



The National Sewage Sludge Program

Sludge Use or Disposal Regulations Fact Sheet Series

Updated August 1994

Legal Authority

As mandated by the Clean Water Act of 1987, EPA has issued national standards regulating the use or disposal of sewage sludge. These standards, promulgated in 40 CFR Part 503, in conjunction with the permitting requirements established in 40 CFR Parts 122, 123, and 501, make up the regulatory framework of the National Sewage Sludge Program.

Who is Regulated?

Part 503 generally regulates treaters and preparers of sewage sludge that will be land applied, incinerated, or placed on a surface disposal site, as well as the generators and end users or disposers of the sewage sludge.

What is Regulated?

The National Sewage Sludge Program generally regulates all sewage sludge that is used or disposed through land application, surface disposal, or incineration.

What is sewage sludge?

Sewage sludge is defined as a "solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and material derived from sewage sludge." (Materials derived from sewage sludge include the products of sludge composters and digesters, treated sewage sludge which is bagged for sale as fertilizer, or any other type of processed or treated sewage sludge which is land applied, incinerated, or placed in a surface disposal site.) "Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during the preliminary treatment of domestic sewage in a treatment works." (§503.9(w))

Domestic septage is also regulated by Part 503. Domestic septage is "liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works

that receives only domestic sewage..." (§503.9(f))

Currently excluded from regulation under Part 503 are industrial sludge and septage from industrial or commercial facilities. Generally, sludge generated at an industrial facility is not regulated by Part 503. However, if the domestic wastewater is segregated from the process water, the sewage sludge generated by the treatment of the domestic wastewater is covered by Part 503.

*If you work with
sewage sludge (including
domestic septage) you are
probably regulated by the
National Sewage
Sludge Program.*

Sludges classified as hazardous and sludges containing 50 mg/kg or more polychlorinated biphenyls (PCBs) are also not regulated in Part 503, but are subject to other regulatory requirements.

When is Compliance Required?

Deadlines for compliance with Part 503 regulations were established in the Clean Water Act of 1987. In most cases, Part 503 is a "self-implementing" regulation; it is directly enforceable even in the absence of a permit. Part 503 requires compliance with the monitoring and recordkeeping requirements (except for monitoring of total hydrocarbon emissions in incinerator exit gases) by July 20, 1993. Part 503 requires compliance with all other standards as soon as possible, but no later than February 19,

1994 (or February 19, 1995, if construction of a pollution control facility is required to comply with the regulation). Currently, there are no compliance deadlines for the THC Standard and Monitoring requirements in the absence of direction by a permitting authority. EPA plans to establish these compliance deadlines in a future rule making.

Permits: Who Applies for One, and Who Doesn't?

Section 405(f) of the Clean Water Act requires National Pollutant Discharge Elimination System (NPDES) permits issued to publicly owned treatment works and other treatment works treating domestic sewage to contain conditions implementing Part 503. EPA has defined treatment works treating domestic sewage to be "a [publicly owned treatment works] or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities) used in the storage, treatment, recycling, or reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices ... In States where there is no approved State sludge management program ... the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a 'treatment works treating domestic sewage,' ... when he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503" (§122.2).

Important Notice:

- Compliance is required by the dates above, regardless of whether a permit has been issued.

Practices and Materials Not Regulated by 40 CFR Part 503

- Non-hazardous industrial sludge (Part 257)
- Drinking water treatment sludge
- Industrial sludge generated at an industrial facility by treatment of sanitary wastewater mixed with process wastewater (Part 257*)
- Hazardous sludge (Parts 261-268)
- Sludge containing 50 mg/kg or more of polychlorinated biphenyls (PCBs) (Part 761)
- Sewage sludge co-incinerated with more than 30% municipal solid waste (Part 60)
- Sewage sludge incinerator ash
- Grit and screenings removed during the preliminary treatment of domestic sewage in a treatment works
- Sewage sludge ultimately used as a feed supplement for animals
- Thermal conversion of sewage sludge to oil which is used to generate steam and electricity
- Use of sludge slag as concrete aggregate, for road subbase, in making pavement blocks, or as raw material to produce other building materials
- Use of sludge in concrete and bituminous mixes
- Commercial or industrial septage, or any mixture of commercial and/or industrial septage with domestic septage (Part 257*)
- Septage disposed of at a POTW or other treatment works
- Practices which may be regulated by the National Sewage Sludge Program in the future.

