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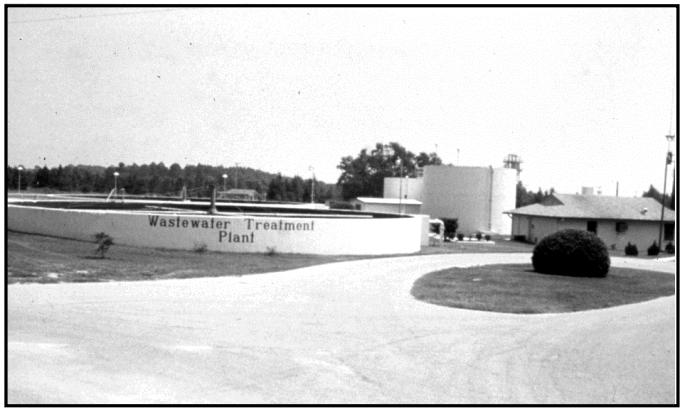
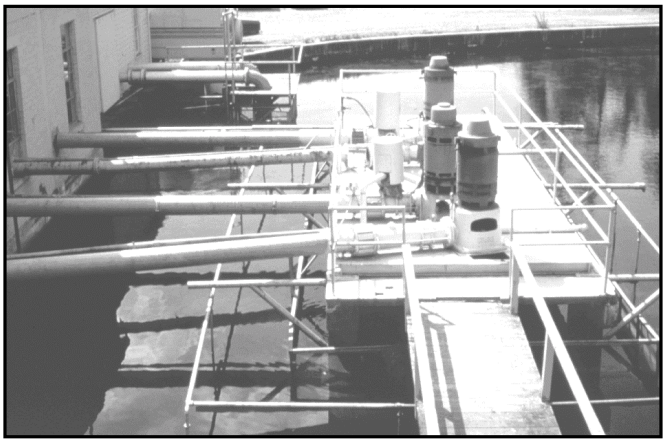
Protocol for Conducting Environmental Compliance Audits for Municipal Facilities under U.S. EPA's Wastewater Regulations





EPA Office of Compliance

Notice

The statements in this document are intended solely as guidance to aid regulated entities in complying with the regulations. The guidance is not a substitute for reading the regulations and understanding all the requirements as it applies to your facility. This guidance does not constitute rulemaking by the U.S. EPA and may not be relied on to create a substantive or procedural right or benefit enforceable, at law or in equity, by any person. U.S. EPA may decide to update this guide without public notice to reflect changes in U.S. EPA's approach to implementing the regulations or to clarify and update text. To determine whether U.S. EPA has revised this document and/or to obtain copies, contact U.S. EPA's Center for Environmental Publications at 1(800) 490-9198. Additional information regarding U.S. EPA Hotlines and further assistance pertaining to the specific rules discussed in this document can be found at the end of the *Key Compliance Requirements* located in Section II. **The contents of this document reflect regulations issued as of November 6, 2000.**

Acknowledgments

U.S. EPA would like to gratefully acknowledge the support of the U.S. Army Corps of Engineers Construction Engineering Research Laboratory (CERL) for providing suggestions for overall format of this document. The Office of Compliance at U.S. EPA gratefully acknowledges the contribution of U.S. EPA's program offices and the U.S. EPA's Office of Counsel in reviewing and providing comment on this document.

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Section I
Introduction

Background

The Environmental Protection Agency (U.S. EPA) is responsible for ensuring that businesses and organizations comply with federal laws that protect the public health and the environment. U.S. EPA's Office of Enforcement and Compliance Assurance (OECA) has begun combining traditional enforcement activities with more innovative compliance approaches including the provision of compliance assistance to the general public. U.S. EPA's Office of Compliance Assistance was established in 1994 to focus on compliance assistance-related activities. U.S. EPA is also encouraging the development of self-assessment programs at individual facilities. Voluntary audit programs play an important role in helping companies meet their obligation to comply with environmental requirements. Such assessments can be a critical link, not only to improved compliance, but also to improvements in other aspects of an organization's performance. For example, environmental audits may identify pollution prevention opportunities that can substantially reduce an organization's operating costs. Environmental audits can also serve as an important diagnostic tool in evaluating a facility's overall environmental management system or EMS.

U.S. EPA is developing 13 multi-media Environmental Audit Protocols to assist and encourage businesses and organizations to perform environmental audits and disclose violations in accordance with OECA's Audit and Small Business Policies. The audit protocols are also intended to promote consistency among regulated entities when conducting environmental audits and to ensure that audits are conducted in a thorough and comprehensive manner. The protocols provide detailed regulatory checklists that can be customized to meet specific needs under the following primary environmental management areas:

- Generation of RCRA Hazardous Waste
- Treatment Storage and Disposal of RCRA Hazardous Waste
- EPCRA
- CERCLA
- Clean Air Act
- Clean Water Act
- Safe Drinking Water Act
- TSCA
- Universal Waste and Used Oil
- Managing Nonhazardous Solid Waste
- Pesticides Management (FIFRA)
- Management of Toxic Substances (e.g., PCBs, lead-based paint, and asbestos)
- RCRA Regulated Storage Tanks

Who Should Use These Protocols?

U.S. EPA has developed these audit protocols to provide regulated entities with specific guidance in periodically evaluating their compliance with federal environmental requirements. The specific application of this particular protocol, in terms of which media or functional area it applies to, is described in Section II under "Applicability".

The Audit Protocols are designed for use by individuals who are already familiar with the federal regulations but require an updated comprehensive regulatory checklist to conduct environmental ***compliance*** audits at regulated facilities. Typically, compliance audits are performed by persons who are not necessarily media or legal experts but instead possess a working knowledge of the regulations and a familiarity with the operations and practices of the facility to be audited. These two basic skills are a prerequisite for adequately identifying areas at the facility subject to environmental regulations and potential regulatory violations that subtract from the organizations environmental performance. With these basic skills, audits can be successfully conducted by persons with various educational backgrounds (e.g., engineers, scientists, lawyers, business owners or operators). These protocols are not intended to be a substitute for the regulations nor are they intended to be instructional to an audience seeking a primer on the requirements under Title 40; however, they are designed to be sufficiently detailed to support the auditor's efforts.

The term "Protocol" has evolved over the years as a term of art among the professional practices of auditing and refers to the actual working document used by auditors to evaluate facility conditions against a given set of criteria (in this case the federal regulations). Therefore these documents describe "what" to audit a facility for rather than "how" to conduct an audit. To optimize the effective use of these documents, you should become familiar with basic environmental auditing practices. For more guidance on how to conduct environmental audits, U.S. EPA refers interested parties to two well known organizations: The Environmental Auditing Roundtable (EAR) and the Institute for Environmental Auditing (IEA).

Environmental Health and Safety Auditing Roundtable
35888 Mildred Avenue
North Ridgeville, Ohio 44039
(216) 327-6605

The Institute for Environmental Auditing
Box 23686
L'Enfant Plaza Station
Washington, DC 20026-3686

U.S. EPA's Public Policies that Support Environmental Auditing

In 1986, in an effort to encourage the use of environmental auditing, U.S. EPA published its "Environmental Auditing Policy Statement" (see 51 FR 25004). The 1986 audit policy states that "it is U.S. EPA policy to encourage the use of environmental auditing by regulated industries to help achieve and maintain compliance with environmental laws and regulation, as well as to help identify and correct unregulated environmental hazards." In addition, U.S. EPA defined environmental auditing as "a systematic, documented, periodic, and objective review of facility operations and practices related to meeting environmental requirements." The policy also identified several objectives for environmental audits:

- verifying compliance with environmental requirements,
- evaluating the effectiveness of in-place environmental management systems, and
- assessing risks from regulated and unregulated materials and practices.

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- verifying compliance with environmental requirements,
- evaluating the effectiveness of in-place environmental management systems, and
- assessing risks from regulated and unregulated materials and practices.

In 1995, EPA published "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations" – commonly known as the EPA Audit Policy – which both reaffirmed and expanded the Agency's 1986 audit policy (see 60 FR 66706 December 22, 1995). The 1995 audit policy offered major incentives for entities to

discover, disclose and correct environmental violations. On April 11, 2000, EPA issued a revised final Audit Policy that replaces the 1995 Audit Policy (65 FR 19,617). The April 11, 2000 revision maintains the basic structure and terms of the 1995 Audit Policy while lengthening the prompt disclosure period to 21 days, clarifying some of its language (including the applicability of the Policy in the acquisitions context), and conforming its provisions to actual EPA practices. The revised audit policy continues the Agency's general practice of waiving or substantially mitigating gravity-based civil penalties for violations discovered through an environmental audit or through a compliance management system, provided the violations are promptly disclosed and corrected and that all of the Policy conditions are met. On the criminal side, the revised policy continues the Agency's general practice of not recommending that criminal charges be brought against entities that disclose violations that are potentially criminal in nature, provided the entity meets all of the policy's conditions. The policy safeguards human health and the environment by precluding relief for violations that cause serious environmental harm or may have presented an imminent and substantial endangerment. The audit policy is available on the Internet at www.epa.gov/auditpol.html.

In 1996, EPA issued its "Policy on Compliance Incentives for Small Businesses" which is commonly called the "Small Business Policy" (see 61 FR 27984 June 3, 1996). The Small Business Policy was intended to promote environmental compliance among small businesses by providing them with special incentives to participate in government sponsored on-site compliance assistance programs or conduct environmental audits. EPA will eliminate or reduce penalties for small businesses that voluntarily discover, promptly disclose, and correct violations in a timely manner.

On April 11, 2000, EPA issued its revised final Small Business Policy (see 65 FR 19630) to expand the options allowed under the 1996 policy for discovering violations and to establish a time period for disclosure. The major changes contained in the April 11, 2000 Small Business Policy revision include lengthening the prompt disclosure period from 10 to 21 calendar days and broadening the applicability of the Policy to violations uncovered by small businesses through any means of voluntary discovery. This broadening of the Policy takes advantage of the wide range of training, checklists, mentoring, and other activities now available to small businesses through regulatory agencies, private organizations, and the Internet.

More information on EPA's Small Business and Audit/Self-Disclosure Policies are available by contacting EPA's Enforcement and Compliance Docket and Information Center at (202) 564-2614 or visiting the EPA web site at: http://www.epa.gov/oeca/ccsmd/profile.html.

How to Use The Protocols

Each protocol provides guidance on key requirements, defines regulatory terms, and gives an overview of the federal laws affecting a particular environmental management area. They also include a checklist containing detailed procedures for conducting a review of facility conditions. The audit protocols are designed to support a wide range of environmental auditing needs; therefore several of the protocols in this set or sections of an individual protocol may not be applicable to a particular facility. To provide greater flexibility, each audit protocol can be obtained electronically from the U.S. EPA Website (www.epa.gov/oeca/ccsmd/profile.html). The U.S. EPA Website offers the protocols in a word processing format which allows the user to custom-tailor the checklists to more specific environmental aspects associated with the facility to be audited.

The protocols are not intended to be an exhaustive set of procedures; rather they are meant to inform the auditor, about the degree and quality of evaluation essential to a thorough environmental audit. U.S. EPA is aware that other audit approaches may also provide an effective means of identifying and assessing facility environmental status and in developing corrective actions.

