



EPA's Policy Promoting The Beneficial Use Of Sewage Sludge

and

The New Proposed Technical Sludge Regulations



OVERVIEW

- The U.S. Environmental Protection Agency (EPA) will continue to promote municipal sewage sludge management practices that provide for the beneficial use of sewage sludge while maintaining or improving environmental quality and protecting human health.
- Thousands of municipalities are currently land applying or otherwise recycling their sewage sludge. Both agricultural and non-agricultural sites benefit from the use of sewage sludge, which typically contains \$50 to \$60 of nutrient and soil conditioning value per ton. Sewage sludge has been successfully used in the production of many different food, feed, and horticultural crops, in sod production and turf maintenance, in the management of forest production, as well as in reclaiming and revegetating areas disturbed by mining, construction, and waste disposal activities.
- Sludges should be adequately stabilized prior to use on land. This can be accomplished by digestion, chemical stabilization, or other means. A potential benefit from anaerobic digestion is the recovery of methane gas from the digestion process which can be used as a fuel source.
- EPA proposed new technical standards to govern the use and disposal of sewage sludge on February 6, 1989, and is seeking public comment and data for their improvement. Comments must be received by August 7, 1989.
- These proposed standards may change based upon the Agency's data gathering initiatives and the comments received. Therefore, EPA advises permit writing authorities and others not to rely on the proposed standards as a basis for evaluating the safety of proposed sludge management projects or establishing appropriate requirements for sludge use and disposal. EPA intends to carefully weigh the extent to which the proposed standards should be used, and appropriate advice will be given in the revised "Guidance for Writing Case-By-Case Permit Requirements for Municipal Sewage Sludge" scheduled for later this year.
- The proposed technical standards can be used to gain an understanding of the types of practices and kinds of pollutants that may be regulated when the revised standards are promulgated.



Purpose

The U.S. Environmental Protection Agency published the "Proposed Standards for the Disposal of Sewage Sludge" in the *Federal Register* (Volume 54, No. 23, pp. 5746-5902) for public comment on February 6, 1989. This brochure helps clarify the purpose of the new proposed sewage sludge standards and reaffirms the Agency's policy of encouraging beneficial use of sewage sludge. This publication also describes current Federal and State requirements that will govern sludge use and disposal practices until the new technical sludge regulations are promulgated in final form.

EPA Policy on Beneficial Use of Municipal Sludge

EPA's official "Policy on Municipal Sludge Management" (49 FR 24358, June 12, 1984) states that:

"The U.S. Environmental Protection Agency (EPA) will actively promote those municipal sludge management practices that provide for the beneficial use of sludge while maintaining or improving environmental quality and protecting public health. To implement this policy, EPA will continue to issue regulations that protect public health and other environmental values... Local communities will remain responsible for choosing among alternative programs; for planning, constructing, and operating facilities to meet their needs; and for ensuring the continuing availability of adequate and acceptable disposal or use capacity."





Silvigrow applications vehicle at the University of Washington Pack Forest facility.



Composted sludge has enhanced the Mt. Vernon landscape.

As noted in the policy statement, EPA prefers well-managed beneficial uses of sewage sludge. Such uses include land application practices utilizing sludge as a soil amendment or fertilizer supplement and various practices that derive energy from sludge or convert it to useful products. Such practices can help reduce the volume of waste to be disposed of, thus reducing the rate at which the limited remaining capacity in landfills is

used. These practices also avoid potential pollution problems from disposal practices such as landfilling, incineration, ocean dumping, and discharge to coastal waters. Other benefits of sludge use include reduced need for inorganic fertilizers, improved soil fertility and tilth for better plant growth, decreased consumption of energy, and reduced hazardous air emissions.



An oat field showing areas untreated (left) and treated (right) with sludge.



Agricultural Use of Sludge

EPA's policy of promoting the beneficial use of municipal sewage sludge is based upon years of study and experience. Hundreds of studies have been conducted, and several thousand POTWs are recycling their sludge for use on land in the United States. In Ohio and Maryland, for example, over 55% and

85%, respectively, of all sludge produced in each state is used on land.

