
Chapter 1

Use or Disposal of Sewage Sludge Biosolids

Background on the Part 503 Rule

As required by the Clean Water Act Amendments of 1987, the U.S. Environmental Protection Agency (EPA) developed a new regulation to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants that might be present in sewage sludge biosolids. This regulation, *The Standards for the Use or Disposal of Sewage Sludge* (Title 40 of the Code of Federal Regulations [CFR], Part 503), was published in the *Federal Register* (58 FR 9248 to 9404) on February 19, 1993, and became effective on March 22, 1993. This document will refer to the regulation as “the Part 503 rule” and also as “Part 503.”

This guidance document is not a substitute for the actual rule, but it is intended as a helpful tool for interpretation and implementation of the rule.

In this document you will notice the nearly exclusive reference to sewage sludge as biosolids. *Biosolids* are a primarily organic solid product produced by wastewater treatment processes that can be beneficially recycled. The fact that the biosolids can be recycled does not preclude their being disposed. Whenever the document first quotes portions of the Part

503 rule that include the words “sewage sludge,” the word “biosolids” is substituted in brackets (e.g., “[biosolids] incinerator” for sewage sludge incinerator). Subsequently, the word biosolids is used without brackets (e.g., sewage sludge incinerators are called “biosolids incinerators”).

The Part 503 rule establishes requirements for the final use or disposal of sewage sludge [biosolids] when biosolids are:

- applied to land to condition the soil or fertilize crops or other vegetation grown in the soil;
- placed on a surface disposal site for final disposal; or
- fired in a biosolids incinerator.

The rule also indicates that if biosolids are placed in a municipal solid waste landfill, the biosolids must meet the provisions of 40 CFR Part 258.

The Part 503 rule was amended on February 25, 1994 (59 FR 9095). The amendment made two changes. It deleted pollutant limits for molybdenum in biosolids applied to land but retained the molybdenum ceiling limits; and in certain situations, it permitted carbon monoxide (CO) monitoring in place of total hydrocarbon (THC) monitoring for biosolids incinerators. Please be aware that there may be further modifications to the currently amended molybdenum and CO provisions as well as changes in other requirements of the rule, mainly involving technical correction and litigation response.

The Part 503 rule is designed to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants and contaminants that may be present in [biosolids]. The provisions of the Part 503 rule are consistent with EPA’s policy of promoting beneficial uses of [biosolids] (see 49 FR 24358, June 12, 1984). Land application takes advantage of the soil conditioning and fertilizing properties of biosolids. A separate EPA booklet (EPA/832-R-93-009), as well as other literature, describes the benefits of using biosolids (see References at the end of this document).

STATE RULES ALSO APPLY TO BIOSOLIDS USE OR DISPOSAL: It is important to note that persons using or disposing of biosolids are subject to State and possibly local regulations as well. Furthermore, these State and other regulations may be more stringent generally than the Federal Part 503 rule, may define biosolids differently, or may regulate certain types of biosolids more stringently than the Part 503 rule. For information on specific State biosolids regulations, consult the appropriate State biosolids permitting authorities listed in Appendix B.



TopGrow organic compost is produced from biosolids and other waste materials by the City of Los Angeles.

Risk Assessment Basis of the Part 503 Rule

Many of the requirements of the Part 503 rule are based on the results of an extensive multimedia risk assessment. This risk assessment was more comprehensive than for any previous Federal biosolids rulemaking effort, the earliest of which began in the mid-1970s. Research results and operating experience over the past 25 years have greatly expanded EPA's understanding of the risks and benefits of using or disposing of biosolids.

Development of the Part 503 rule began in 1984. During this extensive effort, EPA addressed 25 pollutants using 14 exposure pathways in the risk assessment. In this assessment, EPA also developed a new methodology that provided for the protection of the environment and public health. The new method for conducting the multimedia risk assessment was reviewed and approved by EPA's Science Advisory Board.

EPA proposed the Part 503 rule in February 1989. During the four years between the publication of the proposed and final rule, the data, models, and assumptions used in the risk assessment process were reviewed and revised in an effort involving internationally recognized experts working closely with EPA. EPA feels this process has resulted in the establishment of state-of-the-art risk-based standards for controlling the use or disposal of biosolids.

Detailed information describing the risk assessment and technical basis of the Part 503 standards is contained in the Preamble to the Part 503 rule and in several Technical Support Documents, available from the National Technical Information Service (NTIS) (see References at the end of this document).

Purpose of This Document

The purpose of this document is to explain the intent and requirements of the Part 503 rule and to assist owner/operators in determining the extent to which their biosolids management operation is covered. To help clarify the intent of the Part 503 rule, this guidance document sometimes uses terms that do not appear in the rule itself and organizes information differently from the rule. For example, Chapter Two first describes land application of biosolids with the fewest regulatory requirements, then provides a discussion of land application of biosolids for which more regulatory requirements apply.