It is important to understand that there can be significant overlap within the realm of the federal regulations. For example, the Department of Transportation (DOT) has established regulations governing the transportation of hazardous materials. Similarly, the Occupational Safety and Health Administration (OSHA) under the U.S. Department of Labor has promulgated regulations governing the protection of workers who are exposed to hazardous chemicals. There can also be significant overlap between federal and state environmental regulations. In fact, state programs that implement federally mandated programs may contain more stringent requirements that are not

included in these protocols. There can also be multiple state agencies regulating the areas covered in these protocols. The auditor also should determine which regulatory agency has authority for implementing an environmental program so that the proper set of regulations is consulted. Prior to conducting the audit, the auditor should review federal, state and local environmental requirements and expand the protocol, as required, to include other applicable requirements not included in these documents.

Review of Federal Legislation and Key Compliance Requirements:

These sections are intended to provide only supplementary information or a "thumbnail sketch" of the regulations and statutes. These sections are not intended to function as the main tool of the protocol (this is the purpose of the checklist). Instead, they serve to remind the auditor of the general thrust of the regulation and to scope out facility requirements covered by that particular regulation. For example, a brief paragraph describing record keeping and reporting requirements and the associated subpart citations will identify and remind the auditor of a specific area of focus at the facility. This allows the auditor to plan the audit properly and to identify key areas and documents requiring review and analysis.

State and Local Regulations:

Each U.S. EPA Audit Protocol contains a section alerting the auditor to typical issues addressed in state and local regulations concerning a given topic area (e.g., RCRA and used oil). From a practical standpoint, U.S. EPA cannot present individual state and local requirements in the protocols. However, this section does provide general guidance to the auditor regarding the division of statutory authority between U.S. EPA and the states over a specific media. This section also describes circumstances where states and local governments may enact more stringent requirements that go beyond the federal requirements.

U.S. EPA cannot overemphasize how important it is for the auditor to take under consideration the impact of state and local regulations on facility compliance. U.S. EPA has delegated various levels of authority to a majority of the states for most of the federal regulatory programs including enforcement. For example, most facilities regulated under RCRA, and/or CWA have been issued permits written by the states to ensure compliance with federal and state regulations. In turn, many states may have delegated various levels of authority to local jurisdictions. Similarly, local governments (e.g., counties, townships) may issue permits for air emissions from the facility. Therefore, auditors are advised to review local and state regulations in addition to the federal regulations in order to perform a comprehensive audit.

Key Terms and Definitions:

This section of the protocol identifies terms of art used in the regulations and the checklists that are listed in the "Definitions" sections of the Code of Federal Regulations (CFR). It is important to note that not all definitions from the CFR may be contained in this section, however; those definitions which are commonly repeated in the checklists or are otherwise critical to an audit process are included. Wherever possible, we have attempted to list these definitions as they are written in the CFR and not to interpret their meaning outside of the regulations.

The Checklists:

The checklists delineate what should be evaluated during an audit. The left column states either a requirement mandated by regulation or a good management practice that exceeds the requirements of the federal regulations. The right column gives instructions to help conduct the evaluation. These instructions are performance objectives that should be accomplished by the auditor. Some of the performance objectives may be simple documentation checks that take only a few minutes; others may require a time-intensive physical inspection of a facility. The

checklists contained in these protocols are (and must be) sufficiently detailed to identify any area of the company or organization that would potentially receive a notice of violation if compliance is not achieved. For this reason, the checklists often get to a level of detail such that a specific paragraph of the subpart (e.g., 40 CFR 262.34(a)(1)(i)) contained in the CFR is identified for verification by the auditor. The checklists contain the following components:

- **"Regulatory Requirement or Management Practice Column"**
  The "Regulatory Requirement or Management Practice Column" states either a requirement mandated by regulation or a good management practice that exceeds the requirements of the federal regulations. The regulatory citation is given in parentheses after the stated requirement. Good management practices are distinguished from regulatory requirements in the checklist by the acronym (MP) and are printed in italics.

- **"Reviewer Checks" Column:**
  The items under the "Reviewer Checks:" column identify requirements that must be verified to accomplish the auditor's performance objectives. (*The key to successful compliance auditing is to verify and document site observations and other data.)* The checklists follow very closely with the text in the CFR in order to provide the service they are intended to fulfill (i.e., *to be used for compliance auditing).* However, they are not a direct recitation of the CFR. Instead they are organized into more of a functional arrangement (e.g., record keeping and reporting requirements vs. technical controls) to accommodate an auditor's likely sequence of review during the site visit. Wherever possible, the statements or items under the "Reviewer Checks" column, will follow the same sequence or order of the citations listed at the end of the statement in the "Regulatory Requirement" column.

- **"NOTE:" Statements**
  "Note:" statements contained in the checklists serve several purposes. They usually are distinguished from "Verify" statements to alert the auditor to *exceptions or conditions* that may affect requirements or to referenced standards that are not part of Title 40 (e.g., American Society for Testing and Materials (ASTM) standards). They also may be used to identify options that the regulatory agency may choose in interacting with the facility (e.g, permit reviews) or options the facility may employ to comply with a given requirement.

- **Checklist Numbering System**:
  The checklists also have a unique numbering system that allows the protocols to be more easily updated by topic area (e.g., RCRA Small Quantity Generator). Each topic area in turn is divided into control breaks to allow the protocol to be divided and assigned to different teams during the audit. This is why blank pages may appear in the middle of the checklists. Because of these control breaks, there is intentional repetition of text (particularly "Note" Statements) under the "Reviewer Checks" column to prevent oversight of key items by the audit team members who may be using only a portion of the checklist for their assigned area.

Updates:

Environmental regulations are continually changing both at the federal and state level. For this reason, it is important for environmental auditors to determine if any new regulations have been issued since the publication of each protocol document and, if so, amend the checklists to reflect the new regulations. Auditors may become aware of new federal regulations through periodic review of Federal Register notices as well as public information bulletins from trade associations and other compliance assistance providers. In addition, U.S. EPA offers information on new regulations, policies and compliance incentives through several Agency Websites. Each protocol provides specific information regarding U.S. EPA program office websites and hotlines that can be accessed for regulatory and policy updates.

U.S. EPA will periodically update these audit protocols to ensure their accuracy and quality. Future updates of the protocols will reflect not only the changes in federal regulations but also public opinion regarding the usefulness of these documents. Accordingly, the Agency would like to obtain feedback from the public regarding the format, style

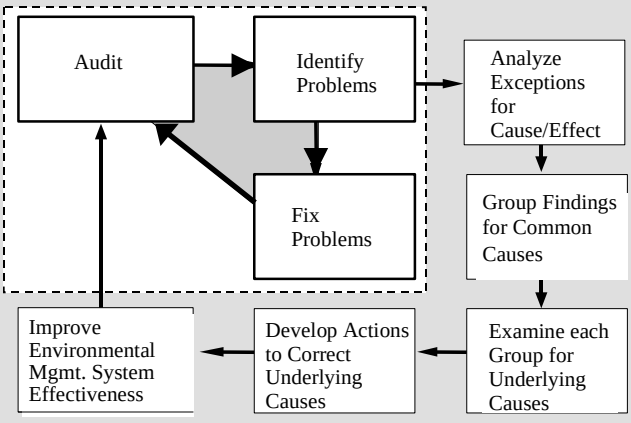
and general approach used for the audit protocols. The last appendix in each protocol document contains a user satisfaction survey and comment form. This form is to be used by U.S. EPA to measure the success of this tool and future needs for regulatory checklists and auditing materials.

The Relationship of Auditing to Environmental Management Systems

An environmental auditing program is an integral part of any organization's environmental management system (EMS). Audit findings generated from the use of these protocols can be used as a basis to implement, upgrade, or benchmark environmental management systems. Regular environmental auditing can be the key element to a high quality environmental management program and will function best when an organization identifies the "root causes" of each audit finding. Root causes are the primary factors that lead to noncompliance events. For example a violation of a facility's wastewater discharge permit may be traced back to breakdowns in management oversight, information exchange, or inadequate evaluations by untrained facility personnel.

As shown in Figure 1, a typical approach to auditing involves three basic steps: conducting the audit, identifying problems (audit findings), and fixing identified deficiencies. When the audit process is expanded, to identify and correct root causes to noncompliance, the organization's corrective action part of its EMS becomes more effective. In the expanded model, audit findings (exceptions) undergo a root cause analysis to identify underlying causes to noncompliance events. Management actions are then taken to correct the underlying causes behind the audit findings and improvements are made to the organizations overall EMS before another audit is conducted on the facility. Expanding the audit process allows the organization to successfully correct problems, sustain compliance, and prevent discovery of the same findings again during subsequent audits. Furthermore, identifying the root cause of an audit finding can mean identifying not only the failures that require correction but also successful practices that promote compliance and prevent violations. In each case a root cause analysis should uncover the failures while promoting the successes so that an organization can make continual progress toward environmental excellence.

Figure 1 - Expanded Corrective Action Model



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Section II
Audit Protocols

Applicability

This protocol applies to municipal facilities that discharge wastewater directly to waters of the United States or that prepare and dispose of sewage sludge. Note: A state or federal permit sets the conditions and effluent limitations on a facility's discharge(s). The auditor will need to develop specific checklist items pertaining to the conditions and requirements in the applicable permit.

For additional wastewater related requirements, refer to the following U.S. EPA Audit Protocols:

- *Protocol for Conducting Environmental Compliance Audits under the Clean Air Act*: Volume I (This volume includes Standards of Performance for Sewage Treatment Plants, 40 CFR Part 60, Subpart O):
- *Protocol for Conducting Environmental Compliance Audits of Industrial Facilities under U.S. EPA Wastewater Regulations;* and
- *Protocol for Conducting Environmental Compliance Audits under the Storm Water Program.*

Not all checklist items contained in this document will be applicable to a particular facility. Guidance is provided on the checklist to direct the auditor to the regulations typically applicable to the types of activities identified above. In addition to the federal regulations, there are numerous environmental regulatory requirements administered by federal, state, and local governments. Each level of government may have a major impact on areas at the facility that are subject to the audit. Therefore, auditors are advised to review all federal, state and local permits and regulations in order to perform a comprehensive audit.

Federal Legislation

The Federal Water Pollution Control Act
This act, commonly known as the Clean Water Act (CWA), as amended February 4, 1987, 33 U.S. Code (USC) 1251-1387, Public Law (PL) 100-4, governs the control of water pollution in the nation. The act's primary objective is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. The CWA regulates "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand, total suspended solids, fecal coliform, oil and grease, and pH; and "non-conventional" pollutants, including any pollutant not identified as either conventional or priority.

State/Local Regulations

States typically have wastewater discharge legislation and regulations that require permitting similar to permits under the CWA's National Pollutant Discharge Elimination System (NPDES) program. The U. S. Environmental Protection Agency (U.S. EPA) may authorize a state to administer the NPDES program for discharges within that state. Some States do not administer the NPDES program and will issue a state permit instead, even though U.S. EPA has issued an NPDES permit. The states and U.S. EPA normally cooperate in the permit issuance process to ensure that the two permits are consistent. However, there may be differences in monitoring requirements and the number of pollutants limited. These requirements normally do not conflict, but may require additional sampling and reporting.

States may have more stringent requirements for wastewater treatment plant operations. Many states have wastewater treatment plant (MWWTP) operator licensing and certification programs that require that and operator pass an exam and have a required amount of experience.