Examples of communities recycling their sludge include Hannibal, MO (population 19,000), Madison, WI (population 250,000), and Seattle, WA (population 1.1 million). Each of these municipalities were 1988 winners in the EPA National Awards Program for excellence in using



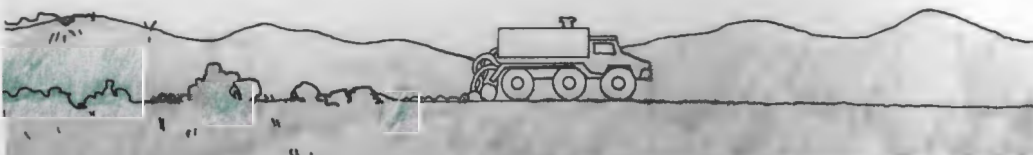
and promoting the beneficial use of sludge. Hannibal recovers 100% of the costs of hauling and spreading sludge from its sales to farmers, and Madison receives \$12 per acre from farmers for applying the sludge. Madison currently treats 3,000 to 4,000 acres of farmland with sludge each year and has a waiting list totalling 22,000 acres of farmland. Seattle treats forest as well as agricultural land.

Each dry ton of sludge contains about \$50 to \$60 worth of valuable nitrogen, phosphorus, trace nutrients, and organic

matter. During 1988, all sludge from metropolitan Washington, D.C. (population 3 million) was used on land. Over one-third (37,000 dry tons) was applied to 7,000 acres of agricultural land in Virginia, and about 30,000 dry tons was applied to Maryland soils. The sludge was spread at no charge to the farmers by private contractors, providing the farmers with several million dollars of benefit from the soil nutrients and conditioners present in the sludge. The balance of the Washington, D.C. area sludge was composted prior to use.



This corn crop benefited from the use of sludge as a fertilizer.

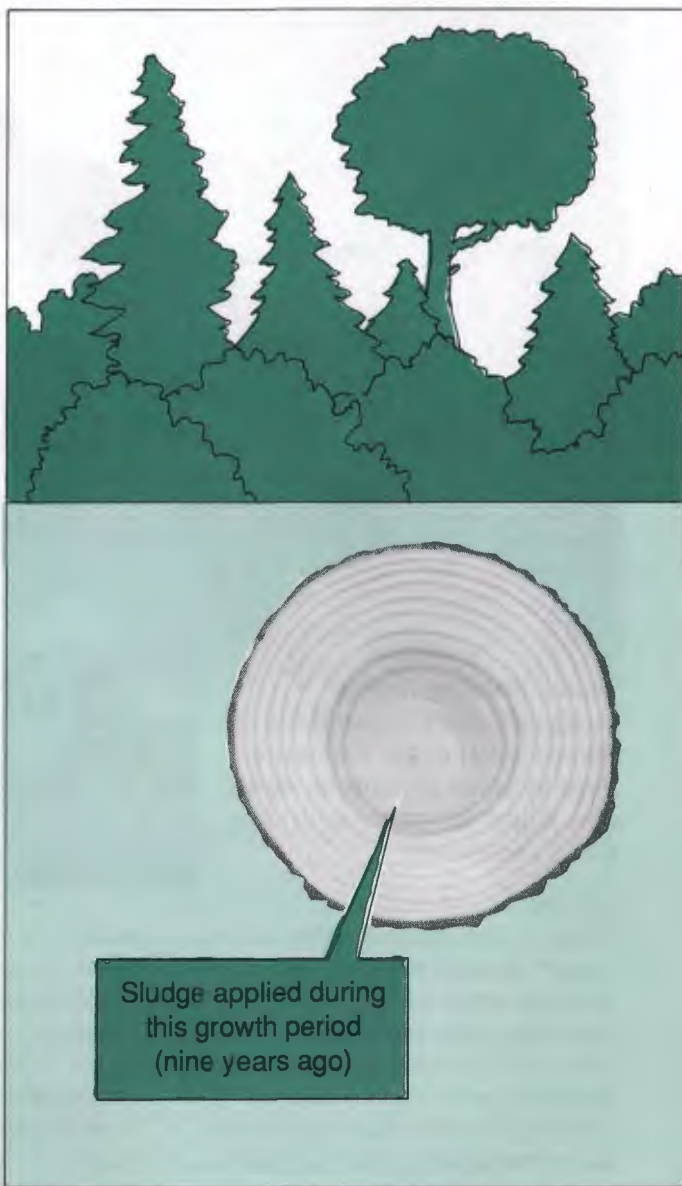


Non-Agricultural Use of Sludge

The beneficial uses of sludge extend beyond agriculture. Sludge is used in silviculture to increase forest productivity and to revegetate and stabilize forest lands that have been harvested or devastated by fires, land slides, or other natural disasters.