CAUTION! This document does not serve as a substitute for the actual Part 503 rule and its amendments published in the *Federal Register* and the *Code of Federal Regulations*. Rather, this document is intended to be used as guidance to assist users or disposers of sewage sludge in complying with the rule. In addition, official interpretations of various portions of Part 503 may change after the publication of this guidance document. For clarification on any discussion contained in this guidance document, the actual rule and the appropriate EPA Regional [biosolids] permitting authorities listed in Appendix B should be consulted.

What Are Sewage Sludge Biosolids?

Part 503 defines **sewage sludge** as a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes scum or solids removed in primary, secondary, or advanced wastewater treatment processes and any material derived from sewage sludge (e.g., a blended sewage sludge/fertilizer product) but does not include grit and screenings or ash generated by the firing of sewage



Department of Transportation personnel plant flowers in composted biosolids beds at La Guardia Airport, New York.

sludge in an incinerator. Part 503 considers domestic septage as sewage sludge and sets separate requirements for domestic septage applied to agricultural land, forests, or reclamation sites. **Domestic septage** is defined as a liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar system that receives only domestic sewage. The Part 503 definition of domestic septage excludes grease-trap pumpings and commercial or industrial waste. As previously stated, this guidance document refers to sewage sludge as biosolids to emphasize the beneficial nature of this recyclable biological resource.

Overview of the Rule

The Part 503 rule includes five subparts: general provisions, and requirements for land application, surface disposal, pathogen and vector attraction reduction, and incineration. For each of the regulated use or disposal practices, a Part 503 standard includes general requirements, pollutant limits, management practices, operational standards, and requirements for the frequency of monitoring, recordkeeping, and reporting, as shown in Figure 1-1. For the most part, the requirements of the Part 503 rule are self-implementing and must be followed even without the issuance of a permit.

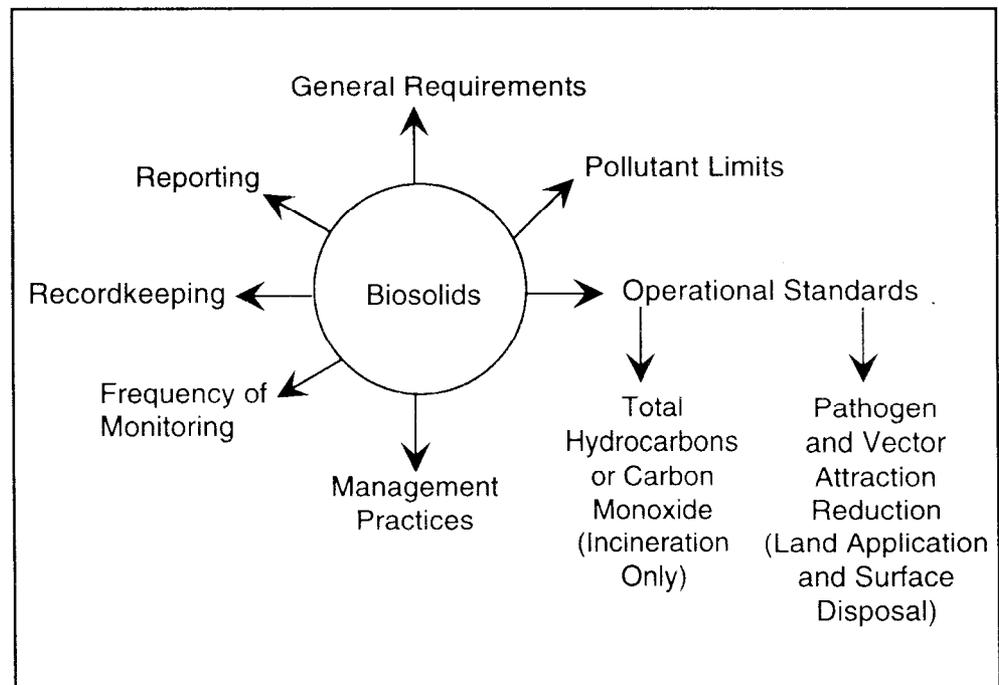


Figure 1-1. What a Part 503 standard includes.

Subpart A—General Provisions

Subpart A of the rule covers general provisions, such as the purpose and applicability of the rule, the compliance period, and exclusions from the rule. These general provisions apply to each of the three biosolids use or disposal practices.

Subpart B—Requirements for Land Application

Options for Land Application of [Biosolids] Under Subpart B:

Subpart B of the rule specifies requirements for biosolids applied to land. The term **apply** means to put biosolids on the land to take advantage of the nutrient content or soil conditioning properties of the biosolids.

The requirements for land application also pertain to material **derived** from biosolids; that is, biosolids that have undergone a change in quality through treatment (e.g., composting) or by mixing with other materials (e.g., wood chips, municipal solid waste, yard waste).

The biosolids land application requirements, which are explained in detail in Chapter Two of this guidance document, are summarized below. (See also **Process Design Manual: Land Application of Sewage Sludge and Domestic Septage**. U.S. EPA, Center for Environmental Research Information, Cincinnati, OH. Expected to be available in early 1995.) There are several options for land applying biosolids under Subpart B of the Part

503 rule, all of which are equally protective of human health and the environment. This guidance discusses these options in order of increasing regulatory complexity.