Local entities (cities, counties, special districts) may also have enforceable wastewater discharge limitations, known as 'local limits," that regulate discharges to a publicly owned treatment works (POTW). Local limitations often include pH, temperature, and concentration of various organic and inorganic compounds. Major industrial operations which discharge to an offsite POTW will be subject to pretreatment permits issued by the POTW, state, or by U.S. EPA as appropriate.

Key Compliance Requirements

NPDES Permits

The CWA regulates both direct and indirect discharges. The NPDES program (CWA Section 402) controls direct discharges into navigable waters. Direct discharges or "point source" discharges are from such sources as pipes and sewers. These include discharges of municipal wastewater, as well as storm water conveyed through a municipal separate storm water system. A municipality may have several different types of sources whose discharges are controlled by its NPDES permit including a wastewater treatment plant, combined sewer overflow, municipal storm water discharge, and an emerging area, sanitary sewer overflow.

NPDES permits, issued by either U.S. EPA or an authorized state (U.S. EPA has authorized 43 states and the U.S. Virgin Islands to administer the NPDES program), contain technology-based and/or water quality-based limits and establish pollutant monitoring requirements. Each municipality that intends to discharge into the nation's waters must obtain a permit prior to initiating its discharge. A permit applicant must provide quantitative analytical data identifying the types of pollutants present in the facility's effluent. The permit then sets the conditions and effluent limitations on the facility discharges.

An NPDES permit may also include discharge limits based on federal or state water quality criteria or standards that were designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards, unlike the technological standards, generally do not take into account technological feasibility or costs. Water quality criteria and standards vary from state to state and from site to site, depending on the use classification of the receiving water body. Most states follow U.S. EPA guidelines, which propose aquatic life and human health criteria for many of the 126 priority pollutants.

Local governments that own and operate wastewater treatment plants are required to apply for and obtain an NPDES permit. Permittees are required to manage and maintain their operations according to the parameters of the permit. This management includes: taking sample and measurements, maintaining records of results and data submitted to the permitting authority, and reporting noncompliance (40 CFR 122).

Combined Sewer Systems

U.S. EPA's 1994 *Combined Sewer Overflow (CSO) Control Policy* provides recommended NPDES permit conditions for municipalities with combined sewer systems. These provisions, which are typically implemented by the permitting authority, include requirements for meeting the nine minimum controls to reduce the frequency and water quality impacts of CSO events and to establish a long-term control plan to address capital improvements to the system. Local governments that operate and maintain a combined collection system must abide by these requirements, which are included as part of the NPDES permit.

Sanitary Sewer Overflows

Sanitary sewer overflows (SSOs) are discharges of untreated sewage from a separate sanitary sewer collection system prior to the headworks of a sewage treatment plant. These systems are designed to collect and convey sewage from households and businesses and wastewater from industries to sewage treatment plants, for treatment in accordance with CWA requirements prior to discharge to waters of the United States. SSO discharges to water of the United States are prohibited by the CWA unless authorized by a NPDES permit.

Storm Water Discharges.

In 1987, Congress amended the CWA and required U.S. EPA to establish a program to address storm water discharges. In response, U.S. EPA promulgated the NPDES storm water regulations. Implemented in two phases, the first phase requires local governments that operate large (serving a population greater than 250,000) or medium

(serving a population from 100,000 to 250,000) municipal separate storm water systems to apply for and obtain an NPDES storm water permit. During the second phase, local governments operating regulated small municipal separate storm water systems are required to submit to U.S. EPA a Notice of Intent (NOI) to be covered under a national general storm water permit. For audit checklist items pertaining to these requirements, refer to U.S. EPA's *Protocol for Conducting Environmental Compliance Audits under the Storm Water Program* (expected publication in the late 2000 or early 2001).

In addition to requiring storm water permits for collection systems, the CWA may also require local government operations to obtain or be covered by storm water permits. Such operations may include construction activities (e.g., roads, buildings) or storage of chemicals or hazardous materials.

Pretreatment Program

The CWA also regulates discharges to POTWs under the national pretreatment program (CWA Section 307(b)). The pretreatment program controls the indirect discharge of pollutants to POTWs by "industrial users," and prohibits the discharge of certain types of pollutants to a POTW. The goals are to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the quality of sludge generated by these plants.

Although discharges to a POTW are regulated primarily by the POTW itself, rather than the state or U.S. EPA, U.S. EPA has developed technology-based standards, known as "categorical pretreatment standards," for certain industrial users of POTWs. Different standards apply to existing and new sources within each industry category. For audit checklist items pertaining to selected categorical standards for industrial users, refer to U.S. EPA's *Protocol for Conducting Environmental Compliance Audits of Industrial Facilities under U.S. EPA's Wastewater Regulations*).

Local governments that own and operate POTWs must meet the requirements for a pretreatment program under the CWA. In addition to the categorical standards mentioned above, a POTW develops another kind of pretreatment standard, "local limits," to assist the POTW in achieving the effluent limitations in its NPDES permit. The program may include requirements for industrial users to treat waste prior to its discharge to the sanitary sewer and/or to develop a slug plan. The POTW's pretreatment program must be approved by the Approval Authority (state or U.S. EPA). In association with the pretreatment program, POTWs are required to develop and implement an enforcement response plan and maintain a list of significant industrial users (40 CFR 403.12(f)).

Sewage Sludge Management

The CWA and associated regulations govern land application and land disposal of sludge generated from municipal wastewater treatment. The Section 503 regulations establish provisions for sludge quality, application rates, and environmental conditions under which land application is permitted. The regulations also specify management methods, monitoring, and recordkeeping for both disposal and land application facilities. Local governments that produce sludge from their wastewater treatment operations are subject to the Section 503 regulations.

Land Application of Sewage Sludge

Sludge that is generated during the treatment of domestic sludge in a POTW is required to be managed according to certain parameters for pathogen control and vector attraction reduction (40 CFR 503.30 through 503.33), pollutant concentrations, pollutant loading rates, ceiling concentrations, and annual pollutant loading rates for the following situations:

1. bulk sewage sludge or sewage sludge sold or given away in a bag or other container
2. the application of bulk sewage sludge to agricultural land, forest, a public contact site, or a reclamation site
3. the application of bulk sewage sludge to a lawn or home garden,
4. the application of domestic septage to agricultural land, forest, or a reclamation site, or
5. the application of sewage sludge to an active sewage sludge unit.

These regulations implement requirements for both the preparation and the application of the sewage sludge and requirements for monitoring, reporting, and recordkeeping (40 CFR 503.10 through 503.18).

Surface Disposal of Sewage Sludge
Active sewage sludge units are subject to operational requirements based on their location and design. Operational requirements include monitoring the sludge for specific pollutants, runoff management, leachate management, covering the sludge, and meeting pathogen and vector attraction reduction requirements (40 CFR 503.30 through 503.33). Records are required to be kept on how all of these requirements are met and the results of sampling for 5 yr (40 CFR 503.20 through 503.28).

Incineration of Sewage Sludge
Sewage sludge incinerators are required to meet emissions limitations for beryllium, mercury, hydrocarbons. The sludge being fed to the incinerator is required to meet specific limitation for arsenic, cadmium, chromium, and nickel. Detailed operational records are required to be kept for 5 yr. Types of information to be maintained include: the stack emissions, the constituents of the sludge being fed to the incinerator, combustion temperatures, air pollution control device operating parameters, sewage sludge feed rate, the stack height, the dispersion factor for the site, and calibration and maintenance logs (40 CFR 503.40 through 503.48).

Key Terms and Definitions

Act
The Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., 86 Stat. 816, Pub. L. 92-500 (40 CFR 401.11 and 40 CFR 403.3).

Active Sewage Sludge Unit
A sewage sludge unit that has not closed (40 CFR 503.21).

Administrator
The Administrator of the United States Environmental Protection Agency, or an authorized representative (40 CFR 122.2 and 40 CFR 401.11).

Aerobic Digestion
The biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air (40 CFR 503.31).

Agricultural Land
Land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture (40 CFR 503.11).

Agronomic Rate
The whole sludge application rate (dry weight basis) designed (40 CFR 503.11):
1. to provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
2. to minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

Air Pollution Control Device
One or more processes used to treat the exit gas from a sewage sludge incinerator stack (40 CFR 503.41).

Anaerobic Digestion
The biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air (40 CFR 503.31).

Animal Feeding Operation
A lot or facility (other than an aquatic animal production facility) where the following conditions are met (40 CFR 122.23(b)(1) and 122.23(b)(2)):
1. animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-mo period, and

2. crops, vegetation forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Two or more animal feeding operations under common ownership are considered, for the purposes of NPDES regulations, to be a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.

Annual Pollutant Loading Rate
The maximum amount of a pollutant that can be applied to a unit area of land during a 365-day period (40 CFR 503.11).

Annual Whole Sludge Application Rate
The maximum amount of sewage sludge (dry weight basis) that can be applied to a unit area of land during a 365 day period (40 CFR 503.11).

Applicable Standards and Limitations
All state, interstate, and federal standards and limitations to which a "discharge," a "sewage sludge use or disposal practice," or a related activity is subject under the CWA, including "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," pretreatment standards, and "standards for sewage sludge use or disposal" under sections 301, 302, 303, 304, 306, 307, 308, 403 and 405 of CWA (40 CFR 122.2).

Application
The U.S. EPA standard national forms for applying for a permit, including any additions, revisions or modifications to the forms; or forms approved by U.S. EPA for use in "approved states," including any approved modifications or revisions (40 CFR 122.2).

Apply Sewage Sludge or Sewage Sludge Applied to the Land
Land application of sewage sludge (40 CFR 503.9(a).

Approval Authority
The Director in an NPDES state with an approved state pretreatment program and the appropriate Regional Administrator in a non-NPDES state or NPDES state without an approved state pretreatment program (40 CFR 403.3(c)).

Approved POTW Pretreatment Program or Program or POTW Pretreatment Program
A program administered by a POTW that meets the criteria established in this regulation (40 CFR 403.8 and 403.9) and which has been approved by the U.S. EPA or authorized regulatory agency in accordance with 40 CFR 403.11 of this regulation (40 CFR 403.3(d)).

Approved Program or Approved State
A state or interstate program which has been approved or authorized by U.S. EPA under 40 CFR 123 (40 CFR 122.2).

Aquaculture Project
A defined managed water area which uses discharges of pollutants into that designated area for the maintenance or production of harvestable freshwater, estuarine, or marine plants or animals (40 CFR 122.25(b)(1)).

Aquifer
A geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs (40 CFR 503.21).

Auxiliary Fuel
Fuel used to augment the fuel value of sewage sludge. This includes, but is not limited to, natural gas, fuel oil, coal, gas generated during anaerobic digestion of sewage sludge, and municipal solid waste (not to exceed 30 percent of the dry weight of sewage sludge and auxiliary fuel together). Hazardous wastes are not auxiliary fuel (40 CFR 503.41).

Average Daily Concentration
The arithmetic mean of the concentration of a pollutant in milligrams per kilogram of sewage sludge (dry weight basis) in the samples collected and analyzed in a month (40 CFR 503.41).

Average Monthly Discharge Limitation
The highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (40 CFR 122.2).

Average Weekly Discharge Limitation
The highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week (40 CFR 122.2).

Base Flood
A flood that has a one percent chance of occurring in any given year (i.e., a flood with a magnitude equaled once in 100 yr) (40 CFR 503.9(b)).

Best Management Practices ("BMPs")
Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage (40 CFR 122.2).

