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OFFICE OF  
WATER

MEMORANDUM

SUBJECT: Final Sewage Sludge Interim Permitting Strategy  
FROM: *Rebecca Hanmer*  
Rebecca Hanmer  
Acting Assistant Administrator for Water  
TO: Water Management Division Directors, Regions I-X  
NPDES State Directors  
State Sludge Program Directors

Attached is the final "Sewage Sludge Interim Permitting Strategy." The Strategy sets forth EPA's policy on fulfilling Section 405(d)(4) of the Clean Water Act (CWA), which directs EPA to impose sludge conditions in NPDES permits issued to POTWs or "take other measures deemed appropriate" to protect human health and the environment from any adverse effects, before promulgation of the technical sewage sludge standards.

The Strategy addresses: 1) basic sludge permit conditions for all POTW permits; 2) identification of priority facilities for more comprehensive sludge permitting; and 3) EPA/State coordination for interim sludge permitting. The Strategy also contains model documents for use in interim permitting and a description of the forthcoming permit writers guidance for developing interim, case-by-case permit limits. The draft Strategy was distributed for review and comment in June, 1988, and subsequently revised to reflect the comments received. Notice of Availability of the final Strategy will appear in the Federal Register shortly.

The guidance document, Guidance for Writing Case-by-Case Permit Requirements for Municipal Sewage Sludge, has been developed to complement the Strategy. The guidance is designed to assist permit writers in developing permit conditions necessary to protect public health and the environment from any adverse effects associated with the use or disposal of sewage sludge prior to promulgation of the technical sludge standards. It provides information useful in identifying potential problems and for establishing interim sludge conditions for POTW permits. The draft guidance was distributed for comment in September, 1988. The final guidance will be distributed in early FY 1990.

*RHC*

I would like to thank you and your staff for your input during the development of the Strategy. If you have any questions please call Cynthia Dougherty at (FTS) or (202) 475-9545.

Attachment

cc: Martha Prothro  
Susan Lepow  
Michael Quigley  
Permits Branch Chiefs, Regions I-X

# **Sewage Sludge Interim Permitting Strategy**

**Office of Water  
Office of Water Enforcement and Permits**

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## **SEWAGE SLUDGE INTERIM PERMITTING STRATEGY**

### **STATEMENT OF POLICY**

In order to implement the requirements of Section 405(d)(4) of the Clean Water Act, it is EPA policy that:

1. All NPDES permits issued or reissued to POTWs after February 4, 1987 shall at a minimum: require that the permittee comply with all existing federal regulations governing the use and disposal of sewage sludge, and with applicable 40 CFR Part 503 Standards for the Use and Disposal of Sewage Sludge when promulgated; contain a statement that upon promulgation of 40 CFR Part 503 the permit may be reopened and modified or revoked and reissued to incorporate applicable requirements of 40 CFR Part 503; and require that the permittee notify the permit authority of any significant change in its sludge use or disposal practices.
2. Priority POTWs for the purposes of interim sludge permitting are "Class 1 sludge management facilities," defined as POTWs 1) that are required to have pretreatment programs, or 2) that have any other known or suspected problems with their sludge. Sludge incinerators are presumed to have "known or suspected problems" unless available information shows no cause for concern.
3. All NPDES permits issued to priority POTWs after February 4, 1987 shall contain, in addition to the minimum conditions in Paragraph 1, additional conditions developed on a case-by-case basis to ensure protection of the public health and environment.
4. Permit writers should use EPA's "Guidance for Writing Case-by-Case Permit Requirements for Municipal Sewage Sludge" for developing case-by-case permit conditions for priority POTWs.
5. All permits issued or reissued to POTWs should contain sludge monitoring requirements in accordance with the Sewage Sludge Interim Permitting Strategy.
6. States are encouraged to participate to the fullest extent possible in interim sludge permitting.
7. The proposed 40 CFR Part 503 numeric limits for the use and disposal of sewage sludge should not be relied on for developing interim permit conditions, because these numeric limits may change as a result of public comment or peer review. However, other information and methodologies found in the proposed Part 503 rule and preamble, and its Technical Support Documents, may be used if the permit

writer determines their appropriateness for the sludge practice at issue.

8. States may obtain formal approval of their sludge programs prior to promulgation of the Part 503 standards. They may also elect to participate in interim permitting through agreements with their EPA Regional offices, pursuant to the Sewage Sludge Interim Permitting Strategy.
9. Where the State is issuing sludge permits pursuant to an agreement with the EPA Regional office, the Region will review all permits issued to priority facilities to determine if the permit meets CWA requirements. If the permit satisfies the CWA, the Region shall so certify and attach the certification to the permit.

# I

## INTRODUCTION

Section 405 of the Clean Water Act embodies Congress' concern with the environmental threats posed by unsafe sewage sludge use and disposal. Congress re-emphasized its concern in 1987 by amending this section to require EPA to develop detailed technical standards for sludge use and disposal that would be adequate to protect public health and the environment from sludge pollutants. The technical standards (to be codified at 40 CFR Part 503) will, when promulgated, identify pollutant levels of concern in sludge for the major use and disposal methods. However, before the standards are finalized, we need a program to identify and address potential problems that may be caused by contaminated or improperly disposed sludge, and to prepare for the implementation of the standards.