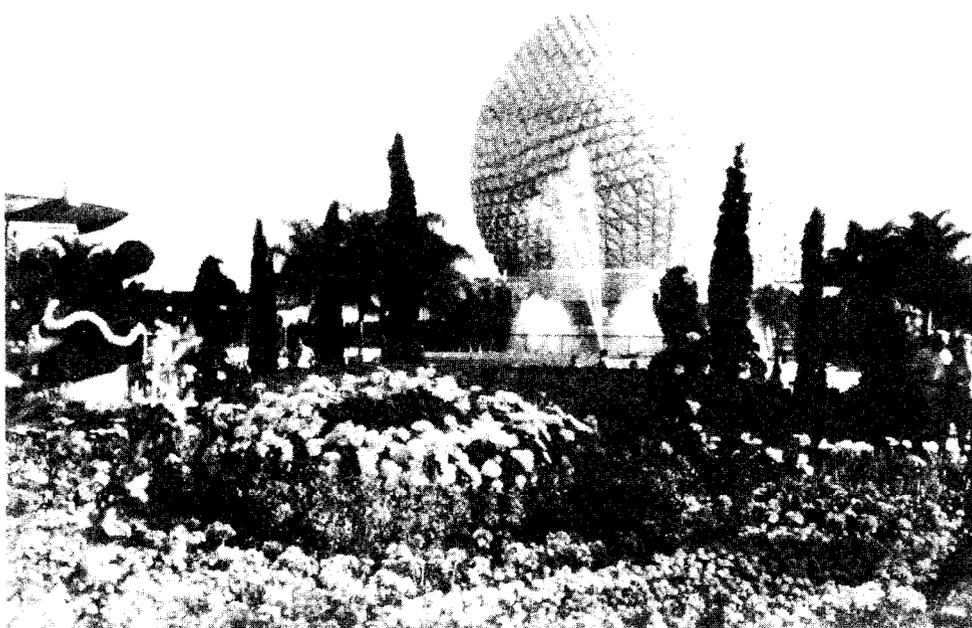
1 Exceptional Quality Biosolids: Although not explicitly defined in the Part 503 rule, this document uses the term ***Exceptional Quality (EQ)*** to characterize biosolids that meet low-pollutant and Class A pathogen reduction (virtual absence of pathogens) limits and that have a reduced level of degradable compounds that attract vectors. Once the requirements discussed in detail in Chapter Two are met, EQ biosolids are considered a product that is virtually unregulated for use, whether used in bulk, or sold or given away in bags or other containers.

2 Pollutant Concentration Biosolids: Although not explicitly defined in the Part 503 rule, this document uses the term ***Pollutant Concentration (PC)*** to refer to biosolids that meet the same low-pollutant concentration limits as EQ biosolids, but only meet Class B pathogen reduction and/or are subjected to site management practices rather than treatment options to reduce vector attraction properties. Unlike EQ biosolids, PC biosolids may only be applied in bulk and are subject to general requirements and management practices; however, tracking of pollutant loadings to the land is not required.

A majority of the biosolids currently generated in the United States are believed to be EQ or PC biosolids containing low levels of pollutants. EPA expects that many municipalities will strive to produce EQ or PC biosolids because of the reduced regulatory requirements and the anticipated improved public perception about using EQ and PC biosolids beneficially. Cumulative levels of pollutants added to land by EQ or PC biosolids do not have to be tracked because the risk assessment has shown that the life of a site would be at least 100 to 300 years under the conservative parameters assumed.

3 Cumulative Pollutant Loading Rate (CPLR) [Biosolids]: CPLR biosolids typically exceed at least one of the pollutant concentration limits for EQ and PC biosolids but meet the ceiling concentration limits (see Chapter Two). Such biosolids must be applied to land in bulk form. The cumulative levels of biosolids pollutants applied to each site must be tracked and cannot exceed the CPLR.

4 Annual Pollutant Loading Rate (APLR) [Biosolids]: APLR biosolids are biosolids that are sold or given away in a bag or other container for application to the land that exceed the pollutant limits for EQ biosolids but meet the ceiling concentration limits (see Chapter Two). These biosolids must meet APLR requirements and must be accompanied by specific biosolids application rate information on a label or handout that includes instructions on the material's proper use.



Biosolids compost enhances gardens at Walt Disney World Epcot Center in Orlando, Florida.



Compost derived from biosolids is used to condition mountain soils near Denver, Colorado.

Each of the options for land applying biosolids are affected by the Part 503 February 25, 1994, amendment, which states that EPA is reconsidering appropriate land application and pollutant limits for molybdenum.

During the period of reconsideration, only ceiling limits for molybdenum must be met. Molybdenum pollutant limits for EQ, PC, CPLR, or APLR biosolids have been deleted.