Blowdown
The minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practice (40 CFR 401.11).

Bulk Sewage Sludge
Sewage sludge that is not sold or given away in a bag or other container for application to the land (40 CFR 503.110).

Bypass - the intentional diversion of waste streams from any portion of a treatment facility (40 CFR 122.41(m)(1)(i) and 40 CFR 403.17).

Categorical Pretreatment Standard
A standard promulgated by U.S. EPA under 40 CFR Chapter I, Subchapter N (40 CFR 125.58(g)).

Class I Sludge Management Facility
Any POTW identified under 40 CFR 403.8(a) as being required to have an approved pretreatment program (including such POTWs located in a state that has elected to assume local program responsibilities pursuant to 40 CFR 403.10(e)) and any other treatment works treating domestic sewage classified as a Class I sludge management facility by the U.S. EPA or authorized regulatory agency, in the case of approved state programs, because of the potential for its sludge use or disposal practices to adversely affect public health and the environment (40 CFR 122.2).

Class I Sludge Management Facility
Any publicly owned treatment works (POTW), as defined in 40 CFR 501.2, required to have an approved pretreatment program under 40 CFR 403.8(a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 CFR 403.10(e)) and any treatment works treating domestic sewage, as defined in 40 CFR 122.2, classified as a Class I sludge management facility by the U.S. EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely (40 CFR 503.9(c)).

Class A Sewage Sludge
When one of the following methods is used, sludge is considered Class A with respect to pathogens (40 CFR 503.32(a)(3)):

1. Alternative 1: Either the density of fecal coliform in the sewage sludge shall be less than 1000 most probable number/gram (MPN/g) of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge shall be less than 3 MPN/4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f).

   The temperature of the sewage sludge that is used or disposed shall be maintained at a specific value for a period of time. When the percent solids of the sewage sludge is 7 percent or higher, the temperature of the sewage sludge shall be 50 °C or higher; the time period shall be 20 min or longer; and the temperature and time period shall be determined using the following equation, except when small particles of sewage sludge are heated by either warmed gases or an immiscible liquid.

$$D = \frac{131{,}700{,}000}{10^{0.1400t}} \quad \text{Eq (2)}$$

   Where, D = time in days and t = temperature in °C.

   When the percent solids of the sewage sludge is 7 percent or higher and small particles of sewage sludge are heated by either warmed gases or an immiscible liquid, the temperature of the sewage sludge shall be 50 °C or higher; the time period shall be 15 s or longer; and the temperature and time period shall be determined using the above equation.

   When the percent solids of the sewage sludge is less than 7 percent and the time period is at least 15 s, but less than 30 min, the temperature and time period shall be determined using the above equation.

   When the percent solids of the sewage sludge is less than 7 percent; the temperature of the sewage sludge is 50 °C or higher; and the time period is 30 min or longer, the temperature and time period shall be determined using the below equation.

$$D = \frac{50{,}070{,}000}{10^{0.1400t}} \quad \text{Eq(3)}$$

   Where, D = time in days and t = temperature in °C.

2. Alternative 2: Either the density of fecal coliform in the sewage sludge is less than 1000 MPN/g of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge shall be less than 3 MPN/4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage

sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f).

The pH of the sewage sludge that is used or disposed shall be raised to above 12 and shall remain above 12 for 72 h.

The temperature of the sewage sludge shall be above 52 °C for 12 h or longer during the period that the pH of the sewage sludge is above 12.

At the end of the 72 h period during which the pH of the sewage sludge is above 12, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

3. Alternative 3: Either the density of fecal coliform in the sewage sludge shall be less than 1000 MPN/g of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in sewage sludge shall be less than 3 MPN/4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f).

   The sewage sludge shall be analyzed prior to pathogen treatment to determine whether the sewage sludge contains enteric viruses.

   When the density of enteric viruses in the sewage sludge prior to pathogen treatment is less than one plaque-forming unit per 4 g of total solids (dry weight basis), the sewage sludge is Class A with respect to enteric viruses until the next monitoring episode for the sewage sludge.

   When the density of enteric viruses in the sewage sludge prior to pathogen treatment is equal to or greater than one plaque-forming unit per 4 g of total solids (dry weight basis), the sewage sludge is Class A with respect to enteric viruses when the density of enteric viruses in the sewage sludge after pathogen treatment is less than one plaque-forming unit per 4g of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the sewage sludge that meets the enteric virus density requirement are documented.

   After the enteric virus reduction is demonstrated for the pathogen treatment process, the sewage sludge continues to be Class A with respect to enteric viruses when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented.

   The sewage sludge shall be analyzed prior to pathogen treatment to determine whether the sewage sludge contains viable helminth ova.

   When the density of viable helminth ova in the sewage sludge prior to pathogen treatment is less than 1 per 4 g of total solids (dry weight basis), the sewage sludge is Class A with respect to viable helminth ova until the next monitoring episode for the sewage sludge.

   When the density of viable helminth ova in the sewage sludge prior to pathogen treatment is equal to or greater than 1 per 4 g of total solids (dry weight basis), the sewage sludge is Class A with respect to viable helminth ova when the density of viable helminth ova in the sewage sludge after pathogen treatment is less than 1 per 4 g of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the sewage sludge that meets the viable helminth ova density requirement are documented.

   After the viable helminth ova reduction is demonstrated for the pathogen treatment process, the sewage sludge continues to be Class A with respect to viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented.

4. Alternative 4: Either the density of fecal coliform in the sewage sludge shall be less than 1000 MPN/g of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge shall be less than 3 MPN/4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f).

   The density of enteric viruses in the sewage sludge shall be less than 1 plaque-forming unit per 4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f), unless otherwise specified by the permitting authority.

   The density of viable helminth ova in the sewage sludge shall be less than 1 per 4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f), unless otherwise specified by the permitting authority.

5. Alternative 5: Either the density of fecal coliform in the sewage sludge shall be less than 1000 MPN/g of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge shall be less than 3 MPN/4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f).

   Sewage sludge that is used or disposed shall be treated in one of the Processes to Further Reduce Pathogens described in appendix B of 40 CFR 503.

6. Alternative 6: Either the density of fecal coliform in the sewage sludge shall be less than 1000 MPN/g of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in the sewage sludge shall be less than 3 MPN/4 g of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in 40 CFR 503.10(b), 503.10(c), 503.10(e), or 503.10(f).

   Sewage sludge that is used or disposed shall be treated in a process that is equivalent to a Process to Further Reduce Pathogens, as determined by the permitting authority.

Class B Sewage Sludge

When one of the following methods is used, it is considered Class B with respect to pathogens (40 CFR 503.32(b)(2)):

1. Alternative 1: Seven samples of the sewage sludge that is used or disposed shall be collected. The geometric mean of the density of fecal coliform in the samples must be less than either 2 million MPN/g of total solids (dry weight basis) or 2 million colony forming units/g (CFU/g) of total solids (dry weight basis).
2. Alternative 2: Sewage sludge that is used or disposed shall be treated in one of the processes to significantly reduce pathogens described in appendix B of 40 CFR 503.
3. Alternative 3: Sewage sludge that is used or disposed is to be treated in a process that is equivalent to a process to significantly reduce pathogens, as determined by the permitting authority.

Concentrated Animal Feeding Operation

An animal feeding operation which meets the criteria in appendix B of 40 CFR 122, or which the Director designates as such (40 CFR 122.23(b)(3)).

Concentrated Aquatic Animal Production Facility
A hatchery, fish farm, or other facility which meets the criteria in appendix C of 40 CFR 122, or which the Director designates as such (40 CFR 122.24(b)).

Contaminate an Aquifer
To introduce a substance that causes the maximum contaminant level for nitrate in 40 CFR 141.62(b) to be exceeded in the ground water or that causes the existing concentration of nitrate in ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in 40 CFR 141.62(b) (40 CFR 503.21).

Contiguous Zone
The entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone (40 CFR 122.2).

Continuous Discharge
A "discharge" which occurs without interruption throughout the operating hours of the facility, except for infrequent shutdowns for maintenance, process changes, or other similar activities (40 CFR 122.2).

Control Efficiency
The mass of a pollutant in the sewage sludge fed to an incinerator minus the mass of that pollutant in the exit gas from the incinerator stack divided by the mass of the pollutant in the sewage sludge fed to the incinerator (40 CFR 503.41).

Conventional Pollutants
The following comprise the list of conventional pollutants designated pursuant to section 304(a)(4) of the Act (40 CFR 401.16):
1. Biochemical oxygen demand (BOD)
2. Total suspended solids (nonfilterable) (TSS)
3. pH
4. Fecal coliform
5. Oil and grease

Co-permittee
A permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is an operator (40 CFR 122.26(b)(1)).

Cover
Soil or other material used to cover sewage sludge placed on an active sewage sludge unit (40 CFR 503.21).

Cover Crop
A small grain crop, such as oats, wheat, or barley, not grown for harvest (40 CFR 503.9(d)).

Cumulative Pollutant Loading Rate
The maximum amount of an inorganic pollutant that can be applied to an area of land (40 CFR 503.11).

CWA
Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) (40 CFR 122.2).

CWA and Regulations
The Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved state program, it includes state program requirements (40 CFR 122.2).

Daily Discharge
The "discharge of a pollutant" measured during a calendar day or any 24-h period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day (40 CFR 122.2).

Density of Microorganisms
The number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge (40 CFR 503.31).

Designated Project Area
The portions of the waters of the United States within which the permittee or permit applicant plans to confine the cultivated species, using a method or plan or operation (including, but not limited to, physical confinement) which, on the basis of reliable scientific evidence, is expected to ensure that specific individual organisms comprising an aquaculture crop will enjoy increased growth attributable to the discharge of pollutants, and be harvested within a defined geographic area (40 CFR 122.25(b)(2)).

Direct Discharge
The discharge of a pollutant (40 CFR 122.2).

Director
The U.S. EPA or authorized regulatory agency, as the context requires, or an authorized representative. When there is no "approved state program," and there is an U.S. EPA administered program, "Director" means the Regional Administrator. When there is an approved state program, "Director" normally means the State Director. (40 CFR 122.2).

Director
The chief administrative officer of a state or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act and an approved state pretreatment program (40 CFR 403.3(e)).

Discharge
When used without qualification means the "discharge of a pollutant" (40 CFR 122.2).

Discharge Monitoring Report ("DMR")
The U.S. EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved states" as well as by U.S. EPA. U.S. EPA will supply DMRs to any approved state upon request. The U.S. EPA national forms may be modified to substitute the state Agency name, address, logo, and other similar information, as appropriate, in place of U.S. EPA's (40 CFR 122.2).

Discharge of a Pollutant
This means (40 CFR 122.2):
1. any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or
2. any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

Dispersion Factor
The ratio of the increase in the ground level ambient air concentration for a pollutant at or beyond the property line of the site where the sewage sludge incinerator is located to the mass emission rate for the pollutant from the incinerator stack (40 CFR 503.41).

Displacement
The relative movement of any two sides of a fault measured in any direction (40 CFR 503.21).

Domestic Septage
This is either 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. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant (40 CFR 503.9(f)).

Domestic Sewage
Waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works (40 CFR 503.9(g)).

Draft Permit
A document prepared under 40 CFR 124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in 40 CFR 124.5, are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in 40 CFR 124.5, is not a "draft permit." A "proposed permit" is not a "draft permit" (40 CFR 122.2).