The application of sewage sludge to forest land shortens wood production cycles by accelerating tree growth, especially on marginally productive soils. Studies at the University of Washington on the use of sludge as a fertilizer in silviculture show height and diameter increases from two- to ten-fold in various tree species compared with control groups grown without sludge fertilizer.

University of Washington research has also shown that trees grow twice as fast on sludge-amended soil. This means that a tree which would typically be cut after 60 years could be cut after only 30 years to supply lumber for a variety of purposes.



Sludge applied during
this growth period
(nine years ago)

A cross-section of a Douglas fir tree demonstrates how sludge increases tree growth.



Above, truck spraying sludge/fly ash mixture for revegetation at the Palmerton, Pennsylvania hazardous waste site. Right, the same area after being reclaimed.



Sludge is also used to stabilize and revegetate areas destroyed by mining, dredging, and construction activities. Air-dried and composted sludge is frequently used to fertilize highway median strips and clover leaf exchanges, and for covering expired landfills. Historically, land reclamation by use of sludge has been very successful and comparable in cost to other methods. In a strip-mined area in Fulton County, Illinois, reclam-

ation using municipal sewage sludge cost \$3,660 an acre, as compared with a range of \$3,395 to \$6,290 an acre using other methods.

Pennsylvania has used sludge generated by Philadelphia to reclaim over 3,000 acres of devastated lands. Sludge has been used in combination with fly ash to revegetate soils that had become highly contaminated over the past 90 years from





860,000-gallon anaerobic sludge digester with floating cover for storing the generated methane gas.

the operation of a zinc smelter in Palmerton, Pennsylvania. A team from Allentown, PA and the Pennsylvania State University, who were responsible for demonstrating the viability of the procedure, were recognized as winners in EPA's 1988 National Beneficial Sewage Sludge Use Awards Program.

Other Public Uses for Sludge

Sales to the public of sludge products for many kinds of garden, nursery, household and lawn uses continue to increase. Milwaukee has been selling a heat-dried product called Milorganite* to the public throughout the United States since the 1920s. Kellogg's Supply Company* (a private firm in California) has been selling sludge composted in Los Angeles County, called Nitrohumus,* in California and Arizona for over 60 years. More than 15 products containing

* Vendor and trade names are included for the benefit of the reader and do not imply an endorsement by EPA.

Nitrohumus are being marketed. These composted sludge products have been used to establish playing field grass in stadiums used by the Dodgers and the Angels and as well as in the Rose Bowl.

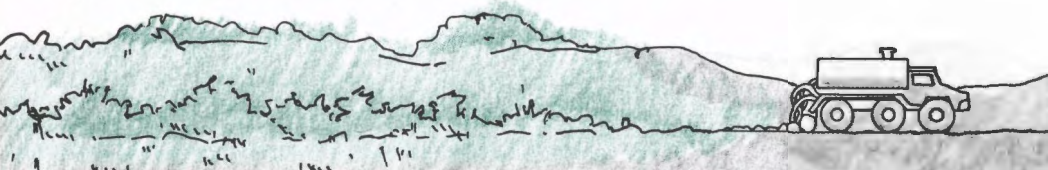
Even the White House has used composted sludge to completely reestablish its lawns. During the last two years, 825 tons of composted sludge called Compro* were used in this highly successful project. Similarly, the lawns at Mount Vernon, the Washington Monument grounds, and the Governor's Mansion in Annapolis, Maryland were

renewed last year with Compro. The first use of composted sludge on the Washington, D.C. Mall (nearly 6,000 tons) was in 1976 to establish the Constitution Gardens in time for the United States Bicentennial Birthday celebration.

Sludge should be stabilized before use. Anaerobic digestion is used by many wastewater treatment works for this purpose. Methane gas is generated during the anaerobic digestion process and has considerable value as a fuel source. For example, the 60MGD Tampa, Florida



Picture on left shows sludge being applied next to a highway near Zion, Illinois. Photo on right shows the same area after sludge application.



treatment works recovers about \$500,000 worth of heat and electrical energy each year from the methane produced by anaerobically digesting part of the 100 tons of sludge solids it produces each day. As a result of these energy savings, their digestion facility is expected to completely pay for itself in seven and a half years. Tampa reports that all of their digested sludge is used on agricultural land at an overall low cost of about \$19 per dry ton. In the past, part of the their sludge was also used for revegetating gypsum spoils from phosphate mining.

Expert Opinions Regarding Sludge Useability

In 1981, some Northwestern food processors announced that they would no longer accept fruits and vegetables for processing that had been grown on sludge-treated soils. Officials from the U.S. Department of Agriculture (USDA), the Food and Drug Administration (FDA), and the EPA met with representatives of the National Food Processors Association to address the food processors' concerns.