Options for Using or Disposing of Domestic Septage Under Subpart B:

If domestic septage is applied to land with a high potential for contact by the public (e.g., public parks, ball fields, cemeteries, plant nurseries, and golf courses), the Part 503 land application requirements apply. However, when domestic septage is applied to nonpublic contact sites (e.g., agricultural land, forests, and reclamation sites), less burdensome requirements may apply. A separate EPA guidance document, entitled *Domestic Septage Regulatory Guidance: A Guide to the EPA 503 Rule*, provides detailed guidance on how to comply with these requirements.

Subpart C—Requirements for Sewage Sludge Placed on a Surface Disposal Site

Subpart C of the rule covers requirements for biosolids—including domestic septage—placed on a surface disposal site.

Placement refers to the act of putting biosolids on a parcel of land at high rates for final disposal rather than using the organic content in the biosolids to condition the soil or using the nutrients in the biosolids to fertilize crops. Placing biosolids in a monofill, in a surface impoundment, on a waste pile, or on a dedicated site is considered surface disposal.

Treatment and **storage** of biosolids are not considered surface disposal. **Treatment** is the preparation of biosolids for final use or disposal through such activities as thickening, stabilization, and dewatering. **Storage** is the placement of biosolids on the land for 2 years or less. Placement on land for longer than 2 years is considered surface disposal unless the site owner/operator retains written records demonstrating clearly to the permitting authority that the area of land onto which biosolids are placed is not a surface disposal site but rather, based on management or operational practices, constitutes a treatment or temporary storage site.

Surface disposal requirements and the difference between disposal, treatment, and storage of biosolids are explained in Chapter Three of this document. (See also *Process Design Manual: Land Application of Sewage Sludge and Domestic Septage*.)

Certain materials *derived* from biosolids, the quality of which has been changed by treating the biosolids or by mixing them with other materials (e.g., wood chips), are subject to the surface disposal requirements in Part 503 with one exception. If biosolids are mixed with nonhazardous solid wastes, the mixture and the land onto which the mixture is placed are subject to the solid waste regulations (40 CFR Part 258) instead of Part 503.

Subpart D—Requirements for Pathogen and Vector Attraction Reduction

Subpart D of the Part 503 rule covers requirements for the control of disease-causing organisms, called *pathogens*, in biosolids and the reduction of the attractiveness of biosolids to *vectors*, such as flies, mosquitoes, and other potential disease-carrying organisms. These requirements are described in Chapter Five of this document. Pathogen and vector attraction reduction requirements also are briefly described for biosolids applied to land or placed on a surface disposal site in Chapters Two and Three of this document. More detailed guidance on meeting pathogen and vector attraction reduction requirements is provided in another EPA publication (see References, EPA/625-R-92-013).

Subpart E—Requirements for Sewage Sludge Fired in a Sewage Sludge Incinerator

Subpart E of the rule covers the requirements for biosolids fired in a [biosolids] incinerator. The firing of biosolids with auxiliary fuels also is covered by the Part 503 incineration requirements. *Auxiliary fuel* materials include gas, oil, coal, and other materials that serve as a fuel source.

The co-firing of biosolids in an incinerator with other wastes is generally not regulated under Part 503. It should be noted, however, that wastes either in auxiliary fuel or mixed and co-fired with biosolids are considered to be auxiliary fuel when the weight is less than or equal to 30 percent (by dry weight) of the total biosolids and auxiliary fuel mixture. The requirements in Subpart E for biosolids incineration are discussed in Chapter Four.

The February 25, 1994, amendment to the Part 503 rule states that under certain conditions EPA will allow continuous monitoring of carbon monoxide emissions from biosolids incinerators as an alternate to continuous monitoring of total hydrocarbons in emissions. The details of the amendment are also discussed in Chapter Four.

To Whom the Rule Applies

Part 503 applies to any person who applies biosolids to the land or fires biosolids in a biosolids incinerator, and to the owner/operator of a surface

disposal site, or to any person who is a preparer of biosolids for use, incineration, or disposal. Part 503 defines a **person** as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. A **preparer** is a person who generates or derives a material from biosolids (i.e., changes the quality of biosolids).

Exclusions from the Rule

Part 503 specifies certain exclusions from the rule. These exclusions are listed in Figure 1-2. Also listed in Figure 1-2 are the Federal regulations that apply to biosolids-related activities not covered by the Part 503 rule.

Permits

Self-Implementing Nature of the Rule

In most cases, the Part 503 rule is **self-implementing**—that is, preparers, land appliers, owner/operators of surface disposal sites, or biosolids incinerators, and other users or disposers of biosolids must comply with the Part 503 rule (including the compliance dates listed in Table 1-2), even if they have not been issued a permit covering biosolids use or disposal requirements. Similarly, EPA (or an approved State) can take enforcement actions directly against persons who violate the Part 503 requirements.

Who Must Apply for a Permit

A person must apply for a permit covering biosolids use or disposal standards if they own or operate a treatment works treating domestic sewage. A person is an owner or operator of a **treatment works treating domestic sewage** (TWTDS) if the facility generates, changes the quality of, or provides final disposition of solids, practices for which are ultimately subject to the Part 503 rule.

Table 1-1 provides a more detailed summary of who does and does not have to apply for a Federal permit. Appendix A lists the type of information that should be provided in a permit application. Interim application forms are available from EPA's Office of Wastewater Management.