In the 1987 amendments to the Clean Water Act Congress recognized the need to take immediate action to regulate sludge. CWA Section 405(d)(4), as amended, requires that prior to the sludge standards, EPA must "impose sludge conditions in [NPDES] permits issued to [POTWs] ... or take such other measures as the Administrator deems appropriate to protect public health and the environment from any adverse effects which may occur from toxic pollutants in sewage sludge." Thus, the amendments direct EPA to protect the environment from unsafe sludge, and initiate sludge permitting. This phase of the program, which began with passage of the Water Quality Act on February 4, 1987, is referred to as the "interim" sludge program and is the primary subject of this Strategy.

The Act establishes a two-phase approach to regulating sludge use and disposal. The first phase, interim implementation, commenced with the passage of the amendments. The second phase, long-term implementation, begins with final promulgation of the first round of the technical standards. Those standards are to identify toxic pollutants of concern in sewage sludge, and specify numerical pollutant limits and management practices for sludge to ensure environmentally-sound use and disposal. The Clean Water Act requires that users and disposers of sewage sludge comply with the standards within one year from promulgation (two years if construction is required). The Act also requires that the standards be incorporated into permits issued to POTWs and other treatment works treating domestic sewage. The proposed standards were published on February 6, 1989 at 54 FR 5746; final regulations are scheduled to be promulgated in October 1991.

The purpose of interim implementation is to establish a program for long-term implementation, and to ensure that the environment is protected from improper sludge use and disposal

prior to promulgation of the technical standards. This Strategy provides the details of implementing the interim phase. The requirement to take immediate action to regulate sludge use and disposal takes on critical importance since technical regulations are not scheduled to be promulgated until 1991.

This document explains EPA's approach to sludge permitting prior to issuance of the technical standards. To best achieve the objectives of the Clean Water Act, the interim program utilizes existing experience, expertise, and permitting processes to focus permitting efforts on the facilities which, on the basis of available information, are thought to present greater risk. There are three principal components to the Interim Strategy:

1. All NPDES permits issued to POTWs after February 4, 1987 are to contain certain basic requirements for managing sludge. Many of these requirements were included as part of the May 2, 1989 Sludge State Program and Permitting Final Rule.
2. For certain "priority" ("Class 1") POTWs, additional permit conditions developed on a case-by-case basis are needed to satisfy CWA Section 405(d)(4).
3. Permits containing sludge conditions are to be issued by EPA, or by a State pursuant to a State/EPA agreement, or by a State program that has been approved pursuant to 40 CFR Parts 123 or 501, as appropriate.

Part II of this Strategy identifies permit conditions that are to be included in all POTWs' NPDES permits as they are reissued. The most significant change in the final Interim Strategy from the draft that was made available for public comment in a May 31, 1988 Federal Register notice is the discussion of standard permit requirements. The Sludge State Program and Permitting Requirements Final Rule, among other things, codifies the interim requirements of CWA Section 405(d)(4), and establishes standard requirements and application deadlines for including sludge conditions in all POTW permits. Thus, many of the permitting provisions in the draft Interim Strategy are now regulatory requirements. Part II describes the new requirements, additional recommendations, and sludge monitoring provisions.

A discussion of "Class 1" POTWs and the development of additional, case-by-case conditions for these facilities is found in Part III.

Part IV discusses State/EPA coordination on sludge permit issuance during this interim period. Many States currently have sludge permit programs. One of the objectives of this Interim Strategy is to build on these existing programs as much as



possible, while meeting the requirements of the Act. The purpose of this is to take advantage of the State experience and expertise in sludge control and reduce redundant and unnecessary permitting. Thus, where a State has a sludge permitting program in place but is not yet seeking formal approval, the Strategy provides for CWA Section 405(d)(4) interim permitting under a State/EPA Agreement. These agreements should be in place by December 30, 1989.

In summary, EPA and the States need to begin immediately to identify and address potential sludge problems, to lay the foundation for an effective permitting program that protects the environment and promotes resource recovery. EPA's statutory responsibility to take interim measures with respect to sludge requirements for POTWs became effective upon enactment of the Water Quality Act on February 4, 1987. This Strategy is designed to carry out these objectives as quickly as possible, focusing on the facilities of concern and building on existing experience and expertise. Throughout the interim period, the Office of Water Enforcement and Permits (OWEP) will be providing additional information and guidance on sludge program implementation through permits. OWEP is currently providing both technical guidance and contractor assistance to Regions and NPDES States to conduct permit writing. OWEP also has been holding permit writers workshops for the Regions and States on developing interim permit conditions. Implementation of this Strategy not only enables EPA and the States to carry out the immediate responsibilities under the Act to protect public health and the environment, but also furthers the objectives of facilitating compliance with the technical standards when promulgated and approving State programs to carry out the requirements of Section 405.

## II

### GENERAL REQUIREMENTS FOR ALL POTW PERMITS

This Part describes the requirements for sludge permitting that were promulgated on May 2, 1989 (54 FR 18716) and became effective on June 1, 1989. These regulations, called the sludge State program and permitting regulations, among other things codify the requirements for interim sludge permitting in CWA Section 405(d)(4). (See §122.1(g)(5)). In addition, this Part contains some additional recommendations for standard interim conditions for all POTWs. (Part III discusses additional permit conditions for "Class 1" facilities.)