After careful analysis of the available health and safety information pertaining to these practices, the USDA, FDA, and EPA issued guidance and a joint policy statement in 1981 that was signed by the Administrators of each Agency. The Agencies endorsed the utilization of sludge on land for the production of fruits and vegetables and concluded:

"that the use of high quality sludges, coupled with proper management procedures, should safeguard the consumer from contaminated crops, minimize any potential adverse effect on the environment," and "that, with the adherence to the guidance contained in

[the Agencies'] document, the safety and wholesomeness of the fruit and vegetable crops grown on sludge-amended soils will be assured."

In 1983, over 200 health and environmental experts from the United States, Canada, and Europe met in Denver, Colorado to assess the state of the art for sewage sludge use and disposal (10 years after a similar meeting in Champaign, Illinois). This group of experts arrived at a published consensus that the existing guidance and regulations were adequately protective of public health and the environment, provided that sewage sludge was used in



Research projects have yielded impressive results. Corn plants on the left were grown in sludge-amended soil.



accordance with those provisions. They concluded:

- “Guidelines have been developed to enable the environmentally safe use of sewage sludge containing median concentrations of metals and organics when the sludge is applied at agronomic rates based upon nitrogen or phosphorus utilization by crops.”
- “Concentrations of synthetic organics in sludges are generally low, but high concentration may exist in some sludges. Most synthetic organics are decomposed in soil. Current Federal regulation for PCBs in sludges are adequate to protect human health.”
- “Groundwater monitoring for nitrate-nitrogen is not needed where sludge nitrogen additions do not exceed fertilizer nitrogen recommendations for the crop grown.”
- “Utilization of sludge for reclamation of disturbed land at rates higher than those for agricultural land, when properly implemented and managed, improves the quality of soils, groundwater, or vegetation.”
- “With proper management and safety allowances based on research data, land application is a safe, beneficial and acceptable alternative for treatment of municipal wastewater and sludges.”
- “In terms of current detection capability, Federal sludge disposal criteria are adequate to protect human health from pathogenic micro-organisms.”
- “No longer are there serious gaps in knowledge of the impact on human health of organic and inorganic con-

taminants in municipal wastewater and sludge when applied to land.”

From operational experiences and the views of many Agency as well as other experts, it is apparent that the best-management-practice-based guidance and regulations, developed by EPA, have been successfully guiding the beneficial use of sludge.

Proposed Part 503 Sewage Sludge Disposal Standards

Pursuant to the statutory directive in Section 405 of the Clean Water Act (CWA), EPA expanded its regulatory activities by proposing new risk-based technical sludge regulations. Once issued in final form, these regulations will appear at 40 CFR Part 503 and will establish minimum Federal standards for the use and disposal of sewage sludge when applied to land, distributed and marketed, placed in sludge-only landfills (monofills) or on surface disposal sites, or incinerated.

The co-landfilling of sludge with municipal solid waste and ocean dumping of sludge are covered under other provisions and rulemaking (e.g., the new Part 258 Municipal Solid Waste Landfill regulations as proposed [53 *FR* 33314] on August 30, 1988). Future rulemaking under the Section 405 CWA authority will address additional sludge pollutants and sewage sludge use and disposal practices.

The proposed rule contains standards for each end use and disposal method consisting of sludge concentration or pollutant loading limits, management practices, and other requirements such as monitoring, record keeping, reporting, and management controls over users and contractors by treatment works.

As proposed, the requirements would apply to both publicly owned treatment works (POTWs) and privately owned treatment works that treat domestic wastewater as well as septage. However, sludges produced by privately owned industrial facilities, which treat domestic sewage along with industrial process waste, will not be covered in the first round of regulation.

Limitations of Proposed Regulations

The proposed regulations raise many scientific, technical, and policy issues not addressed in prior Federal regulations. Furthermore, the scope of the proposed Part 503 standards has been constrained by the adequacy of the information on sewage sludge pollutants that formed the basis of the proposal as well as the sludge use and disposal practices covered.

Therefore, the proposed pollutant limits and management practices included in the proposed regulations, and even the basic approach to regulating sewage sludge taken in the proposal, may change

significantly based upon the Agency's data gathering and peer review efforts, and the public comments and information received in response to the proposal.