Under this definition, facilities which must apply for a permit include the generators, treaters, and disposers of sewage sludge. All generators of sewage sludge that will be land applied, incinerated, placed in a surface disposal site, or sent to a municipal solid waste landfill, will need to apply for a permit. Also, all persons who change the quality (i.e., change the pathogen level, the vector attraction characteristics, or the pollutant concentration) of sewage sludge that will be land applied, incinerated, or placed in a surface disposal site, will need to apply for a permit.

For example, a composting facility would be required to apply for a permit, because composting reduces the level of pathogens in the sewage sludge. On the other hand, a facility that only dewateres sewage sludge is not considered to be changing sludge quality and, therefore, would not need to apply for a permit.

Surface disposal facilities and sewage sludge incinerators will also need to apply for a permit. Land applicators who do not generate or change the quality of the sewage sludge will not need to apply for a permit.

Septic tanks and similar devices, such as portable toilets, are excluded from the definition of treatment works treating domestic sewage. Domestic septage pumpers, haulers, treaters, and land applicators will generally not need to apply for a permit. However, centralized septage treatment facilities may be required to apply for a permit.

When Are Permit Applications Due?

Facilities seeking site-specific permit limits (as authorized by Part 503) must submit permit applications within 180 days after publication of Part 503 (August 18, 1993). All sewage sludge incinerators will be required to submit applications for site-specific permit limits. Any surface disposal facility may request site-specific permit limits.

Facilities must request site-specific permit limits during the initial 180-day period, and may not be allowed to request them later, unless the applicant can show "good cause" exists (e.g., a change in disposal practice or a new site that could not be anticipated during the initial 180-day period).

Other facilities which already have NPDES permits must file sewage sludge application information with the sludge permitting authority at the time of their next NPDES permit renewal application.

Facilities which do not have NPDES permits are referred to as "sludge-only" facilities. These facilities may include composting facilities, non-discharging sewage treatment plants and other facilities which generate, treat, or dispose of sewage sludge but do not have NPDES permits. If these facilities are required to (or want to) apply for site-specific permit limits, they must submit permit applications within the 180-day period described above. Otherwise, these facilities will be required to submit limited permit application information by February 19, 1995.

Who is the Permitting Authority?

In most cases the Permitting Authority will be the EPA Regional Office. EPA is working with State agencies in the development of approved State programs to administer the Federal sewage sludge regulations. Contact your EPA Regional Sludge Coordinator (listed on the back of this fact sheet) for more information on the Permitting Authority or permit applications.

Pollutants with Numeric Limits

Land Application

arsenic	cadmium	chromium
copper	lead	mercury
nickel	selenium	zinc
molybdenum		

Unlined Surface Disposal Sites

arsenic	cadmium	nickel
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Lined Surface Disposal Sites

none

Sewage Sludge Incinerators

lead	cadmium	chromium
nickel	mercury	beryllium
total hydrocarbons (a surrogate for organic compounds in the exit gas)		

Regulated Use and Disposal Practices

Land Application

Land application is defined as "the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil" (§503.11(h)). Examples are: use at reclamation sites as a soil conditioner; use by sod farms; and the distribution of sludge as a commercial fertilizer.

Surface Disposal

A surface disposal site is an area which contains one or more "sewage sludge units," where only sewage sludge is placed for final disposal. This term does not include municipal solid waste landfills that accept sewage sludge. Furthermore, this does not include land on which sewage sludge is placed for either storage or treatment (§503.21 (n) and (p)).

As a rule of thumb, storage is placement of sludge on a site for up to 2 years. If sewage sludge is stored for more than 2 years, then a rationale supporting the need for the additional time should be submitted to the permitting authority. For more information on storage, call your EPA Regional Sludge Coordinator.