Dry Weight Basis
Calculated on the basis of having been dried at 105 ^{o}C until reaching a constant mass (i.e., essentially 100 percent solids content) (40 CFR 503.9(h)).

Effluent Limitation
Any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point source" into "waters of the United States," the waters of the "contiguous zone," or the ocean (40 CFR 122.2).

Effluent Limitation
Any restriction established by the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources, other than new sources, into navigable waters, the water of the contiguous zone, or the ocean (40 CFR 401.11).

Effluent Limitations Guidelines
A regulation published by the Administrator under section 304(b) of CWA to adopt or revise "effluent limitations" (40 CFR 122.2).

Effluent Limitations Guidelines
Any effluent limitations guidelines issued by the Administrator pursuant to section 304(b) of the Act (40 CFR 401.11).

Environmental Protection Agency ("U.S. EPA")
The United States Environmental Protection Agency (40 CFR 122.2 and 40 CFR 401.11).

Equivalent System
A wastewater treatment system that is demonstrated in literature, treatability tests or self-monitoring data to remove a similar level of pesticide active ingredient (PAI) or priority pollutants as the applicable appropriate pollution control technology listed in Table 10 to 40 CFR 455 (40 CFR 455.10).

Excursion
An unintentional and temporary incident in which the pH value of discharge wastewater exceeds the range set forth in the applicable effluent limitations guidelines (40 CFR 401.17 (c)).

Exempted Sewage Sludge
The following are types of sewage sludge and activities which are exempted from meeting the requirements outlined in 40 CFR 503(40 CFR 503.6):

1. processes used to treat domestic sewage or processes used to treat sewage sludge prior to final use except for the standards on pathogen and vector reduction in 40 CFR 503.32 and 503.33;
2. sewage sludge co-fired in an incinerator with other wastes or for the incinerator in which sewage sludge and other wastes are co-fired;
3. sludge generated at an industrial facility during the treatment of industrial wastewater, including sewage sludge generated during the treatment of industrial wastewater combined with domestic sewage;
4. sewage sludge determined to be hazardous;
5. sewage sludge with a concentration of PCBs equal to greater than 50 mg/kg of total solids (dry weight basis);
6. ash generated during the firing of sewage sludge in a sewage sludge incinerator;
7. grit (i.e., sand, gravel, cinders, or other material with high specific gravity) or screenings (e.g., relatively large materials such as rags) generated during preliminary treatment of domestic sewage in a treatment works;
8. sludge generated during the treatment of either surface water or groundwater used for drinking water;
9. commercial septage, industrial septage, a mixture of domestic septage and commercial septage, or a mixture of domestic septage and industrial septage.

Existing Source
Any source which is not a new source or a new discharger (40 CFR 122.29(a)(3)).

Facilities or Equipment
Buildings, structures, process or production equipment or machinery which form a permanent part of the new source and which will be used in its operation, if these facilities or equipment are of such value as to represent a substantial commitment to construct. It excludes facilities or equipment used in connection with feasibility, engineering, and design studies regarding the source or water pollution treatment for the source (40 CFR 122.29(a)(5)).

Facility or Activity
Any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program (40 CFR 122.2).

Fault
A fracture or zone of fractures in any materials along which strata on one side are displaced with respect to strata on the other side (40 CFR 503.21).

Federal Indian Reservation
All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation (40 CFR 122.2).

Feed Crops
Crops produced primarily for consumption by animals (40 CFR 503.9(j)).

Fiber Crops
Crops such as flax and cotton (40 CFR 503.9(k)).

Final Cover
The last layer of soil or other material placed on a sewage sludge unit at closure (40 CFR 503.21).

Fluidized Bed Incinerator
An enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas (40 CFR 503.41).

Forest
A tract of land thick with trees and underbrush (40 CFR 503.11).

Food Crops
Crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco (40 CFR 503.9(l)).

General Permit
An NPDES "permit" issued under 40 CFR 122.28 authorizing a category of discharges under the CWA within a geographical area (40 CFR 122.2).

Ground Water
Water below the land surface in the saturated zone (40 CFR 503.9(m)).

Hazardous Substance
Any substance designated under 40 CFR 116 pursuant to section 311 of CWA (40 CFR 122.2).

Holocene Time
The most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present (40 CFR 503.21).

Hourly Average
The arithmetic mean of all measurements taken during an hour. At least two measurements must be taken during the hour (40 CFR 503.41).

Illicit Discharge
Any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities (40 CFR 122.26(b)(2)).

Incineration
The combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device (40 CFR 503.41).

Incinerator Operating Combustion Temperature
The arithmetic mean of the temperature readings in the hottest zone of the furnace recorded in a day (24 h) when the temperature is averaged and recorded at least hourly during the hours the incinerator operates in a day (40 CFR 503.41).

Incorporated Place
The District of Columbia, or a city, town, township, or village that is incorporated under the laws of the state in which it is located (40 CFR 122.26(b)(3)).

Indian Country
This means (40 CFR 122.2):
1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;

2. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof, and whether within or without the limits of a state; and
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

Indian Tribe
Any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a federal Indian reservation (40 CFR 122.2).

Indirect Discharge or Discharge
The introduction of pollutants into a POTW from any non-domestic source regulated under section 307(b), (c) or (d) of the Act (40 CFR 403.3(g)).

Indirect Discharger
A nondomestic discharger introducing "pollutants" to a "publicly owned treatment works" (40 CFR 122.2).

Industrial User or User
A source of indirect discharge (40 CFR 403.3(h)).

Industrial Wastewater
Wastewater generated in a commercial or industrial process (40 CFR 503.9(n)).

Interference
A discharge which, alone or in conjunction with a discharge or discharges from other sources, both (40 CFR 403.3(i)):
1. inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
2. is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Interstate Agency
An agency of two or more states established by or under an agreement or compact approved by the Congress, or any other agency of two or more states having substantial powers or duties pertaining to the control of pollution as determined and approved by the Administrator under the CWA and regulations (40 CFR 122.2).

Land Application
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 the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil (40 CFR 503.11).

Land With a High Potential for Public Exposure
Land that the public uses frequently. This includes, but is not limited to, a public contact site and a reclamation site located in a populated area (e.g., a construction site located in a city) (40 CFR 503.31).

Land With a Low Potential for Public Exposure
Land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest, and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area) (40 CFR 503.31).

Leachate Collection System
A system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a sewage sludge unit (40 CFR 503.21).

Liner
Soil or synthetic material that has a hydraulic conductivity of 1 x 10^{-7} cm/s or less (40 CFR 503.21).

Log Sorting and Log Storage Facilities
Facilities whose discharges result from the holding of unprocessed wood, for example, logs or roundwood with bark or after removal of bark held in self-contained bodies of water (mill ponds or log ponds) or stored on land where water is applied intentionally on the logs (wet decking). (See 40 CFR 429, subpart I, including the effluent limitations guidelines) (40 CFR 122.27(b)(3)).

Lower Explosive Limit for Methane Gas
The lowest percentage of methane gas in air, by volume, that propagates a flame at 25 ^{o}C and atmospheric pressure (40 CFR 503.21).

Major Facility
Any NPDES "facility or activity" classified as such by the U.S. EPA, or, in the case of "approved state programs," the U.S. EPA in conjunction with the state authorized regulatory agency (40 CFR 122.2).

Maximum Daily Discharge Limitation
The highest allowable "daily discharge" (40 CFR 122.2).

Monthly Average
The arithmetic mean of all measurements taken during the month (40 CFR 503.11).

Monthly Average
The arithmetic mean of the hourly averages for the hours a sewage sludge incinerator operates during the month (40 CFR 503.41).

Municipality
A city, town, borough, county, parish, district, association, or other public body created by or under state law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of CWA (40 CFR 122.2).

Municipality
A city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under state law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management Agency under section 208 of the CWA, as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201(e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use, or disposal of sewage sludge (40 CFR 503.9(o)).

National Pollutant Discharge Elimination System (NPDES)
The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA. The term includes an "approved program" (40 CFR 122.2).

National Pretreatment Standard, Pretreatment Standard, or Standard
Any regulation containing pollutant discharge limits promulgated by the U.S. EPA in accordance with section 307 (b) and (c) of the Act, which applies to Industrial Users. This term includes prohibitive discharge limits established pursuant to 40 CFR 403.5 (40 CFR 403.3(j)).

Navigable Waters
This includes: all navigable waters of the United States; tributaries of navigable waters of the United States; interstate waters; intrastate lakes, rivers, and streams which are utilized by interstate travelers for recreational or other purposes; intrastate lakes, rivers, and streams from which fish or shellfish are taken and sold in interstate commerce; and intrastate lakes, rivers, and streams which are utilized for industrial purposes by industries in interstate commerce. Navigable waters do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with U.S. EPA (40 CFR 401.11).

New Discharger
Any building, structure, facility, or installation (40 CFR 122.2):
1. from which there is or may be a "discharge of pollutants;"
2. that did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;
3. which is not a "new source;" and
4. which has never received a finally effective NDPES permit for discharges at that "site."

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under U.S. EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the U.S. EPA or authorized regulatory agency in the issuance of a final permit to be an area of biological concern. In determining whether an area is an area of biological concern, the U.S. EPA or authorized regulatory agency shall consider the factors specified in 40 CFR 125.122(a) (1) through (10). An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New Source
Any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced (40 CFR 122.2):
1. after promulgation of standards of performance under section 306 of CWA which are applicable to such source, or
2. after proposal of standards of performance in accordance with section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal.

New Source
Any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed regulations prescribing a standard of performance under section 306 of the Act which will be applicable to such source if such standard is thereafter promulgated in accordance with section 306 of the Act (40 CFR 401.11).

New Source
Any building, structure, facility or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed Pretreatment Standards under section 307(c) of the Act which will be applicable to such source if such Standards are thereafter promulgated in accordance with that section, provided that (40 CFR 403.3(k)):
1. the building, structure, facility or installation is constructed at a site at which no other source is located; or
2. the building, structure, facility or installation totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
3. the production or wastewater generating processes of the building, structure, facility or installation are substantially independent of an existing source at the same site. In determining whether these are substantially independent, factors such as the extent to which the new facility is integrated with the existing plant, and the

extent to which the new facility is engaged in the same general type of activity as the existing source should be considered.

Construction on a site at which an existing source is located results in a modification rather than a new source if the construction does not create a new building, structure, facility or installation meeting the criteria of paragraphs b or c but otherwise alters, replaces, or adds to existing process or production equipment.

Construction of a new source has commenced if the owner or operator has:

1. begun, or caused to begin as part of a continuous onsite construction program:
   a) any placement, assembly, or installation of facilities or equipment; or
   b) significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or
2. entered into a binding contractual obligation for the purchase of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation.

Noncontact Cooling Water
Water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product or finished product (40 CFR 401.11).

Noncontact Cooling Water Pollutants
Pollutants present in noncontact cooling waters (40 CFR 401.11).

Non-Conventional Pollutants
Parameters that are neither conventional pollutants as defined in 40 CFR 401.16, nor toxic pollutants as defined in 40 CFR 401.15 (see Appendix A of this document) (40 CFR 439.1(k)).

NPDES Permit or Permit
A permit issued to a POTW pursuant to section 402 of the Act (40 CFR 403.3(l)).