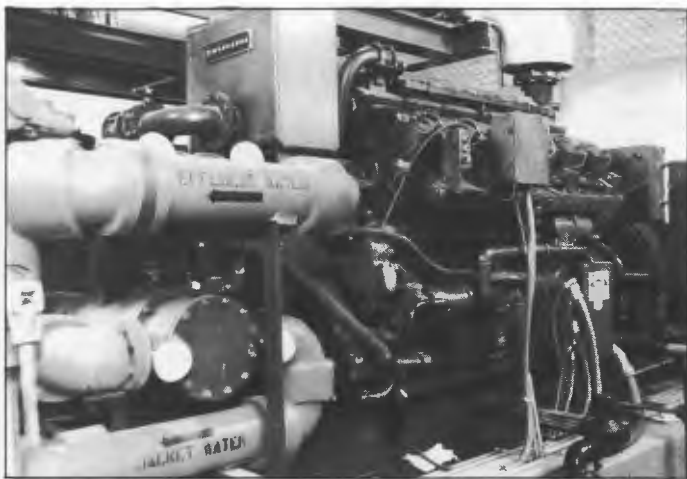
Hence, permit writers and others involved in sludge management decisions should not use the proposed pollutant limits and management practices as a basis for evaluating the requirements for sludge management operations or the environmental safety of proposed sludge management projects. The Agency plans to carefully weigh the extent to which the proposal should be used, and appropriate advice will be given in the revised "Guidance for Writing Case-By-Case Permit Requirements for Municipal Sewage Sludge" scheduled for later this year. It is appropriate, however, to note that the pollutants and practices in the proposed regulations will likely be addressed in some manner when the revised regulations are promulgated in final form.

Study and Comment to Help Improve the Proposed Regulations

To help remedy existing information gaps, the Agency is conducting a National Sewage Sludge Survey. The purpose of the Survey is to obtain better information on current sewage sludge use and disposal practices and detailed analyses of sewage sludge pollutant concentrations from a representative

group of POTW sludges. In addition, EPA is gathering data on environmental mobility of certain pollutants (e.g., dioxins and pathogens), refining and expanding its modeling capability for specific pollutants and disposal methods, developing supplemental information on certain disposal methods including some not addressed in the proposal (e.g., municipal solid waste incinerators co-firing sewage sludge), and identifying the characteristics of industrial sludges with a domestic sewage component.

During the 180-day comment period, experts from both inside and outside the EPA are thoroughly reviewing the technical basis of the proposal. The review will involve representatives from the Agency's Science Advisory Board, environmental groups, academia, and various scientific bodies with expertise in areas covered by the proposed rule. With the additional input and data obtained during the technical and public reviews of the proposal during the comment period, the Agency should be able to expand and refine the proposed standards.



A 500-kilowatt engine and generator using sludge digester gas to produce electricity.

Current Regulations Applicable to Sewage Sludge Use & Disposal Practices

Until the final Part 503 Sewage Sludge Disposal Standards are issued, sewage sludge use and disposal practices continue to be governed by EPA, State, and local requirements in current final regulations that affect sludge management practices (see Table 1). Pursuant to Section 405(d) of the 1987 Water Quality Act amendments, the Agency has established an "interim" program for permitting POTW sludge management practices on a case-by-case basis by including conditions in NPDES permits. This interim program is described in a document entitled "Strategy for Interim Implementation of Sludge Requirements in Permits Issued to POTWs" (see Notice of Availability for



Table 1.
Current Federal Regulations Impacting
Sewage Sludge Use and Disposal Practices

Coverage	Reference	Application
Polychlorinated Biphenyls (PCBs)	40 CFR 761	All sludges containing more than 50 milligrams per kilogram
Ocean Dumping	40 CFR 220-228	The discharge of sludge from barges or other vessels
New Sources of Air Emissions	40 CFR 60	Incineration of sludge at rates above 1,000 kilograms per day
Mercury, Beryllium	40 CFR 61	Incineration and heat drying of sludge
Cadmium, PCBs, Pathogenic Organisms	40 CFR 257	Land application of sludge, landfills, and storage lagoons
Extraction Procedure Toxicity	40 CFR 261 Appendix II	Defines whether sludges are hazardous

this document, 53 *FR* 1987, May 31, 1987).

The Interim Strategy is designed primarily for the period of time before promulgation of the technical standards. Through permits, it focuses on identifying and addressing existing or potential problems with sludge use or disposal practices in the absence of promulgated technical standards. The strategy states that in developing permit limits for POTWs in the interim, the primary source of information for permit writers should be the case-by-case guidance in the draft document entitled "Guidance for Writing Case-by-Case Permit Requirements for Municipal Sewage Sludge".