All reissued POTW permits must include some general requirements for sludge use and disposal, whether or not the facility needs additional case-by-case limits. These are the minimum provisions necessary to begin permit coverage of sludge use and disposal practices in anticipation of the long-term program, and to enable sufficient oversight of these activities in the interim. Most of these provisions are now required specifically by regulation. See 54 FR 18716 (May 2, 1989). The four primary areas each permit must address are: compliance with existing requirements; reopening the permit when the 503 regulations are promulgated; notification of change in sludge practices; and sludge quality monitoring. Attachment 1 contains a list of NPDES boilerplate conditions revised to include sludge conditions in accordance with the May 2, 1989 final rule, establishing new sludge permitting requirements.

#### Application Deadline

Section 122.21, which contains the NPDES permit application requirements, was revised by the May 2, 1989 notice to include permit application deadlines and application requirements for sludge. Under §122.21(c)(2), all POTWs with NPDES permits must submit information (including: sludge production, sludge use and disposal practices, and existing information on sludge quality, as set forth in §501.15(a)(2)) with their application for NPDES permit renewal, or 120 days after promulgation of the technical sludge standards, whichever occurs first. (All other "treatment works treating domestic sewage" do not need to submit an application for sludge permit coverage until 120 days after promulgation of applicable sludge technical standards, unless requested by the permit authority where necessary to protect public health and the environment. §122.21(c)(2)(ii).)

#### Boilerplate Conditions

The first standard permit condition is a compliance provision: the permit must require the POTW to comply with all existing requirements for sludge use and disposal.

§122.44(b)(2). For example, a POTW that applies its sludge to land is subject to the applicable requirements of 40 CFR Part 257. This compliance must be required in the permit and monitored by permit oversight.

Permit writers should ascertain the existence of any other permit governing the facility's sludge use or disposal practices before developing sludge conditions for the NPDES permit, whether the facility is a priority or not. Under the new regulations, applicants are required to submit a list of other permits governing their sludge management activities issued or applied for under other laws (§122.21(d)(3)(ii); §501.15(a)(2)(v)). For example, an incinerator may currently be subject to a permit under the Clean Air Act, a landfill under a RCRA permit, or the facility may be subject to a State permit. If these are adequate to satisfy Section 405(d), the NPDES permit need only reference the other permit, and add any additional requirements if necessary to protect public health and the environment. Also, in the course of developing the other permit, the permitting agency may have information on the sludge quality or use and disposal practices that may save the NPDES permit writer considerable time and effort.

This compliance provision also requires compliance with the sludge technical standards by the deadlines established in those standards. This provision restates (and puts the permittee on notice of) the CWA Section 405 requirement that users and disposers of sewage sludge comply with the technical standards for sludge use and disposal by the statutory compliance deadlines (i.e., within one year after promulgation of the standards, or within two years if the standards require construction), even if the permit has not been modified to include such requirements. See §122.41(a)(1). Any "permit-as-shield" provision in the permit also should be revised to indicate that compliance with "interim" permit conditions does not excuse noncompliance with subsequently promulgated technical sludge standards. See §122.5.

Another permit condition is a reopener clause, which authorizes reopening a permit to include technical standards if the technical standards are more stringent or more comprehensive than the conditions in the permit. See §122.44(b)(2) and (c)(4). This enables, but does not require, reopening the permit if the permit writer feels it is necessary to incorporate final Part 503 requirements. Consistent with the sludge State program and permitting regulations, reopening the permit when the technical standards are promulgated is discretionary with the permitting authority, not mandatory. Thus, the permitting authority will have flexibility to establish permitting priorities for implementing the technical standards. OWEPA anticipates issuing additional guidance on this subject when Part 503 is promulgated.

The reopener provision notifies the permittee of future legal obligations under the Act, and of the potential need to modify the permit to incorporate Part 503 requirements once they are promulgated. The reopener provision also enables the permitting authority to develop permit conditions to assure compliance with the technical standards by the deadlines established in Section 405(d)(2) of the CWA. Revisions to §122.62(a)(7) now specifically authorize permit modifications pursuant to the reopener provision. The statement of basis or fact sheet for the permit should include a reference to the compliance provision and any other provisions that are in the permit to implement Section 405.

A notification provision, now codified in revisions to §122.41(l)(1)(iii), must be included in all reissued permits. This requires the permittee to give notice to the permitting authority when a significant change in the sludge use or disposal practice occurs (or is planned) that could require permit modification under 40 CFR 122.62(a)(1). The permittee need not notify the permit authority of every change, however slight, to its sludge use and disposal activities. However, a change in the POTW's sludge disposal methods, for example from landfilling to land application, is certainly significant as it could be cause for permit modification. Notice of, and possible permit modification for, new use or disposal sites not previously identified to the permitting authority (except land application sites covered by an approved land application plan) is also required (§122.41(l)(1)(iii)).

In addition to the standard sludge boilerplate conditions described above, (see Attachment 1 for permit language), the preamble to the recent revisions to the Part 122 regulations explains that many of the standard permit conditions that apply to effluent discharge activities will also apply to sludge use and disposal activities (e.g., duty of proper operation and maintenance; entry and inspection duties). Conversely, a few of the Part 122 regulations have been revised to limit their applicability only to effluent discharge activities (e.g., the "anti-backsliding" provision in §122.41(l)). Additionally, several provisions remained unchanged because the existing language was sufficient to include or exclude sludge use and disposal activities, as appropriate. The preamble discussion at 54 FR 18743 explains which provisions apply and do not apply to sludge activities. Permit writers should make revisions to the standard boilerplate conditions consistent with the revised regulations.