In most cases, Part 503 requirements will be incorporated over time into National Pollutant Discharge Elimination System (NPDES) permits issued to publicly owned treatment works (POTWs) and TWTDSs. As decided by the permitting priorities of EPA Regions and approved States, "biosolids-only" permits covering applicable Part 503 requirements are likely to be issued to non-NPDES facilities as well. A permit applicant who has not received a response from EPA should continue to comply with the applicable provisions of the Part 503 rule.

FIGURE 1-2
Exclusions from Part 503

Part 503 Does Not Include Requirements For:	Applicable Federal Regulation
<p><i>Treatment of Biosolids</i> Processes used to treat sewage sludge prior to final use or disposal (e.g., thickening, dewatering, storage, heat drying).</p>	None (except for operational parameters used to meet the Part 503 pathogen and vector attraction reduction requirements)
<p><i>Selection of Use or Disposal Practice</i> The selection of a biosolids use or disposal practice.</p>	None (the determination of the biosolids use or the disposal practice is a local decision)
<p><i>Incineration of Biosolids with Other Wastes</i> Biosolids co-fired in an incinerator with other wastes (other than as an auxiliary fuel).</p>	40 CFR Parts 60, 61
<p><i>Storage of Biosolids</i> Placement of biosolids on land for 2 years or less (or longer when demonstrated not to be a surface disposal site but rather, based on practices, constitutes treatment or temporary storage).</p>	None
<p><i>Industrial Sludge</i> Sludge generated at an industrial facility during the treatment of industrial wastewater with or without combined domestic sewage.</p>	40 CFR Part 257 if land applied 40 CFR Part 258 if placed in a municipal solid waste landfill
<p><i>Hazardous Sewage Sludge</i> Sewage sludge determined to be hazardous in accordance with 40 CFR Part 261, <i>Identification and Listing of Hazardous Waste</i>.</p>	40 CFR Parts 261-268
<p><i>Sewage Sludge Containing PCBs ≥ 50 mg/kg</i> Sewage sludge with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry-weight basis).</p>	40 CFR Part 761
<p><i>Incinerator Ash</i> Ash generated during the firing of biosolids in a biosolid incinerator.</p>	40 CFR Part 257 if land applied 40 CFR Part 258 if placed in a municipal solid waste landfill or 40 CFR Parts 261-268 if hazardous
<p><i>Grit and Screenings</i> Grit (e.g., sand, gravel, cinders) or screenings (e.g., relatively large materials such as rags) generated during preliminary treatment of domestic sewage in a treatment works.</p>	40 CFR Part 257 if land applied 40 CFR Part 258 if placed in a municipal solid waste landfill
<p><i>Drinking Water Sludge</i> Sludge generated during the treatment of either surface water or ground water used for drinking water.</p>	40 CFR Part 257 if land applied 40 CFR Part 258 if placed in a municipal solid waste landfill
<p><i>Certain Non-domestic Septage</i> Septage that contains industrial or commercial septage, including grease-trap pumpings.</p>	40 CFR Part 257 if land applied 40 CFR Part 258 if placed in a municipal solid waste landfill

**TABLE 1-1
Who Must Apply for a Permit?**

Treatment Works Treating Domestic Sewage (TWTDS) Required to Apply for a Permit
All generators of biosolids that are regulated by Part 503 (including all POTWs)
Industrial facilities that <i>separately</i> treat domestic sewage and generate biosolids that are regulated by Part 503
All surface disposal site owner/operators
All biosolids incinerator owner/operators
Any person (e.g., individual, corporation, or government entity) who changes the quality of biosolids regulated by Part 503 (e.g., biosolids blenders or processors) ^a
Any other person or facility designated by the permitting authority as a TWTDS

TWTDS and Other Persons Not Automatically Required To Apply for a Permit^b
Biosolids land applicators, haulers, persons who store, or transporters who do not generate or do not change the quality of the biosolids
Land owners of property on which biosolids are applied
Domestic septage pumpers/haulers/treaters/appliers
Biosolids packagers/baggers (who do not change the quality of the biosolids)

^a If all the biosolids received by a biosolids blender or composter are exceptional quality (EQ) biosolids (see Chapter Two for full explanation of EQ biosolids), then no permit will be required for the person who receives or processes the EQ biosolids.

^b EPA may request permit applications from these facilities when necessary to protect public health and the environment from reasonably anticipated effects of pollutants that may be present in biosolids.

Site-Specific Permit Limits

Biosolids incinerator owner/operators are required to have site-specific pollutant limits in their permits, and certain surface disposal sites with unique site conditions may also apply for site-specific pollutant limits. Site-specific permit limits are not allowed for land application sites; to the extent the owner of a land application site desires permit limits exceeding pollutant ceiling concentrations, the site may be more appropriately addressed as a surface disposal site (and subject to the Part 503 requirements for surface disposal).

Who Issues the Permit?