The draft guidance document is based on existing Federal and State requirements and guidance, and is currently being revised. This guidance document and future updates (a revised version should be available by September 30, 1989) will serve as the basis for EPA regulation of sewage sludge until the Final Part 503 requirements are issued (currently scheduled for promulgation by October 1991). (Note: The timing of promulgation of the technical standards is currently in litigation in Federal district court. EPA informed the court that it expected final promulgation in October 1991 based upon projections made in 1988; this date could change due to court order or other changed circumstances.)

This case-by-case approach will continue until the Part 503 standards are issued in final form and implemented through EPA's new Part 501 State Sludge Management Program Regulation and Parts 122-124 NPDES permitting requirements which were issued in final form on May 2, 1989 in 54 *FR* 18716-18796.

Following the final promulgation of the Part 503 technical sludge regulations, EPA's authority to impose sludge limits in NPDES permits developed on a case-by-case basis and issued to POTWs will continue with respect to pollutants and sludge management practices not covered by the technical standards.

EPA is sensitive to the concerns that problems may arise if interim permit conditions are imposed that are significantly different from those that will be required by the final Part 503 technical regulations. Thus, the Agency's interim permitting strategy has sought to adopt approaches that are consistent with the anticipated direction of the technical regulations. However, a primary emphasis of the strategy is to ensure compliance with existing Federal requirements (see Table 1).

In general, additional limits will be required only for "priority" POTWs with known or suspected problems with sludge use or disposal practices. This includes most pretreatment POTWs and POTWs that incinerate their sludge. For the most part the limits will be based on



existing Federal and State regulations and guidance, often consisting of best management practices rather than numerical limits.

If the final Part 503 technical regulations are less stringent than requirements imposed during the interim period with respect to concentration and loading limits or management practices, the interim period permit requirements can be modified to the less stringent conditions. This is because "anti-backsliding" provisions of Section 402(o) of the CWA will not apply to the Part 503 sewage sludge use and disposal activities. It is important to note, however, that States could choose not to reduce the stringency

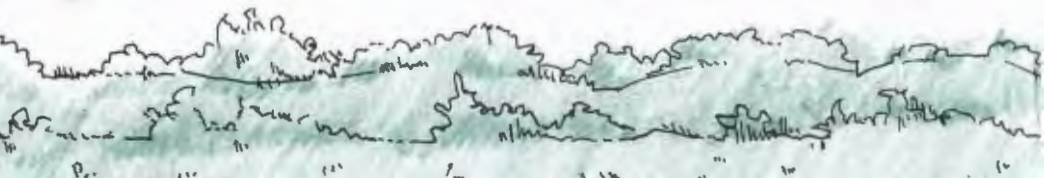
of their permit requirements because State requirements can by law be more, but not less, stringent than Federal requirements.

Request for Public Comment on Proposed Technical Regulations

EPA encourages concerned parties to review the proposed Part 503 technical regulations and submit comments and data that could help improve the proposal. Comments are solicited on every aspect of the regulations, including not only the specific pollutant concentrations, loading limits, and management practices, but also such aspects as the



Sampling composted sludge for pathogen analysis. Studies show that properly composted sludge is safe for use.



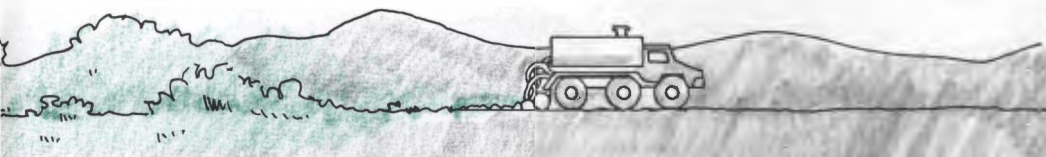


Strip-mined land in Pennsylvania reclaimed with the use of sludge.

fundamental principles of the rule, the carcinogenic risk levels proposed, other human health and environmental criteria that could be used in establishing the pollutant limits, the risk assessment models, the most exposed individual (MEI) and aggregate risk analyses, the data used in the analyses, and the anticipated benefits and costs of the rule as proposed.

Throughout the preamble to the proposed regulations, issues are raised and alternatives are discussed. Public

comment is invited on all these issues and alternatives as well as upon additional regulatory alternatives that EPA may not have considered. The following pages provide information on where you can obtain copies of the proposed rule, the technical support document, the models used in establishing the pollutant concentration and loading limits, the aggregate effects documents, the regulatory impact assessment, and the interim permitting program documents. Contact persons are also listed, as well as information on workshops, public hearings, and submission of written comments.