### Monitoring Conditions

Another important component of interim permitting is sludge quality monitoring. Sludge monitoring to establish baseline data on each facility for future permit requirements is especially

critical as most interim permits, at least in the beginning, will contain few, if any, concentration limits for pollutants in sludge (and therefore, compliance monitoring will yield only limited information). Thus it is important for fulfilling the statutory requirement to protect public health and the environment that the permit writer have current information on pollutant concentrations, to alert the permit writer as to excessive loadings that may make a given sludge use or disposal method unsafe.

The regulations now require sludge monitoring and reporting at a frequency dependent on the nature and effect of the permittee's sludge use or disposal activities, but at least once a year (§122.44(i)(2)). This means that where the permit contains pollutant limits (e.g., the permit to a POTW that applies its sludge to land must contain the 40 CFR Part 257 limits for cadmium and PCBs, and pathogen requirements), the permit must require the permittee to sample and analyze those pollutants at least once a year. Beyond compliance monitoring, the regulations do not specify which pollutants in sludge must be monitored in the interim before promulgation of the technical standards. Similarly, the sludge application requirements do not specify standard monitoring results which must be submitted for permit issuance (although they do require applicants to submit all available data).

Because the regulations only require compliance monitoring, and because compliance monitoring, given the fact that few permits are likely to contain pollutant limits, will not yield enough information, the permit writer should require monitoring of additional pollutants, based on his/her best professional judgment. In some cases the permit may already require sludge sampling and analysis, and the permit writer may have a good idea as to the quality of the sludge and the levels of pollutants it contains. In the absence of such information, EPA recommends that at a minimum, the permit writer include the following monitoring requirements in the permit:

- o For Class 1 POTWs, an annual scan of the 126 priority pollutants, and more frequent monitoring of the pollutants for which numeric limits have been proposed for the POTW's particular use or disposal practice in the proposed Part 503 regulations (see Attachment 4).
- o For non-Class 1 POTWs with industrial users, a priority pollutant scan at the time of permit application, and annual monitoring of the pollutants for which numeric limits have been proposed for the POTW's particular use or disposal practice in the proposed Part 503 regulations (see Attachment 4).

- o For non-Class 1 POTWs with no industrial users, annual monitoring of six metals: cadmium, copper, chromium, lead, nickel, and zinc.

Of course, monitoring requirements would be tailored to the particular POTW and would take into consideration site-specific factors, such as the types of industrial wastes the POTW receives. At the discretion of the permit authority, if a pollutant is not detected or is detected at low levels that clearly show no cause for concern after repeated tests, future testing for those pollutants need not be required unless a change occurs at the POTW.

The reason for monitoring for the pollutants proposed to be limited in the Part 503 proposed rules is so the POTW and the permit authority will have sufficient information on sludge quality with regard to those pollutants when the Part 503 rules are finalized. This is particularly important in light of the one-year compliance deadline mandated by the Clean Water Act. (Note that once the Part 503 regulations are promulgated, monitoring parameters will be governed by those rules (and 40 CFR Part 122.44(i)(2)). The Guidance for Writing Case-by-Case Permit Conditions for Municipal Sewage Sludge (described in Part III) contains further recommendations for developing conditions for additional baseline monitoring for pollutants of concern and compliance monitoring for each major use and disposal practice. (A list of the pollutants proposed to be regulated in 40 CFR Part 503, by use or disposal method, is provided in Attachment 4.)

This Strategy recommends that non-Class 1 POTWs with no industrial users at a minimum sample for six metals that are commonly found in sewers at significant levels due to commercial and domestic discharges to the treatment works. If the permit writer has pre-existing data on the sludge quality of the facility that shows no cause for concern with particular pollutants for that POTW's sludge practices (i.e., routine readings of particular pollutants which are very low or not detected), monitoring for that pollutant does not need to be continued unless there is a change at the POTW. Another exception is for POTWs that use wastewater stabilization lagoons as the sole treatment process. For these facilities, where the sludge will not be removed from the lagoon during the permit term, the permit need not contain any sludge monitoring provisions unless the permit writer determines they are needed. (If such permit does not require monitoring, it should contain a requirement that the permittee notify the permit authority if it happens that the sludge is pumped out of the lagoon within a one-year period.)

The permit should also specify appropriate sampling protocols. To develop these requirements, permit writers are directed to two sources. The first is entitled "POTW Sludge

Sampling and Analysis Guidance Document," EPA, Office of Water Enforcement and Permits, 1989. This document is designed to provide information on the sampling and analysis of municipal sewage sludge, and contains discussions of procedures and protocols, and current developments on specific topics such as pathogen equivalency determinations. The second document is entitled "Sampling Procedures and Protocols for the National Sewage Sludge Survey," EPA, Office of Water Regulations and Standards, 1988. The sampling procedures and protocols included in this document were compiled specifically for the National Sewage Sludge Survey, which the Agency has initiated to gather additional information on the pollutants in sewage sludge to support the Part 503 rulemaking.