At the time this guidance document was published, the permitting authority for Part 503 was EPA. Thus, applications for a Federal biosolids permit must be submitted to the appropriate EPA Regional Office, not the State. This will remain the case until the biosolids management programs of individual States are approved by EPA. Until a State has an EPA-approved program, EPA will remain the permitting authority.

Note that State laws regarding the use or disposal of biosolids, including permit requirements, must be complied with, even if the State program has not received Federal approval.

Unless Otherwise Specified by the Permitting Authority

There are a number of places in the Part 503 rule that indicate ***unless otherwise specified by the permitting authority***. For example, two instances where a permitting authority could be asked to establish different requirements are: (i) to apply biosolids to reclamation sites in excess of the agronomic rate, or (ii) to apply biosolids closer than 10 meters to waters of the United States. The permitting authority could establish such different requirements for biosolids use or disposal through a permit or other enforceable means on a case-by-case basis (e.g., a letter of approval under the authority of Section 308 of the Clean Water Act [CWA] or a settlement agreement).

Compliance with, and Enforcement of, the Rule

Compliance deadlines under the Part 503 rule vary according to the type of requirement (e.g., compliance dates for frequency of monitoring and for recordkeeping and reporting requirements differ from compliance dates for other requirements) and whether new pollution control facilities will have to be constructed to meet the requirement. Compliance dates for all Part 503 requirements are provided in Table 1-2.

To ensure compliance with Part 503, regulatory authorities have the right to inspect operations involved in the use or disposal of biosolids; review and evaluate required reports and records; sample biosolids at regulated facilities; and respond to complaints from persons affected by an alleged improper use or disposal of biosolids. If records are not kept or other Part 503 requirements are not met, EPA can initiate enforcement actions.

Violations of the Part 503 requirements are subject to the same sanctions as wastewater effluent discharge violations—EPA can sue in civil court and seek remediation and penalties, and it can prosecute willful or negligent violations as criminal acts. If a problem occurred (e.g., ground-water

TABLE 1-2
Compliance Dates for Part 503 Requirements

Part 503 Requirement	Compliance Date
Land Application and Surface Disposal	
Initial monitoring and recordkeeping	July 20, 1993
All other requirements <i>when current pollution control facilities are adequate to meet requirements, including initial reporting when required</i>	February 19, 1994
All other requirements <i>when construction of new pollution control facilities is needed to meet requirements</i>	February 19, 1995
Incineration	
Initial monitoring, recordkeeping, and reporting (except for total hydrocarbons [THC] or carbon monoxide [CO])	July 20, 1993
All other requirements, including frequency of monitoring, recordkeeping, and reporting for THC (or CO), <i>when current pollution control facilities are adequate to meet requirements</i>	February 19, 1994
All other requirements, including frequency of monitoring, recordkeeping, and reporting for THC (or CO), <i>when construction of new pollution control facilities is needed to meet requirements</i>	February 19, 1995

contamination), the government could seek to have the offending party correct the situation. EPA can pursue civil fines of up to \$25,000 per day, per violation (a single violation that occurs over a 1-year period could result in a fine of over \$9 million). Filing a false report carries a fine of up to \$10,000 and up to 2 years in prison. Negligent violations carry a criminal fine of \$2,500 to \$25,000 per day of violation and up to 1 year in prison. Willful violations carry a criminal fine of \$5,000 to \$50,000 per day of violation and up to 3 years in prison.

Finally, where EPA is unable to take an enforcement action, Section 505 of the CWA authorizes any citizen (e.g., a landowner, neighbor, lending institution) to bring a civil action against the violator for corrective action and/or the same penalties that EPA could have sought (i.e., \$25,000 per violation per day).

Who Must Report

The Part 503 rule includes reporting requirements only for the following types of facilities:

- Publicly owned treatment works (POTWs) with a design flow rate equal to or greater than 1 mgd;

POTWs that serve a population of 10,000 or greater, and

Class 1 [biosolids] management facilities that are POTWs required to have an approved pretreatment program (5 mgd or greater as per 40 CFR Part 403.3[a]) and POTWs located in states that have elected to assume local program responsibilities for pretreatment (140 CFR 403.10[e]), and treatment works processing domestic sewage (TWTDS) that EPA and/or the State have classified as Class 1 because of the potential to negatively affect public health and the environment.

Relationship of the Federal Requirements to State Requirements

Part 503 does not replace any existing State regulations; rather, it sets minimum national standards for the use or disposal of biosolids. In some cases, the State requirements may be more restrictive or administered in a manner different from the Federal regulation.

States can change their regulations to meet the minimum Federal standards. EPA will be working with States to encourage them to gain approval for administering the Part 503 rule. States can apply to EPA for approval of a biosolids program at any time, but they are under no obligation to do so.

Knowing exactly which State or Federal rules to follow can sometimes be complicated. Users or disposers of biosolids should keep the following situations in mind when considering the applicability of requirements:

In all cases, users or disposers of biosolids must comply with all applicable requirements of the new Federal rule (Part 503), as explained in this document.

If a State has its own rules governing the use or disposal of biosolids and has not yet adopted the Federal rule, the owner/operator will have to follow the most restrictive portions of both the Federal and State rules.