SOURCES OF FURTHER INFORMATION

Part 503 Regulations and Support Documents

(A) Proposed Rule and Preamble

The proposed rule was printed in the Monday, February 6, 1989, *Federal Register*, Vol. 54, No. 23, pp. 5746-5902.

The proposed rule and preamble may be obtained by contacting:

Dr. Alan Rubin
U.S. Environmental Protection Agency
Sludge Regulation & Mgmt. Branch
(WH-585)
401 M Street, S.W.
Washington, D.C. 20460

(202) 475-7301

(B) Technical Support Documents

The following technical support documents are available and may be ordered from the:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161.
ATTN: Sales

(703) 487-4650.

Please specify PB number when ordering.

- Technical Support Document for Land Application and Distribution and Marketing of Sewage Sludge--PB 89-136576, Cost: \$42.95 (A19, paper copy); \$6.95 (A01, microfiche).
- Technical Support Document for Landfilling of Sewage Sludge--PB 89-136584, Cost: \$15.95 (A05, paper copy); \$6.95 (A01, microfiche).
- Technical Support Document for Incineration of Sewage Sludge--PB 89-136592, Cost: \$49.95 (A22, paper copy); \$6.95 (A01, microfiche).
- Technical Support Document for Surface Disposal of Sewage Sludge--PB 89-136600, Cost: \$21.95 (A07, paper copy); \$6.95 (A01, microfiche).
- Technical Support Document for Pathogen Reduction in Sewage Sludge--PB 89-136618, Cost: \$13.95 (A03, paper copy); \$6.95 (A01, microfiche).

(C) Numerical Criteria Computational Programs

The following numerical criteria computational programs and programs on IBM PC compatible disks are available and may be ordered from the National Technical Information Service.

- Land Application/Distribution and Marketing--RAMS Model for Terrestrial Pathways--PB 89-138739, Cost \$55.00.

- Land Application/Distribution and Marketing--SLAPMAN Model for surface runoff--PB 89-138747, Cost \$55.00
- Landfill (Monofill)--Sludgeman Model--PB 89-138754, Cost \$60.00.
- Incineration--Sludge Incineration Model--PB 89-138762, Cost \$120.00
- Information Collection Request Document--PB 89-136642, Cost: \$21.95 (A06, paper copy); \$6.95 (A01, microfiche).
- Human Health Risk Assessment for Municipal Sludge Disposal; Benefit of Alternative Regulatory Options--(aggregate impact analysis methodology)--PB 89-36626, Cost: \$42.95 (A18, paper copy).

(D) Other Support Documents

The following additional documents that support this proposed regulation may also be ordered from the National Technical Information Service:

- The Regulatory Impact Analysis--PB 89-136634, Cost: \$42.95 (A20, paper copy); \$6.95 (A01, microfiche).
- The Review of the Risk Assessment Methodologies for Land Application/Distribution and Marketing, Landfilling, Incineration and Ocean Disposal of Sewage Sludge (Science Advisory Board report)--PB 89-136659, Cost: \$15.95 (A05, paper copy); \$6.95 (A01, microfiche).

Contact Persons for the Proposed Sludge Regulations

Activity/Technical Area	Contact Person	Phone No.
Overall Rule	William Diamond	202-475-7301
Overall Rule	Alan Rubin	202-475-7301
Land Application (LA)	Barbara Corcoran	202-475-7332
Distribution & Marketing (D&M)	Barbara Corcoran	202-475-7332
Computer Models for LA and D&M	Elvia Niebla	202-475-7309
Surface Disposal (Impoundments)	Norma Whetzel	202-475-7313
Monofills	Norma Whetzel	202-475-7313
Incineration	Eugene Crumpler	202-475-7310
Regulatory Impact Analysis	Debora Nicol	202-382-5397
	Robert Esworthy	202-382-5385
Workshops and Public Hearing	Mark Morris	202-475-7312



COMMENTS ON THE PROPOSED PART 503 SLUDGE REGULATIONS

(1) Written Comments

Written comments on the regulation should be addressed to:

William R. Diamond
Criteria and Standards Division
(WH-585)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

These comments must be postmarked on or before August 7, 1989, the last day of the comment period. All comments received on the technical sludge regulations and on all the supporting documents (see the notice in the February 6, 1989 *Federal Register*) will become a part of the official docket. Any unsolicited comments submitted on unofficial drafts of the regulation and support documents prior to the February 6, 1989 publication of the proposed regulations will not be considered or placed in the official docket. If you wish to have previously submitted comments considered and docketed, they should be resubmitted as they would pertain to the February 6th proposal.