The permit also should specify the acceptable analytical methods. A notice published at 53 FR 39133 (October 5, 1988) lists all pollutants, and the methods used to analyze them, that were tested in the national sewage sludge survey. The question of appropriate analytical methods for determining pollutant concentrations in sewage sludge has been an ongoing one. Methods 624 and 625, found in 40 CFR Part 136, are essentially adapted from wastewater analytical methodologies. These methods have been in longer use and thus are more widely available. EPA's newer isotope dilution, gas chromatography/mass spectrometry (GC/MS) methods 1624 and 1625 have been developed specifically for sewage sludge. The permit writer may specify these methods or other EPA-approved methods, or methods that are deemed comparable based on their precision, accuracy, lab availability, interlab variability, and the level of detection needed to monitor compliance.

Most of the general monitoring and recordkeeping requirements in Part 122 apply to sludge monitoring and recordkeeping (e.g., §§122.41(j) and 122.48). There are two important differences, however. First, the regulations do not currently prescribe specific monitoring reporting forms. Instead, the permitting authority has discretion to determine an appropriate form (§122.41(l)(4)(i)), which should be specified in the permit. Second, the record retention time for sludge records is five years, rather than the three-year period that applies to effluent discharge recordkeeping (§122.21(p) and §122.41(j)(2)). (The rule provides a longer record retention time for sludge because of the need to track cumulative loadings for metals in sludge that is applied to land over a longer period. The five-year record retention time will enable this information to be "carried over" when the permit is reissued.)

### Summary

In sum, to fulfill the objectives that Congress has established in Section 405(d), we must begin as soon as possible to establish permit requirements for sludge. All POTW permits

must include compliance provisions, notification language, and monitoring requirements as described above and specified in the regulations, and should include sludge quality monitoring as set forth in this Strategy. In addition, case-by-case permit requirements will need to be developed as appropriate. This is discussed in Part III.



### III

#### CASE-BY-CASE CONDITIONS FOR CLASS 1 POTWS

The previous section discusses basic permit requirements for all NPDES permits issued or reissued to POTWs after February 4, 1987. There are situations, however, where more comprehensive, site-specific permit coverage may be warranted. This may mean more frequent monitoring or other site-specific conditions such as management practices or numeric limitations developed on a case-by-case basis. This gives rise to two questions: which POTWs should receive more comprehensive permit coverage during this interim period, and what should be included in the permits issued to such facilities.

#### Identifying Permitting Priorities: Class 1 Sludge Management Facilities

A major purpose of requiring case-by-case sludge limits only for certain POTWs is to target available resources for sludge permitting on critical sites. In earlier versions of this Strategy, which generally referred to POTWs with known or suspected problems with sludge quality or use/disposal practices, or those warranting more comprehensive sludge permit conditions for other reasons. The draft Strategy suggested that pretreatment POTWs, POTWs incinerating their sludge, POTWs using or disposing of sludge in ecologically-sensitive areas such as estuaries, and new POTWs should be evaluated closely to determine if they should be included in the priority category.

The recently promulgated sludge management regulations also identify a group of POTWs targeted for closer oversight because of the greater potential for their sludge use and disposal to adversely affect public health or the environment. These are called "Class I sludge management facilities." Thus, this definition and the earlier "priority" POTW designation serve similar purposes and are based on the same rationale. To facilitate long-term implementation, "Class I sludge management facilities" will be presumed to need case-by-case sludge interim limits (i.e., they should be considered permitting priorities), unless the permitting authority determines, based on information about the facility's sludge quality and use or disposal practices, that the sludge is adequately controlled already. In this Strategy, the terms "priority" and "Class 1" facility are used interchangeably.

A Class I sludge management facility is defined as:

...any POTW identified under 40 CFR 403.8(a) as being required to have an approved pretreatment program (including such POTWs located in a State that has elected to assume local program responsibilities

pursuant to 40 CFR 403.10(e)) and any other treatment works treating domestic sewage classified as a Class I sludge management facility . . . because of the potential for its sludge use or disposal practices to adversely affect public health and the environment.

Pretreatment POTWs were included in the definition of "Class I sludge management facility" in response to numerous requests for more specificity in defining priorities. In addition, the same factors that determine whether a POTW should be required to develop a local program (i.e., size, industrial users subject to pretreatment standards, or necessary to prevent pass-through or interference with the POTW's operations) also suggest that sludges from pretreatment POTWs have a greater potential for having significant impacts on public health and the environment.

"Class I sludge management facility" also includes other treatment works with known or potential sludge problems. In assessing the risks associated with the various sludge use and disposal options, EPA has found that the potential risk levels are highest for incinerators. In addition, in a recent Agency study of comparative risks, sewage sludge incinerators were identified as one of the potentially more harmful sludge use and disposal practices. Overall, the risk was assessed to be in the middle range in comparison to other environmental problems. See "Unfinished Business: A Comparative Assessment of Environmental Problems," U.S. EPA, Office of Policy, Planning and Evaluation, February 1987. Because of this, POTWs using incineration should be presumed to need case-by-case sludge permit limits, unless the permit writer has information demonstrating that there is no cause for concern. (Note: Most POTWs incinerating their sludge are also pretreatment POTWs. Therefore, only those POTWs using incineration which are not required to have pretreatment programs will need to be considered additionally. See Attachment 3.)

Attachment 2 contains listings of pretreatment permits that have expired or expire in FY89 and FY90. A separate listing shows the POTWs that incinerate their sludge and gives the expiration dates for the NPDES permits.