NPDES Permit Exclusions
The following discharges do not require a NPDES permit (40 CFR 122.3):

1. any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other discharge incidental to the normal operation of a vessel. This exclusion does not apply to rubbish, trash, garbage, or other such materials discharged overboard; nor to other discharges when the vessel is operating in a capacity other than as a means of transportation such as when used as an energy or mining facility, a storage facility or a seafood processing facility, or when secured to a storage facility or a seafood processing facility, or when secured to the bed of the ocean, contiguous zone or waters of the United States for the purpose of mineral or oil exploration or development
2. discharges of dredged or fill material into waters of the United States which are regulated under section 404 of CWA
3. the introduction of sewage, industrial wastes or other pollutants into POTW by indirect dischargers. Plans or agreements to switch to this method of disposal in the future do not relieve dischargers of the obligation to have and comply with permits until all discharges of pollutants to waters of the United States are eliminated. This exclusion does not apply to the introduction of pollutants to privately owned treatment works or to other discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other party not leading to treatment works
4. any discharge in compliance with the instructions of an On-Scene Coordinator pursuant to 40 CFR 300 (The National Oil and Hazardous Substances Pollution Contingency Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances)
5. any introduction of pollutants from non point-source agricultural and silvicultural activities, including storm water runoff from orchards, cultivated crops, pastures, range lands, and forest lands, but not discharges from

concentrated animal feeding operations, discharges from concentrated aquatic animal production facilities, discharges to aquaculture projects, and discharges from silvicultural point sources
6. return flows from irrigated agriculture
7. discharges into a privately owned treatment works, except as the Director may otherwise require under 40 CFR 122.44(m).

NPDES State
A state (as defined in 40 CFR 122.2) or Interstate water pollution control agency with an NPDES permit program approved pursuant to section 402(b) of the Act (40 CFR 403.3(m)).

Other Container
Either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less (40 CFR 503.11).

Overburden
Any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations (40 CFR 122.26(b)(10)).

Owner or Operator
The owner or operator of any "facility or activity" subject to regulation under the NPDES program (40 CFR 122.2).

Pass Through
A discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) (40 CFR 403.3(n)).

Pasture
Land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover (40 CFR 503.11).

Pathogenic Organisms
Disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova (40 CFR 503.31).

Performance Test Combustion Temperature
The arithmetic mean of the average combustion temperature in the hottest zone of the furnace for each of the runs in a performance test (40 CFR 503.41).

Permit
An authorization, license, or equivalent control document issued by U.S. EPA or an "approved state" to implement the requirements of this 40 CFR 122 and 40 CFR 123 and 124. "Permit" includes an NPDES "general permit" (40 CFR 122.28). Permit does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit" (40 CFR 122.2).

Permitting Authority
Either U.S. EPA or a state with an U.S. EPA-approved sludge management program (40 CFR 503.9(p)).

Person
An individual, association, partnership, corporation, municipality, state or federal agency, or an agent or employee thereof (40 CFR 122.2 and 503.9(q)).

Person Who Prepares Sewage Sludge
Either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge (40 CFR 503.9(r)).

Place Sewage Sludge or Sewage Sludge Placed
Disposal of sewage sludge on a surface disposal site (40 CFR 503.9(s)).

Point Source
Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. (See 40 CFR 122.3) (40 CFR 122.2 and 40 CFR 401.11).

Pollutant
Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:
1. sewage from vessels; or
2. water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the state in which the well is located, and if the state determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Note: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes. See Train v. Colorado Public Interest Research Group, Inc., 426 U.S. 1 (1976) (40 CFR 122.2).

Pollutant
Dredged spoil, solid waste, incinerator residue, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean (40 CFR 401.11(f)):
1. sewage from vessels; or
2. water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well, used either to facilitate production or for disposal purposes is approved by authority of the state in which the well is located, and if such state determines that such injection or disposal will not result in the degradation of ground or surface water resources.

Pollutant
An organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, on the basis of information available to the Administrator of U.S. EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms (40 CFR 503.9(t)).

Pollutant Limit
A numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of a pollutant that can be applied to a unit area of land (e.g., kilograms per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre) (40 CFR 503.9(u)).

Pollution
The manmade or man induced alteration of the chemical, physical, biological and radiological integrity of water (40 CFR 401.11).

POTW Treatment Plant
That portion of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste (40 CFR 403.3(p)).

Pretreatment
The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a POTW. The reduction or alteration may be obtained by physical, chemical or biological processes, process changes or by other means, except as prohibited by 40 CFR 403.6(d). Appropriate pretreatment technology includes control equipment, such as equalization tanks or facilities, for protection against surges or slug loadings that might interfere with or otherwise be incompatible with the POTW. However, where wastewater from a regulated process is mixed in an equalization facility with unregulated wastewater or with wastewater from another regulated process, the effluent from the equalization facility must meet an adjusted pretreatment limit calculated in accordance with 40 CFR 403.6(e) (40 CFR 403.3(q)).

Pretreatment Requirements
Any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User (40 CFR 403.3(r)).

Primary Industry Category
Any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D.D.C. 1979)); also listed in appendix A of 40 CFR 122 (see Appendix B of this document) (40 CFR 122.2).

Privately Owned Treatment Works
Any device or system which is (40 CFR 122.2):
a) used to treat wastes from any facility whose operator is not the operator of the treatment works, and
b) not a "POTW."

Process Wastewater
Any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product (40 CFR 122.2 and 401.11)

Process Wastewater Pollutants
Pollutants present in process wastewater (40 CFR 401.11).

Proposed Permit
A state NPDES "permit" prepared after the close of the public comment period (and, when applicable, any public hearing and administrative appeals) which is sent to U.S. EPA for review before final issuance by the state. A "proposed permit" is not a "draft permit" (40 CFR 122.2).

Public Contact Site
Land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses (40 CFR 503.11).

Publicly Owned Treatment Works (POTW)
Any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "state" or "municipality." This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment (40 CFR 122.2).

Publicly Owned Treatment Works or POTW
A treatment works as defined by section 212 of the Act, which is owned by a state or municipality (as defined by section 502(4) of the Act). This definition includes any devices and systems used in the storage, treatment, recycling

and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works (40 CFR 403.3(o)).

Qualified Ground-Water Scientist
An individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground-water hydrology and related fields, as may be demonstrated by state registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground-water monitoring, pollutant fate and transport, and corrective action (40 CFR 503.21).

Range Land
Open land with indigenous vegetation (40 CFR 503.11).

Reclamation Site
Drastically disturbed land that is reclaimed using sewage sludge. This includes, but is not limited to, strip mines and construction sites (40 CFR 503.11).

Recommencing Discharger
A source which recommences discharge after terminating operations (40 CFR 122.2).

Regional Administrator
The Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator (40 CFR 122.2 and 40 CFR 403.3(s)).

Risk Specific Concentration
The allowable increase in the average daily ground level ambient air concentration for a pollutant from the incineration of sewage sludge at or beyond the property line of the site where the sewage sludge incinerator is located (40 CFR 503.41).

Rock Crushing and Gravel Washing Facilities - facilities which process crushed and broken stone, gravel, and riprap (See 40 CFR 436, subpart B, including the effluent limitations guidelines) (40 CFR 122.27(b)(2)).

Runoff
Rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off of the land surface (40 CFR 503.9(v)).

Runoff Coefficient
The fraction of total rainfall that will appear at a conveyance as runoff (40 CFR 122.26(b)(11)).

Schedule of Compliance
A schedule of remedial measures included in a "permit," including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the CWA and regulations (40 CFR 122.2).

Secondary Industry Category
Any industry category which is not a "primary industry category" (40 CFR 122.2).

Secretary
The Secretary of the Army, acting through the Chief of Engineers (40 CFR 122.2).

Seismic Impact Zone
An area that has a 10 percent or greater probability that the horizontal ground level acceleration of the rock in the area exceeds 0.10 gravity once in 250 yr (40 CFR 503.21).

Septage
The liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained (40 CFR 122.2).

Severe Property Damage
Substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production (40 CFR 122.41(m)(1)(ii) and 403.17(a)(2)).

Sewage From Vessels
Human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels and regulated under section 312 of CWA, except that with respect to commercial vessels on the Great Lakes this term includes graywater. For the purposes of this definition, "graywater" means galley, bath, and shower water (40 CFR 122.2).

Sewage Sludge
Any solid, semi-solid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 CFR 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge (40 CFR 122.2).

Sewage Sludge
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 a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works (40 CFR 503.9(w)).

Sewage Sludge Feed Rate
Either the average daily amount of sewage sludge fired in all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located for the number of days in a 365 day period that each sewage sludge incinerator operates, or the average daily design capacity for all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located (40 CFR 503.41).

Sewage Sludge Incinerator
An enclosed device in which only sewage sludge and auxiliary fuel are fired (40 CFR 503.41).

Sewage Sludge Unit
Land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 CFR 122.2 (40 CFR 503.21).

Sewage Sludge Unit Boundary
The outermost perimeter of an active sewage sludge unit (40 CFR 503.21).

Sewage Sludge Use or Disposal Practice
The collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge (40 CFR 122.2)

Significant Industrial User

Except as provided in paragraph 3, the term Significant Industrial User means (40 CFR 403.3(t)):

1. all industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; and
2. any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process waste stream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6))
3. upon a finding that an industrial user meeting the criteria in paragraph 2 has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority (as defined in 40 CFR 403.12(a)) may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

Significant Materials

This includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges (40 CFR 122.26(b)(12)).

Silvicultural Point Source

Any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into waters of the United States. The term does not include nonpoint source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities (such as stream crossing for roads) may involve point source discharges of dredged or fill material which may require a CWA section 404 permit (See 33 CFR 209.120 and 33 CFR 233) (40 CFR 122.27(b)(1)).

Site

The land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity (40 CFR 122.2).

Sludge-Only Facility

Any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA, and is required to obtain a permit under 40 CFR 122.1(b)(3) (40 CFR 122.2).

Source

Any building, structure, facility, or installation from which there is or may be a discharge of pollutants (40 CFR 122.29(a)(2)).

Specific Oxygen Uptake Rate (SOUR)

The mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in the sewage sludge (40 CFR 503.31).

Stack Height

The difference between the elevation of the top of a sewage sludge incinerator stack and the elevation of the ground at the base of the stack when the difference is equal to or less than 65 m. When the difference is greater than 65 m, stack height is the creditable stack height determined in accordance with 40 CFR 51.100 (ii) (40 CFR 503.41).

Standard of Performance
Any restriction established by the Administrator pursuant to section 306 of the Act on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are or may be discharged from new sources into navigable waters, the waters of the contiguous zone or the ocean (40 CFR 401.11).

Standards for Sewage Sludge Use or Disposal
The regulations promulgated pursuant to section 405(d) of the CWA which govern minimum requirements for sludge quality, management practices, and monitoring and reporting applicable to sewage sludge or the use or disposal of sewage sludge by any person (40 CFR 122.2).

State
Any of the 50 states, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in these regulations which meets the requirements of 40 CFR 123.31(40 CFR 122.2).

State Director
The chief administrative officer of any state or interstate agency operating an "approved program," or the delegated representative of the State Director. If responsibility is divided among two or more state or interstate agencies, "State Director" means the chief administrative officer of the state or interstate agency authorized to perform the particular procedure or function to which reference is made (40 CFR 122.2).