Anyone wishing to inspect these docketed comments can do so between 8:00 am and 4:00 pm, Monday through Friday excluding legal holidays in the:

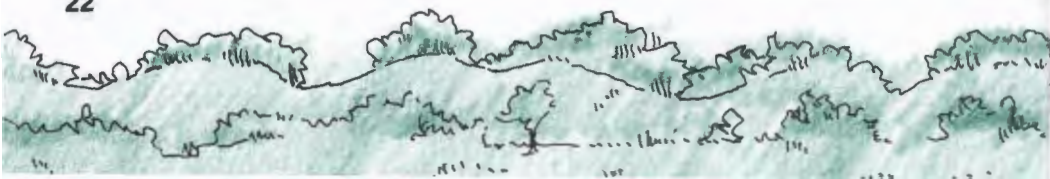


The Cumberland Turf Farm south of Seattle uses Metro sludge.

U.S. Environmental Protection Agency
Public Information Reference Unit
Room 2904 Waterside Mall
401 M Street, S.W.
Washington, D.C. 20460

(2) Workshops and Public Hearings

To facilitate the public comment process, EPA has conducted two, 2-day workshops to discuss the technical basis of the proposed rule and will be holding four public hearings. Registration and information about these public hearings may be obtained by calling the SLUDGE HOT LINE (*FR*, Vol. 54, No. 69, p. 14737, Wednesday, April 12, 1989):



SLUDGE HOT LINE

(617) 648-7898 or

(617) 648-7899

Workshops

(1) Philadelphia, May 23-24, 1989, Adam's Mark, City Avenue and Monument Road, Philadelphia, PA 19131

(2) Seattle, May 31-June 1, 1989, Red Lion Inn, 300 112th Avenue, Bellevue, WA 98004 (suburban Seattle).

Public Hearings

(1) Washington, July 6, 1989, Holiday Inn Capitol Hill, First Floor, 550 "C" Street, S.W., Washington, DC 20024.

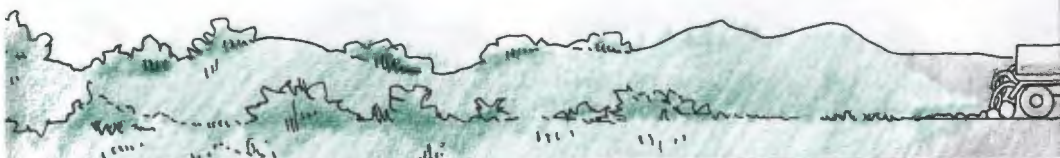
(2) Boston, July 13, 1989, John Hancock Hall, 180 Berkeley Street, Boston, MA 02117.

(3) Chicago, July 18, 1989, Chicago Marriott Downtown, Conference Room 8, Third Floor, 540 Michigan Avenue, Chicago, IL 60611.

(4) San Francisco, July 20, 1989, Lone Mountain Conference Center, University of San Francisco, Ignatian Heights, 2800 Turk Street (between Parker and Masonic Sts.), San Francisco, CA 94117-1080.

Contact Persons for Other Sludge Management Activities Within EPA

Activity/Technical Area	Contact Person	Phone No.
Co-Disposal Landfilling	Alan Geswein	202-382-4687
Ocean Disposal	John Lishman	202-475-7177
National Sludge Survey:		
Analytical Evaluation	William Telliard	202-382-7131
Statistical Evaluation	Henry Kahn	202-382-5406
Interim Permitting Guidance	Martha Kirkpatrick	202-475-9529
Beneficial Sludge Use	John Walker	202-382-7283
& Sludge Management	Bob Bastian	202-382-7378
& POTW Guidance		



INTERIM PERMITTING PROGRAM DOCUMENTS

- State sludge management program and permitting rule issued in final form in the *Federal Register* on May 2, 1989 in 54 *FR* 18716-18796
- Draft (September 1988). Guidance for Writing Case-by-Case Permit Requirements for Municipal Sewage Sludge
- Draft Strategy for Interim Implementation of Sludge Requirements in Permits Issued to POTWs

These materials may be obtained by contacting:

Martha Kirkpatrick
U.S. Environmental Protection Agency
OWEP, Permits Division (EN-336)
401 M Street, S.W.
Washington, D.C. 20460

(202) 475-9529