Users or disposers of biosolids are strongly encouraged to check with the appropriate sewage sludge [biosolids] coordinator (listed in Appendix B) regarding the specific State requirements.

Assistance with Technical, Permitting, and Compliance Issues

EPA will provide technical information and assistance on the Part 503 regulation. Also, on occasion EPA can provide project-specific assistance on biosolids use or disposal. The following EPA personnel and offices can provide assistance in the subject areas indicated.

Permitting

Wendy Miller (202) 260-3716

Wendy Bell (202) 260-9534

Regional & State Sewage Sludge [Biosolids] Coordinators (see Appendix B)

Compliance Monitoring and Enforcement

Joe Theis (Enforcement) (202) 260-8185

George Gray (Compliance) (202) 260-8313

Regional & State Sewage Sludge [Biosolids] Coordinators (see Appendix B)

Sampling & Analysis

Cristina Gaines (202) 260-6284

Incineration

Cristina Gaines (202) 260-6284

Wendy Bell (202) 260-9534

Beneficial Use and Biosolids Management Technology Issues

John Walker (202) 260-7283

Bob Bastian (202) 260-7378

Pretreatment/Removal Credits

Louis Eby (202) 260-2991

Technical Guidance for Incineration

Cristina Gaines (202) 260-6284

Dewatering

Jim Smith (513) 569-7355

Pathogen & Vector Control

Jim Smith (513) 569-7355

Bob Bastian (202) 260-7378

Bob Southworth (202) 260-7157

Odor Control, Composting, Bioaerosols

John Walker (202) 260-7283

Part 503 Regulation Development

Bob Southworth (202) 260-7157

Alan Hais (202) 260-1306

Risk Assessment

Jim Ryan (513) 569-7653
Bob Southworth (202) 260-7157
John Walker (202) 260-7283

Biosolids Publications

Sharie Centilla (202) 260-6052
Bernita Starks (202) 260-7287

For Further Information: See “References” listed after Chapter Six.

Common Questions and Answers

Q: If an industrial facility has separate treatment works for its domestic sewage and its process wastewater, are the biosolids generated from both treatment processes covered under Part 503?

A: No. Only the biosolids from the domestic sewage treatment process would be covered by Part 503 if used or disposed through land application, surface disposal, or solid incineration. The sludge from the industrial wastewater treatment process would not be covered. In fact, even if domestic sewage is mixed and treated in an industrial treatment works, the sludge from that system is not covered by Part 503.

Q: If a publicly owned treatment works (POTW) has only industrial wastewater influent, is the sludge generated at this treatment works considered sewage sludge [biosolids] and covered under the Part 503 rule?

A: No. By definition, the sludge is not sewage sludge [biosolids] because it is not a residual from the treatment of domestic sewage, but industrial wastewater. See Section 503.6(d).

Q: If the influent from a POTW or any treatment works other than an industrial facility is 99 percent industrial wastewater and only 1 percent domestic wastewater, are the biosolids generated at the treatment works sewage sludge covered under Part 503?

A: Yes. Because any domestic content in the wastewater being treated in a facility other than an industrial facility brings the biosolids generated within the scope of Part 503 if used or disposed through land application, surface disposal, or biosolids incineration.

Q: What does "new pollution control facilities" mean as referred to in Section 503.2?

A: A **new pollution control facility** is any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which must have begun after the promulgation of Part 503. A new pollution control facility includes any building, structure, or installation that replaces or substantially upgrades the process or production equipment necessary to meet a standard under this Part. An example of an acceptable new pollution control facility is the installation of an incinerator afterburner.

New pollution control facilities do not include:

(1) replacement of any building, structure, or installation due to normal operational wear and tear;

(2) installation of monitoring equipment or devices, including the purchase of computer hardware or software for monitoring purposes; or

(3) purchase of a special truck for land application of biosolids.

The permitting authority should be consulted for specific determinations.

Q : *If a treatment works is able to comply immediately with the standards for one use or disposal practice covered under Part 503 but would like to construct devices necessary for compliance with another use or disposal practice, does that treatment works have 2 years to achieve compliance? For example, if a treatment works needs 2 years to build pollution control processes, is that facility allowed to use or dispose biosolids that violate the requirements of Part 503 for 2 years?*

A : The treatment works may have up to 2 years to achieve compliance (i.e., until February 19, 1995—2 years after promulgation of the Part 503 rule) only for that use for which is requires construction. In all other instances, the treatment works must comply with Part 503 by the February 19, 1994, deadline. Thus, in the above example, if the treatment works is converting from surface disposal to incineration, the biosolids disposed until the incinerator comes on line must comply with surface disposal requirements under Subpart C of the Part 503 rule.

Q : *Suppose the only practice followed by a treatment works has been incineration and the treatment works cannot meet the 503 incinerator requirements without construction of new pollution control devices (e.g., a wet electrostatic scrubber), would the treatment works have until February 19, 1995 (2 years) to come into compliance?*

A : Yes.

