Subpart A—General**

6. Section 261.5 is amended by revising paragraphs (f)(3) and (g)(3) to read as follows:

##### **§ 261.5 Special requirements for hazardous waste generated by conditionally exempt small quantity generators.**

\* \* \* \* \*

(f) \* \* \*

(3) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage, or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under part 270 of this chapter;

(ii) In interim status under parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste

management program approved under part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to Part 258 of this chapter;

(v) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in §§ 257.5 through 257.30 of this chapter; or

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or

(vii) For universal waste managed under part 273 of this chapter, a universal waste handler or destination facility subject to the requirements of part 273 of this chapter.

(g) \* \* \*

(3) A conditionally exempt small quantity generator may either treat or dispose of his hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under part 270 of this chapter;

(ii) In interim status under parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to Part 258 of this chapter;

(v) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in §§ 257.5 through 257.30 of this chapter; or

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or

(vii) For universal waste managed under part 273 of this chapter, a universal waste handler or destination facility subject to the requirements of part 273 of this chapter.

\* \* \* \* \*

#### **PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS**

7. The authority citation for part 271 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), and 6926.

8. In § 271.1, paragraph (j), Table 1 is amended by adding the following entry in chronological order by publication date:

##### **§ 271.1 Purpose and scope.**

\* \* \* \* \*

(j) \* \* \*

TABLE 1.—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Promulgation date	Title of regulation	Federal Register reference	Effective date
* * * * *			
July 1, 1996	Revisions to Criteria applicable to solid waste facilities that may accept CESQG hazardous wastes, excluding MSWLFs.	61 FR 34278 .....	January 1, 1998.