Disposal in a municipal solid waste landfill (MSWLF) is not considered surface disposal. A generator who sends sewage sludge to a MSWLF needs to apply for a permit, but the MSWLF is not regulated by the National Sewage Sludge Program.

Examples of surface disposal include disposal in a sewage sludge monofill and the trenching of septage.

Incineration

Incineration is defined as the combustion of the organic matter and inorganic matter in sewage sludge at high temperatures in an enclosed device that fires only sewage sludge and an auxiliary fuel. The auxiliary fuel can include, but is not limited to, natural gas, fuel oil, coal, and municipal solid waste. Municipal solid waste can be up to 30% of the combined dry weight of the sewage sludge and the municipal solid waste. Hazardous waste is not considered an auxiliary fuel (§503.41(b), (g) and (k)).

Are You Regulated by The National Sewage Sludge Program?

Are you a publicly owned treatment works or other generator of sewage sludge regulated by Part 503*?

Yes → You are regulated and will need to apply for a permit.

No



Do you send sewage sludge to a municipal solid waste landfill?

Yes → You will need to apply for a permit. However, the municipal solid waste landfill is not regulated by Part 503 and will not need to apply for a permit.

No



Are you an industrial facility which separately treats domestic wastewater and generates sewage sludge regulated by Part 503*?

Yes → You are regulated and will need to apply for a permit.

No



Do you change the quality† of sewage sludge regulated by Part 503*?

Yes → You are regulated and will need to apply for a permit.

No



Do you operate a sewage sludge incinerator or a sewage sludge surface disposal site?

Yes → You are regulated and will need to apply for a permit.

No



Do you treat or dispose of pumpings from septage tanks or similar devices?

Yes → You are regulated, but generally do not need to apply for a permit. However, if you treat septage at a centralized facility, you may be required to apply for a permit.

No



Do you just land apply sewage sludge?

Yes → You are regulated, but generally do not need to apply for a permit.

No



Do you just handle or distribute sewage sludge?

Yes → You may be subject to some aspects of the National Sewage Sludge Program, but generally do not need to apply for a permit.

No



You are probably not regulated by the National Sewage Sludge Program.

*Part 503 only regulates sewage sludge which is land applied, incinerated in a sewage sludge incinerator, or placed in a surface disposal unit.

†To change the sewage sludge quality means to alter one of the regulated sludge quality criteria. The criteria are: pathogens, vector attraction characteristics, and regulated organic and inorganic pollutants.

Publication Sources

US EPA

Office of Water Resource Center

OWRC
RC-4100
401 M Street, SW
Washington, DC 20460
Tele: (202) 260-7786

US EPA

Education Resources Information Center (ERIC/CSMEE)

1929 Kenny Road
Columbus, OH 43210-1080
Tele: (614) 292-6717
Fax: (614) 292-0263
(800) 276-0462

US EPA

Center for Environmental Research Institute (CERI)

P.O. Box 19963
Cincinnati, OH 45219-7562
Tele: (513) 569-7562
Fax: (513) 569-7566

National Technical Information Service:

NTIS
U.S. Department of Commerce
5285 Port Royal Rd.
Springfield, VA 22161
Tele: (703) 487-4650
(800) 553-6847

National Small Flows Clearinghouse:

NSFC
c/o West Virginia University
P.O. Box 6064
Morgantown, WV 26506-6064
Tele: (800) 624-8301

Federal Register Notices

Part 503 was published on February 19, 1993, at 58 *Federal Register* (FR) 9248. Amendments to the National Sewage Sludge Program permit application deadlines were also published on February 19, 1993, at 58 FR 9404. Another amendment to Part 503 was published February 25, 1994, at *Federal Register* 59 (FR) 9095 for changes to the molybdenum limits for land application and the total hydrocarbons standard for sewage sludge incinerators.

Most Federal Depository Libraries receive copies of the *Federal Register*. Many college, university, and public libraries are Federal Repository Libraries. Also check EPA Regional libraries.

Sludge Publications

Guidance Documents

Available from OWRC, ERIC, NSFC, CERI and NTIS. All documents are not available from all sources. Call OWRC to determine best source for specific information.

UNITED STATES MAP GOES HERE

UNDER DEVELOPMENT

EPA Regions

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