Other POTWs may have known or potential sludge use and disposal problems. A POTW in non-compliance with existing federal regulations (e.g., 40 CFR Part 257) is one example. When the NPDES permit is due to be reissued, the permitting authority will need to make a determination whether the facility will need case-by-case limits. Case-by-case limits should not be rejected simply because the permitting authority has no knowledge of any sludge problems. Instead, the permit writer should take reasonable steps to ascertain the nature of the facility's sludge and sludge disposal practices. Under the May 2, 1989 sludge management regulations, POTWs are required to submit basic background information and available monitoring results on their

sludge and use and disposal methods with their NPDES permit renewal application. 40 CFR 122.21(c)(2). Other available information also should be examined, such as pretreatment audit reports and investigations into interference problems at the POTW, to see if any problems with sludge have been identified. Also, POTWs conducting sludge use or disposal in ecologically sensitive areas, such as estuaries, may warrant more comprehensive sludge permit conditions beyond the basic boilerplate and monitoring requirements.

Permits issued to POTWs with new sludge treatment facilities should also be carefully considered for development of case-by-case sludge conditions. Although known problems may not exist, preventing problems through careful controls at new facilities is generally easier for both the permitting authority and permittee than taking remedial action after a problem has developed. (Note: this paragraph does not refer to situations where a POTW has switched to another existing facility, for example, to a different monofill, but rather, refers to treatment facilities that are newly constructed.)

One commenter on the draft strategy suggested that the nine sewerage authorities in New York and New Jersey that dispose of their sewage sludge in the ocean should also be identified as a "priority" for interim sludge permitting. The Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA) regulates ocean disposal, and prohibits ocean dumping without a permit issued pursuant to MPRSA. In November 1988, Congress passed the Ocean Dumping Ban Act, amending MPRSA. Among other things, the purpose of this Act is to terminate the ocean-dumping of sewage sludge by December 1991. The significance of this legislation for the implementation of Section 405 of the CWA is that after December 31, 1991, it will be unlawful to dispose of sewage sludge in the ocean, and those POTWs that currently ocean-dispose of their sewage sludge will have to develop land-based sludge management alternatives, which will be subject to the jurisdiction of Section 405 of the Clean Water Act. Prior to the termination of dumping, State and Regional NPDES and sludge permit writers should work with the POTWs and MPRSA authorities to identify the quality of the sewage sludge and assist the POTWs in developing land-based sludge use or disposal methods. This involvement is not for purposes of regulating the practice of ocean disposal, which will be effected through the MPRSA permit process, but rather, to assist the facility in implementing land-based disposal methods that will meet the requirements of CWA Section 405.

#### Case-by-Case Permit Conditions

To assist permit writers in developing more comprehensive permit conditions for Class 1 facilities, EPA has developed a "Guidance for Writing Case-by-Case Permit Requirements for

**Municipal Sewage Sludge" ("CbC Guidance"). The purpose of the guidance is to assist permit writers in developing appropriate permit conditions for sludge and EPA permit writers in reviewing State permits issued to Class 1 POTWs.**

**As stated earlier, the most important task for the interim period is to ensure that existing requirements are written into permits. Use of the CbC Guidance ensures that existing applicable federal and State requirements are incorporated into permits issued to Class 1 POTWs. Its use should help to promote timely compliance with the Part 503 sludge regulations when issued, by those POTWs most likely to cause adverse effects from pollutants in sewage sludge. (The Part 503 sludge regulations will require compliance within one year from promulgation.) In addition, compliance with the monitoring requirements specified will provide information on sludge quality and the use and disposal practices at the POTW, and help to identify potential problems.**

**As a "best professional judgment" guidance document, the CbC Guidance presents: 1) a compilation of existing federal and State requirements for sludge; 2) existing guidance; and 3) recommendations for permit writers to consider writing into permits on a case-by-case basis using their best professional judgment. The CbC Guidance sets forth existing requirements for each of the major sludge use and disposal practices. Additionally, the Guidance contains recommendations for further permit conditions. In general these recommendations consist of management practices, although some recommended numeric limits are given, based on existing guidance. The CbC Guidance states that EPA permit writers must write existing federal sludge requirements into NPDES permits or incorporate them by reference to other permits.**

**The Guidance may be used by Regional and State permit writers to assist them in arriving at appropriate permit limits for priority facilities, and by the Regions in reviewing State-issued permits. The fact sheet or statement of basis accompanying the permit must explain the basis for arriving at the sludge requirements. EPA and States may take further action beyond what may be specified in the guidance, where appropriate to protect public health and the environment where particular problems are identified and a basis for the requirements is established.**

**Interim Conditions and the Proposed 503 Standards. EPA recently proposed technical standards for the use and disposal of sewage sludge (54 FR 5746; February 6, 1989). This rulemaking is being developed to meet the requirement in Section 405(d) that EPA promulgate regulations identifying sewage sludge use and disposal methods and concentrations of pollutants that interfere with each method. The proposed Part 503 regulations address sewage sludge incineration, land application, landfilling,**

distribution and marketing, and surface disposal. EPA has also developed technical support documents for each method.

The Interim Strategy and the CbC Guidance are designed primarily for use before issuance of the final technical standards. The focus of the interim program is on identifying and addressing, through permits, existing or potential problems with sludge use or disposal, in the absence of promulgated technical standards. In developing permit limits for POTWs in the interim, the primary source of information for permit writers should be the Case-by-Case Guidance. Information from other sources, of course, may be considered and evaluated by the permit writer in the exercise of his or her best professional judgment. These include, for example, the proposed 503 rule and preamble, its technical support documents, and available information from the National Sewage Sludge Survey.