State/U.S. EPA Agreement
An agreement between the Regional Administrator and the state which coordinates U.S. EPA and state activities, responsibilities and programs including those under the CWA programs (40 CFR 122.2).

Store or Storage of Sewage Sludge
Placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment (40 CFR 503.9(y)).

Storm Water
Storm water runoff, snow melt runoff, and surface runoff and drainage (40 CFR 122.26(b)(13)).

Submission
1. A request by a POTW for approval of a Pretreatment Program to the U.S. EPA or a Director;
2. A request by a POTW to the U.S. EPA or a Director for authority to revise the discharge limits in categorical Pretreatment Standards to reflect POTW pollutant removals; or
3. A request to the U.S. EPA by an NPDES state for approval of its state pretreatment program (40 CFR 403.3(u)).

Surface Disposal Site
An area of land that contains one or more active sewage sludge units (40 CFR 503.21).

Total Dissolved Solids
The total dissolved (filterable) solids as determined by use of the method specified in 40 CFR 136 (40 CFR 122.2).

Total Hydrocarbons
The organic compounds in the exit gas from a sewage sludge incinerator stack measured using a flame ionization detection instrument referenced to propane (40 CFR 503.41).

Total Solids
The materials in sewage sludge that remain as residue when the sewage sludge is dried at 103 to 105 ^{o}C (40 CFR 503.31).

Toxic Pollutant
Any pollutant listed as toxic under section 307(a)(1) (see Appendix A of this document) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA (40 CFR 122.2).

Treat or Treatment of Sewage Sludge
The preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge. This does not include storage of sewage sludge (40 CFR 503.9(z)).

Treatment Works
Either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature (40 CFR 503.9(aa)).

Treatment Works Treating Domestic Sewage
A POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and 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. For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In states where there is no approved state sludge management program under section 405(f) of the CWA, the U.S. EPA or authorized regulatory agency may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR 503 as a "treatment works treating domestic sewage," where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR 503 (40 CFR 122.2).

Uncontrolled Sanitary Landfill
A landfill or open dump, whether in operation or closed, that does not meet the requirements for runon or runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act (40 CFR 122.26(b)(15)).

Unstable Area
Land subject to natural or human-induced forces that may damage the structural components of an active sewage sludge unit. This includes, but is not limited to, land on which the soils are subject to mass movement (40 CFR 503.21).

Unstabilized Solids
Organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process (40 CFR 503.31).

Upset
An exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation (40 CFR 122.41(n)(1)).

Upset
An exceptional incident in which there is unintentional and temporary noncompliance with categorical Pretreatment Standards because of factors beyond the reasonable control of the Industrial User. An Upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation (40 CFR 403.16(a)).

Variance
Any mechanism or provision under section 301 or 316 of CWA or under 40 CFR 125, or in the applicable "effluent limitations guidelines" which allows modification to or waiver of the generally applicable effluent limitation requirements or time deadlines of CWA. This includes provisions which allow the establishment of alternative limitations based on fundamentally different factors or on sections 301(c), 301(g), 301(h), 301(i), or 316(a) of CWA (40 CFR 122.2).

Vector Attraction
The characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents (40 CFR 503.31).

Vector Attraction Reduction Options
The following are vector attraction reduction options (40 CFR 503.33(b)):

1. The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent (see calculation procedures in "Environmental Regulations and Technology--Control of Pathogens and Vector Attraction in Sewage Sludge", EPA-625/R-92/013, 1992, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268)
2. When the 38 percent volatile solids reduction requirement in paragraph 1 cannot be met for an anaerobically digested sewage sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sewage sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 ^{o}C. When at the end of the 40 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 17 percent, vector attraction reduction is achieved
3. When the 38 percent volatile solids reduction requirement in paragraph 1 cannot be met for an aerobically digested sewage sludge, vector attraction reduction can be demonstrated by digesting a portion of the previously digested sewage sludge that has a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 ^{o}C. When at the end of the 30 days, the volatile solids in the sewage sludge at the beginning of that period is reduced by less than 15 percent, vector attraction reduction is achieved
4. The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 mg of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 ^{o}C
5. Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 ^{o}C and the average temperature of the sewage sludge shall be higher than 45 ^{o}C
6. The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 2 h and then at 11.5 or higher for an additional 22 h
7. The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials
8. The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials
9. Sewage sludge shall be injected below the surface of the land. No significant amount of the sewage sludge shall be present on the land surface within 1 h after the sewage sludge is injected. When the sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within 8 h after being discharged from the pathogen treatment process
10. Sewage sludge applied to the land surface or placed on an active sewage sludge unit shall be incorporated into the soil within 6 h after application to or placement on the land, unless otherwise specified by the permitting authority
11. When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within 8 h after being discharged from the pathogen treatment process
12. Sewage sludge placed on an active sewage sludge unit shall be covered with soil or other material at the end of each operating day
13. The pH of domestic septage shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 30 min.

Volatile Solids
The amount of the total solids in sewage sludge lost when the sewage sludge is combusted at 550 ^{o}C in the presence of excess air (40 CFR 503.31).

Water Management Division Director
One of the Directors of the Water Management Divisions within the Regional offices of the Environmental Protection Agency or this person's delegated representative (40 CFR 403.3(f)).

Waters of The United States or Waters of The U.S.
1. all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. all interstate waters, including interstate "wetlands;"
3. all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
4. which are or could be used by interstate or foreign travelers for recreational or other purposes;
5. from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
6. which are used or could be used for industrial purposes by industries in interstate commerce;
7. all impoundments of waters otherwise defined as waters of the United States under this definition;
8. tributaries of waters identified in paragraphs (1) through (4) of this definition;
9. the territorial sea; and
10. "wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. [See Note 1 of this section.] Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with U.S. EPA (40 CFR 122.2).

Wet Electrostatic Precipitator
An air pollution control device that uses both electrical forces and water to remove pollutants in the exit gas from a sewage sludge incinerator stack (40 CFR 503.41).

Wet Scrubber
An air pollution control device that uses water to remove pollutants in the exit gas from a sewage sludge incinerator stack (40 CFR 503.41).

Wetlands
Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR 122.2).

Wetlands
Those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (40 CFR 503.9(bb)).

Whole Effluent Toxicity
The aggregate toxic effect of an effluent measured directly by a toxicity test (40 CFR 122.2).

Typical Records To Review

- NPDES Permit
- NPDES Permit applications (new or renewal)
- Discharge monitoring reports for the past year
- Laboratory records and procedures and U.S. EPA QA results
- Monthly operating reports for wastewater treatment facilities
- Flow monitoring calibration certification and supporting records
- Ash pond volume certification and supporting records
- Special reports, certifications, etc., required by NPDES permit
- All enforcement actions
- NPDES state or federal inspection reports
- Sewage treatment plant operator certification
- Administrative orders
- Sewer and storm drain layout
- Local sewer use ordinance
- Local service use permit
- Sewer system bypass records
- Notification to local POTW
- Old spill reports
- Repair/Maintenance records for the wastewater treatment system
- As built drawings
- Stormwater pollution prevention plan
- Pretreatment permits
- Design plans for wastewater and industrial waste treatment plants, including treatment basins
- Utility and general site maps, diagrams - plumbing (maintenance shops)

Typical Physical Features To Inspect

- Discharge outfall pipes (maintenance shops, hardstands, and parking lots)
- Wastewater treatment facilities
- Industrial treatment facilities
- Floor and sink drains (especially in industrial areas)
- Oil storage tanks
- Oil/water separators and other pretreatment devices such as sand and grit traps, grease traps, and sand interceptors
- Wastewater generation points
- Discharge to POTW
- Stormwater ditches around motor pools
- Streams, rivers, open waterways
- Stormwater collection points (especially in industrial and maintenance areas)
- Fire training pit
- Nonpoint source discharge areas
- Motor pools and vehicle maintenance stands, plumbing, drains, and discharges (end of pipe)
- Wash racks (centralized facilities, individual and areas in vicinity of maintenance shop)
- Catch basins, drop inlets, holding/retention ponds
- Electrical grease racks and inspection racks
- Waste and sump collection points
- Detention ponds from vehicle washing operations
- Vehicle maintenance inspection pits and ramps
- Sludge disposal areas (especially from vehicle wash racks and central facilities)

- Battery and radiator repair operations
- Sewage sludge land application sites
- Construction sites

List of Acronyms and Abbreviations

ac	acres
ANFO	ammonium nitrate and fuel oil
BAT	best available technology economically achievable
BCT	best conventional pollutant control technology
BOD_5	five-day biochemical oxygen demand
BPT	best practicable control technology currently available
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CFU	colony forming units
cm	centimeter
COD	chemical oxygen demand
CWA	Clean Water Act
DMR	discharge monitoring report
EPA	Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FR	Federal Register
ft	foot
g	grams
gal	gallon
GRAS	generally recognized as safe
h	hours
ha	hectares
HMX	cyclotetramethylene tetranitramine
hp	horsepower
in.	inch
k cu m	1000 cubic meters
kkg	1000 kilograms
kg	kilogram
kw	kilowatt
kwh	kilowatt hour
L	liter
lb	pounds
m	meter
mg	milligrams
min	minutes
mm	millimeter
mo	months
MP	Management Practice
Mw	megawatt
Mwh	megawatt hour
NCN	nitrocarbonitrate
NOAA	National Oceanic and Atmospheric Administration
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NSPS	new source performance standards
OCPSF	organic chemicals, plastics, and synthetic fibers
P2	Pollution Prevention

PAI	pesticide active ingrédients
PL	public law
PFPR	pesticide formulating packaging and repackaging facility
POL	petroleum, oil, and lubricant
POTW	publicly owned treatment works
pound	lb
PSES	pretreatment standards for existing sources
PSNS	pretreatment standards for new sources
QA	quality assurance
RCRA	Resource Conservation and Recovery Act
RDX	cyclotrimethylene trinitramine
s	seconds
SARA	Superfund Amendments and Reauthorization Act
SIC	Standard Industrial Classifications
SPCC	Spill Prevention Control and Countermeasure plan
SOUR	specific oxygen uptake rate
SWDA	Solid Waste Disposal Act
TDS	total dissolved solids
TMDL	total maximum daily load
TNT	trinitrotoluene
TOC	total organic carbon
TRC	technical review committee
TSS	total suspended non-filterable solids
TTO	total toxic organics
TWTDS	treatment works treating domestic sewage
USC	United States Code
WQS	water quality standards
WWTP	wastewater treatment plan
yr	year

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Checklist

COMPLIANCE CATEGORY: MUNICIPAL WASTEWATER MANAGEMENT	
REGULATORY REQUIREMENT OR MANAGEMENT PRACTICE	**REVIEWER CHECKS**
MWW.1 **GENERAL**	
MWW.1.1. The current status of any ongoing or unresolved consent orders, compliance agreements, notice of violations (NOVs), inter-agency agreements, or equivalent state enforcement actions is required to be examined.	Determine if noncompliance issues have been resolved by reviewing a copy of the previous report, consent orders, compliance agreements, NOVs, interagency agreements, or equivalent state enforcement actions. (NOTE: For those open items, indicate what corrective action is planned and milestones established to correct problems.)
MWW.1.2. Facilities are required to comply with all applicable federal regulatory requirements not contained in this checklist.	Determine if any new regulations have been issued since the finalization of this document. If so, annotate checklist to include new standards. Determine if the facility has activities or facilities that are regulated, but not addressed in this checklist. Verify that the facility is in compliance with all applicable and newly issued regulations.
MWW.1.3. Facilities are required to comply with state and local regulations concerning wastewater management.	Verify that the facility is complying with state and local requirements. Verify that the facility is operating according to permits issued by the state or local agencies. (NOTE: Issues typically regulated by state and local agencies include: – nonpoint sources – NPDES permits – wastewater – monitoring and recordkeeping for NPDES permitted sources – certification requirements for laboratories analyzing samples – wastewater treatment plant operator certification – sludge disposal – pretreatment standards – discharges to sewage treatment facilities – industrial wastewater – septic tanks

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	– stormwater pollution prevention plan – stormwater discharges.)
MWW.1.4. The location, design, construction and capacity of cooling water intake structures of any point source is required to meet specific parameters (40 CFR 401.14).	Verify that the location, design, construction and capacity of cooling water intake structures of any point source for which a standard is established pursuant to section 301 or 306 of the Act reflects the best technology available for minimizing adverse environmental impact, in accordance with 40 CFR 402.