Q : *Suppose the only practice followed at a treatment works is land application and the biosolids (a) cannot meet the pollutant ceiling limits or (b) have been aerobically digested and cannot meet either the pathogen reduction or the vector attraction reduction requirements. Would that treatment works have until February 19, 1995 (2 years) to come into compliance?*

A : (a) Possibly yes if the owner/operator of a treatment works could demonstrate that he or she had no other readily available alternative, such as shifting to a surface disposal operation or diluting the biosolids with other material prior to land use. (b) Probably no, because the treatment works could likely have readily provided pathogen and vector attraction reduction by using an additive process, such as lime stabilization, or alternatively by soil incorporation for vector attraction reduction.

Q: If the POTW gives/sells biosolids to a farmer, will the farmer be required to be permitted? How is the "poor farmer" going to know he has to keep records for 5 years?

A: The owner/operator of a treatment works treating domestic sewage (TWTDS) must apply for a permit if the biosolids being generated/disposed are regulated by Part 503. The Preamble to Part 122 addresses what is considered a TWTDS. Excluded from this definition are land applicers who do not change the quality of the biosolids prior to land application. Therefore, if a POTW provides a farmer with biosolids and the farmer merely land applies the biosolids, the farmer will not have to apply for a permit. There may be some requirements, however, that apply directly to the farmer under Part 503 (e.g., recordkeeping). The POTW is required to provide notice and necessary information to the farmer to ensure that the Part 503 requirements are met. This provision was included in Part 503 specifically to ensure that all parties involved in the land application of biosolids are aware of the requirements.

Q: How can the State continue to include in an NPDES permit State biosolids requirements that are less stringent than Part 503?

A: If the State has separate authority to include such limits, it can continue to do so. However, such limits will not be Federally enforceable because they are not issued under an approved State program, which would require the State to implement requirements at least as stringent as Part 503. Meanwhile, the permittee would have to follow the most restrictive portions of the State as well as the self-implementing Federal rules.

Q: If States already require cumulative metal loading tracking, will past loading count toward ultimate cumulative metal loadings on the site? If no, what position will EPA take if a State (or Region) chooses to acknowledge past loadings? Will EPA be more willing to support a State on this issue if the State is seeking program approval?

A: Part 503 built in certain assumptions about the background concentrations of metals in developing the limits for cumulative loadings. Because of these assumptions, previous land application of biosolids according to the CPLR concept are not considered prior to July 20, 1993. At that time, the recordkeeping requirements became effective, requiring the regulated community to track cumulative loadings under the Federal program. This requirement, however, will not affect existing State programs that already require tracking. These State requirements would generally be considered more stringent and would need to be complied with under State law. Again, if a State chooses to include pre-Part 503 loadings, EPA will take the position that this is a more stringent State requirement. It will not matter if the State is seeking program approval. However, EPA will

be working with all the States to provide an understanding of the Part 503 requirements and to encourage adoption of Part 503 as it exists. The permitting authority may choose to look at past loadings on a case-by-case basis if it determines that a more stringent requirement is necessary to protect public health and the environment from any adverse effect of a pollutant in biosolids.

Q: Can a State prohibit the use or disposal of biosolids generated outside that State? If a State cannot ban the importation of biosolids, how can the receiving State control the quality of biosolids generated in another State? Can it, for example, require analysis of additional pollutant prior to shipment?

A: Although a number of States have attempted to ban the importation of biosolids, the courts have generally struck down such State laws as being contrary to the Commerce Clause of the U.S. Constitution. Furthermore, courts have invalidated laws that discriminate against out-of-State wastes merely because of where those wastes were generated. However, the preparer of biosolids has to notify the permitting authority in the receiving state where the biosolids will be used or disposed. Moreover, the receiving State has the authority to control the use or disposal of biosolids within its borders, regardless of where they are generated. For example, the State could require permits for land application. In this case, anyone who land applies within the State, regardless of where the biosolids come from, would have to obtain a permit. Another option, is to require a joint permit for both the generator and the land applier. However, the State would need to ensure that its legal authority is adequate to go beyond its geographical boundaries.

Q: Does accepting authority for the Part 503 program automatically give the State jurisdiction over out-of-State biosolids that are imported for use or disposal?

A: Program approval does not give the State additional jurisdiction for dealing with out-of-State biosolids. Rather, it merely allows the State to implement the Federal program. The State will have to show that its laws ensure compliance with the Federal program at a minimum. One of the requirements for program approval is that the State demonstrate that it has adequate authority to regulate all biosolids that are used or disposed within its borders—regardless of where that biosolids material is generated. The State would not necessarily be required to regulate all generators of biosolids that are located outside its border, although many States might have this capability.

Q: According to Part 503, the choice of a use or disposal option is a local decision. Does the receiving municipality have some say in the decision to permit land application?

A: If allowed under State law, municipalities also may regulate the use or disposal of biosolids within their borders. The receiving municipality could require a permit or pass an ordinance, such as a zoning or land use requirement, to regulate where biosolids are applied or placed.

Q: If biosolids are sent to a different State that has a permitting program, does the generator have to comply with the other State's requirements?

A: Yes.