The proposed 503 standards are currently undergoing public comment and peer review. These processes, as well as the results of the National Sewage Sludge Survey may result in final standards that are significantly different from the proposal. In light of these circumstances, reliance on the proposed standards should be limited. The permit writer should not rely on the proposed numeric limits in developing case-by-case sludge conditions unless the permit writer can independently establish the appropriateness of such conditions based on the circumstances of the particular sludge practice at issue. As previously noted, any sludge conditions, other than those based on existing regulations, must have a sound technical basis explained in the fact sheet that accompanies the permit.

#### IV

##### STATE AND EPA COORDINATION ON INTERIM SLUDGE PERMITTING

EPA seeks to encourage States with existing, effective sludge management programs to carry out the program for implementing interim sludge permitting under the CWA to the extent that they are willing and able to do so. This Part describes the minimum requirements necessary for State interim permitting, and the procedures for establishing State/EPA coordination in the permitting process.

EPA interprets CWA Section 405(d)(4) to allow State/EPA coordination, whereby States with existing effective sludge management programs could carry out interim sludge permitting. This is beneficial for the national sludge program because States with effective programs are more likely to know which particular facilities or practices may be causing problems. Moreover, involving States now serves the dual purpose of minimizing disruption to existing State programs and reducing duplication of effort by EPA and the States.

The sludge State program and permitting regulations, promulgated on May 2, 1989, provide for formal submission of State sludge programs for review and approval by EPA. States may, but do not need to, seek formal approval, pursuant to the May 2, 1989 rules, during the interim phase to carry out interim and long-term permitting. They may also opt to rely on more informal arrangements with the EPA Regions, as this Part explains. States that are not yet seeking formal approval are encouraged to use this interim period to evaluate their programs in light of the requirements for approvable sludge State programs to identify areas where their programs may need to be changed or augmented in order to be approved.

##### Establishing State/EPA Coordination

###### A. Minimum Requirements

The 1987 CWA amendments give EPA the flexibility to rely on State sludge management activities to carry out the objectives of the Act for interim sludge requirements. Where the State chooses to participate in the interim program through an agreement, the Agency will take steps to ensure that any measures are adequate to protect public health and the environment by overseeing State efforts. To accomplish this, this Strategy adopts a two-pronged approach which targets facilities of concern for oversight.

For all NPDES POTWs that are defined as Class 1, the Region will review the sludge requirements in each State-issued permit (or other individual control mechanisms) to make sure they incorporate existing federal requirements and meet the objectives

of the Clean Water Act. The CWC Guidance is intended to assist the Regions in this review. The review of the sludge conditions could be built into the Region's process for reviewing State permits issued to NPDES majors.

Section 405(d)(4) authorizes only the Administrator to impose conditions in NPDES permits or take other appropriate measures. Thus, to be recognized under Section 405(d)(4), conditions imposed by States must be approved/adopted by EPA. To accomplish this, three steps are required. First, a State which issues a Class 1 permit would state in the public notice of the draft permit that the permit (or facility-specific plan) will contain sludge requirements to implement the requirements of Section 405 of the CWA and therefore will be federally enforceable pursuant to Section 309 of the Act. Second, the Region must review the permit and determine whether it satisfies the requirements of the interim program. Finally, the Region must affirmatively approve the permit by issuing a letter or certification to the State permitting agency. This written documentation of EPA approval should also be attached to the permit. (A sample certification letter is in Attachment 5.) Following these steps should enable EPA to take action to enforce interim sludge requirements in these permits where appropriate (e.g., joint enforcement actions with the State, cases of national significance, etc).

The public notice and permit-by-permit EPA approval requirements applicable to permits for Class 1 POTWs will not be required for non-Class 1 POTW permits. However, for interim implementation purposes, a State must be able to impose the minimum requirements for these other permits set out in Part II. EPA will also oversee the State's activities in imposing the minimum requirements on non-Class 1 permits. However, oversight will not be required on a permit-by-permit, or individual POTW, basis, but may be accomplished through other means, such as periodic file or permit reviews and annual program reviews.

## **B. State Eligibility**

Any State with an effective sludge permitting program may participate in the implementation of interim sludge requirements, regardless of that State's NPDES participation or status. In seeking State involvement, EPA will need to determine the extent to which the State is willing and able to implement this Strategy for carrying out the responsibilities created by Section 405(d)(4). State participation should be encouraged to the maximum extent possible. Where States either cannot (for example, because they lack legal authority) or will not participate, EPA will remain responsible for imposing sludge requirements. Where the State will not undertake sludge permitting and EPA is the NPDES permitting authority, the EPA permit writer

would simply include sludge requirements in the reissued NPDES permit. Where the State has NPDES authority, EPA would issue a "sludge rider" to the State-issued NPDES permit or issue a separate Section 405 sludge permit. (Attachment 6 contains a model EPA "sludge rider".) Wherever possible, State and EPA sludge permitting activities should be coordinated to assure consistency and minimize duplication of efforts. (See, for example, 40 CFR 124.4 on joint permitting procedures.) In most cases, interim implementation will require the combined efforts of States and EPA Regional Offices to protect the environment adequately and put an effective sludge program in place. The degree of participation will likely vary from State to State. States need not assume full responsibility for interim permitting in order to participate. For example, a State may currently regulate only one disposal practice. In that case, the State could agree to cover interim sludge permitting for that particular practice, and EPA would issue permits for the other use and disposal practices.

#### C. Procedures for Establishing State/EPA Coordination

Establishing State/EPA coordination in interim permitting involves two steps: (1) the State must identify the extent to which it is able and willing to participate; and (2) the State and the Region would execute an agreement establishing the responsibilities of EPA and the State in the interim sludge permitting process.

Regional offices should contact each State about its capacity to undertake interim implementation activities. Execution of an agreement will be necessary with any State that agrees to participate. This agreement could be part of the Section 106 planning process or any other appropriate vehicle that defines EPA/State roles in program implementation.

##### (1) State's Declaration

Initially, the State should identify the capacity of its existing program to regulate the sludge use and disposal practices of its POTWs in comparison to the minimum requirements established in the Cbc Guidance and Parts II and III of this Strategy. Generally, EPA will rely on the State's declaration of its capacity (i.e., resources and legal authority to impose and enforce interim sludge requirements). As noted above, a State need not assume full responsibility for all sludge permitting in order to participate. For example, a State may currently regulate only land application of sludge. The State could agree to be responsible for permitting only the POTWs which use this disposal method now. Later, if the State's program expands to include regulation of other disposal options, it could expand its role in interim implementation. EPA will encourage States that cannot assume full sludge permitting immediately to increase



their permitting capabilities over time. Where a POTW uses more than one disposal option and the State does not regulate all options, EPA must "fill in the gaps" either by issuing a sludge rider to the State-issued permit (see Attachment 6) or a separate Section 405 permit. If known in advance, this specific situation should be addressed in the State/EPA sludge agreement.

## **(2) State EPA Sludge Agreement**

After the State has expressed its willingness to participate in interim implementation, the Region should enter into an agreement with the State establishing their respective responsibilities for interim implementation of sludge requirements, especially permitting responsibilities and information exchange between the State and the Region. The agreement also may include provisions about other aspects of EPA-State coordination of sludge management activities as well (e.g., coordination of inspections and enforcement actions). The agreement may be flexible in many respects, but it should clearly identify permitting responsibilities of the State and EPA in establishing sludge requirements.

The agreement may be an annual workplan negotiated as part of the Section 106 process, but the Region and State should consider documenting longer term understandings for development of a full State program with EPA's assistance. The agreement may be executed as a revision to an existing agreement or as a separate agreement. In NPDES States, revisions to the NPDES Memorandum of Agreement (MOA) may also be necessary if it conflicts with any of the provisions described below. Also, if the MOA waives EPA review of minor POTW permits, this waiver would have to be modified to facilitate review of permits for minor POTWs which are classified as Class 1 permits for sludge purposes and thus require EPA review. See §123.24(d).

The State/EPA sludge agreement should include provisions to address the following:

- o Identification of the POTW permits the State will be responsible for, those EPA will be responsible for, and those for which EPA and the State will assume joint responsibility;
- o For permits for which EPA assumes responsibility, a description of how the Region will issue the sludge permit (i.e., by issuing a "sludge rider" to the State-issued NPDES permit, through joint issuance of the permit or by issuing a separate EPA NPDES sludge permit);
- o Provisions for joint issuance of permits, where appropriate;

- o Provisions for EPA review and comment on all Class 1 permits drafted by the State, and agreement that if EPA determines that State limits are not adequate in any specific case, EPA will issue a "sludge rider" or separate sludge permit to the POTW;
- o For sludge Class I permits with sludge conditions the State issues, agreement by the State to include in the public notice of the draft permit, in addition to other information that may be required by State or federal requirements, a statement that the draft permit includes conditions implementing interim sludge requirements pursuant to Section 405(d) of the CWA and, therefore, will be federally enforceable pursuant to Section 309 of the CWA after review and approval by EPA (see Attachment 7 for language);
- o State's agreement to include in permits issued to non-Class 1 POTWs the minimum conditions described in the "Sewage Sludge Interim Permitting Strategy";
- o Provisions that establish the State's compliance monitoring and enforcement activities for the permits it agrees to issue (See Attachment 7);
- o An agreement to share, upon request, the results of any sludge monitoring activities (e.g., self-monitoring and inspection reports);
- o Provisions that recognize that the agreement is not a substitute for formal program approval and that EPA approval of the State sludge program will be needed for purposes of long-term implementation (i.e., after final promulgation of the Part 503 technical criteria, which is scheduled for 1991); and
- o Any agreements concerning activities to build up the State program in preparation for obtaining formal program approval.

A model State/EPA sludge agreement is found in Attachment 7.

Even when a State with an existing sludge management program does not actively participate in interim permitting, EPA permit writers should look to the State as a valuable resource and consider adopting by reference existing State permits and/or requirements. As with State requirements affirmatively approved by EPA, including State requirements in the NPDES permit means that EPA is adopting those requirements as its own and therefore must be prepared to enforce and defend them.

D. Timetable

It is crucial that Regions and States begin now to work out the details for establishing State participation in interim implementation. The State/EPA sludge agreements should be executed as soon as possible, but no later than December 31, 1989. A copy of any agreements should be sent to the Cynthia Dougherty, Director, Permits Division, Office of Water Enforcement and Permits.