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MWW.10 **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMITS**	
MWW.10.1. Point source discharges are required to have either a state NPDES, or a federal NPDES permit if located in states without an U.S. EPA approved NPDES permit program (40 CFR 122.1(b), 122.21(c)(2)(i) through 122.21(c)(2)(iv), and 122.41(a)).	Verify that discharges of pollutants from any point source into waters of the United States have a NPDES permit. 40 CFR 122.1(b)(1) (NOTE: See definition of *Point Source*.) (NOTE: Look for oil/water separators and washracks that discharge directly to the environment.) Verify that the following additional point sources have NPDES permits for discharges: – concentrated animal feeding operations – concentrated aquatic animal production facilities – discharges into aquaculture projects – discharges of storm water as required in 40 CFR 122.26 – silvicultural point sources. <u>Duty to Comply</u> Verify that all permit requirements are being met such as: 40 CFR 122.41(a) – monitoring/sampling – concentrations of discharge constituents – recordkeeping – reports. <u>Scope/Who Covered by NPDES</u> (NOTE: The NPDES permit program also applies to owners or operators of any treatment works treating domestic sewage, whether or not the treatment works is otherwise required to obtain an NPDES permit, unless all requirements implementing section 405(d) of CWA applicable to the treatment works treating domestic sewage are included in a permit issued under the appropriate provisions of subtitle C of the *Solid Waste Disposal Act*, Part C of the *Safe Drinking Water Act*, the *Marine Protection, Research, and Sanctuaries Act* of 1972, or the *Clean Air Act*, or under state permit programs approved by the U.S. EPA or authorized regulatory agency as adequate to assure compliance with section 405 of the CWA. In addition, where no 40 CFR 503 standard exists for a facility's use or disposal

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	practice, the owner/operator of the facility is not automatically required to submit a permit application (64 FR 42437 August 4, 1999). For example, industrial treatment works that treat domestic sewage along with process wastes are not currently addressed under 40 CFR 503 and, therefore, USEPA does not require that they apply for a sewage sludge permit at this time (64 FR 42437).) (NOTE: The U.S. EPA or authorized regulatory agency may designate any person subject to the standards for sewage sludge use and disposal as a "treatment works treating domestic sewage", where they find that a permit is necessary to protect public health and the environment from the adverse effects of sewage sludge or to ensure compliance with the technical standards for sludge use and disposal developed under CWA section 405(d).) Verify that any person designated as a "treatment works treating domestic sewage" submits an application for a permit within 180 days of being notified by the Regional Administrator that a permit is required.
MWW.10.2. Any person who discharges or proposes to discharge pollutants or who owns or operates a "sludge-only facility" and who does not have an effective permit, is required to submit a complete permit application according to a specific schedule (40 CFR 122.21(a) through 122.21(d), 122.21(f) through 122.21(k), and 122.21(p)).	(NOTE: This checklist item does not apply to persons covered by general permits under 40 CFR 122.28, excluded under 40 CFR 122.3 (see the definition for NPDES Permit Exclusions), or a user of a privately owned treatment works unless the Director requires otherwise.) Verify that any person who discharges or proposes to discharge pollutants or who owns or operates a "sludge-only facility" whose sewage sludge use or disposal practice is regulated by 40 CFR 503, and who does not have an effective permit, submits a complete application to the Director according to the following time schedule: – any person proposing a new discharge, at least 180 days before the date on which the discharge is to commence, unless permission for a later date has been granted by the Director – construction activity that results in the disturbance of less than 5 acres of total land area which is not part of a larger common plan of development or sale, at least 90 days before the date on which construction is to commence – any existing "treatment works treating domestic sewage" required to have, or requesting site-specific pollutant limits as provided in 40 CFR 503, within 180 days after publication of a standard applicable to its sewage sludge use or disposal practices <u>Sewage Sludge</u> – for a permit under section 405(f) of the CWA, a TWTDS whose sewage sludge use or disposal practices are regulated by 40 CFR 503 with a currently effective NPDES permit, at the time of its next NPDES permit renewal application – for a permit under section 405(f) of the CWA, any other TWTDS whose

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	sewage sludge use or disposal practices are regulated by 40 CFR 503, within 1 yr after publication of a standard applicable to its sewage sludge use or disposal practice – for a permit under section 405(f) of the CWA, any TWTDS whose sewage sludge use or disposal practices are regulated by 40 CFR 503 that commences operations after promulgation of an applicable ``standard for sewage sludge use or disposal," at least 180 days prior to the date proposed for commencing operations. (NOTE: The Director may require permit applications from any TWTDS at any time if the Director determines that a permit is necessary to protect public health and the environment from any potential adverse effects that may occur from toxic pollutants in sewage sludge.) (NOTE: See the document titled *Protocol for Conducting Environmental Compliance Audits under the Storm Water Program* for checklist items for permit requirements related to storm water.) <u>Permit Applications</u> Verify that the application is submitted on a U.S. EPA permit application form and contains accurate information (see the text of 40 CFR 122.21(f) through 122.21(k) for a detailed description of the content requirements, including Appendix J to 40 CFR Part 122 - NPDES Testing Requirements for Publicly Owned Treatment Works). Verify that records of all data used to complete permit applications and any supplemental information submitted are retained for a period of at least 3 yr from the date the application is signed. (NOTE: When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.) (NOTE: The Director may require permit applications from any "treatment works treating domestic sewage" at any time if the Director determines that a permit is necessary to protect public health and the environment from any potential adverse effects that may occur from toxic pollutants in sewage sludge.) <u>Reapplication for Permit</u> Verify that any POTW with a currently effective permit submits a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Director. Verify that all other permittees with currently effective permits submit a new application 180 days before the existing permit expires, except that the U.S. EPA

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	or authorized regulatory agency may grant permission to submit an application later than the deadline for submission otherwise applicable, but no later than the permit expiration date.
MWW.10.3. Certain discharges of storm water are required to be permitted (40 CFR 122.26(a), 122.26(c), 122.26(d), 122.26(g)(1) and 122.41(a)).	Municipal Separate Storm Sewer Verify that the municipality has obtained permits for all discharges from large, medium, or small municipal separate storm sewer systems as required by U.S. EPA Storm Water Program. (NOTE: For specific requirements and audit checklist items, refer to U.S. EPA's *Protocol for Conducting Environmental Compliance Audits under the Storm Water Program*.)
MWW.10.4. Conveyances that discharge storm water runoff combined with municipal sewage are point sources and must obtain NPDES permits in accordance with (40 CFR 122.21)	Combined Sewer System (NOTE: Municipal Combined Sewer Systems are required to implement BAT/BCT as defined in the U.S. EPA. *Combined Sewer Overflow (CSO) Control Policy*. 56 Federal Register No. 75. Pages 18688 - 18696. 4/19/94.) Verify whether the facility has a combined sewer system (CSS). Verify whether the facility has implemented BAT/BCT. (NOTE: At a minimum BAT/BCT consists of the nine minimum controls listed below: – proper operation and regular maintenance programs for the sewer system and the CSOs – maximum use of the collection system for storage – review and modification of pretreatment requirements to assure CSO impacts are minimized – maximization of flow to the publicly owned treatment works (POTW) for treatment – prohibition of CSOs during dry weather – control of solid and floatable materials in CSOs – pollution prevention – public notification of CSO occurrences and impacts – monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.) (NOTE: CSOs are not subject to secondary treatment requirements applicable to POTWs.)

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	Verify the facility met the January 1, 1997 deadline for implementing the nine minimum controls. Verify the facility submitted the appropriate documentation to the permitting authority showing the implementation of these controls. <u>Long Term CSO Plan</u> Verify that the facility has a long-term CSO plan approved by the permitting authority. Verify that any requirements/schedules in the NPDES/SPDES permit for implementation of the long-term CSO control plan.
MWW.10.5. All holders of NPDES permits are required to meet certain management and operational requirements (40 CFR 122.41(b) through 122.41(n)).	Verify that, if the permittee wishes to continue an activity regulated by a permit after the expiration date of the permit, the permittee applied for and obtained a new permit. (NOTE: It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.) Verify that the permittee takes all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment. Verify that the permittee at all times properly operates and maintains all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. (NOTE: Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.) <u>Modification, Revocation, Reissuance, or Termination</u> (NOTE: A permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. A permit does not convey any property rights of any sort, or any exclusive privilege.)

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	Verify that the permittee provides to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Verify that the permittee also provides to the Director, upon request, copies of records required to be kept by this permit. <u>Monitoring</u> Verify that samples and measurements taken for the purpose of monitoring are representative of the monitored activity. Verify that the permittee retains records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the application for the permit, for a period of at least 3 yr from the date of the sample, measurement, report or application. Verify that records of monitoring information required by the permit related to the permittee's sewage sludge use and disposal activities are retained for a period of at least 5 yr (or longer as required by 40 CFR 503). (NOTE: The retention period may be extended by request of the Director at any time.) Verify that records of monitoring information include: – the date, exact place, and time of sampling or measurements – the individual(s) who performed the sampling or measurements – the date(s) analyses were performed – the individual(s) who performed the analyses – the analytical techniques or methods used – the results of such analyses. Verify that monitoring results are conducted according to test procedures approved under 40 CFR 136 or, in the case of sludge use or disposal, approved under 40 CFR 136 unless otherwise specified in 40 CFR 503, unless other test procedures have been specified in the permit. Verify that all applications, reports, or information submitted to the Director are signed and certified as required in 40 CFR 122.22. Verify that monitoring results are reported at the intervals specified in the permit and are reported on a Discharge Monitoring Report (DMR) or forms provided or

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	specified by the Director for reporting results of monitoring of sludge use or disposal practices. Verify that, if the permittee monitors any pollutant more frequently than required by the permit using approved test procedures, or as specified in the permit, the results of this monitoring are included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director. (NOTE: Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.) <u>Notice of Planned Alterations or Additions</u> Verify that the permittee gives notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. (NOTE: Notice is required only when: – the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source – the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged (This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1)) – the alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.) <u>Notice of Permit Transfer</u> Verify that the permittee gives notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. (NOTE: The permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act (see 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

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	Other Reports Verify that reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit are submitted no later than 14 days following each schedule date. Certain Reports of Noncompliance Verify that the permittee reports any noncompliance which may endanger health or the environment such that: – information is provided orally within 24 h from the time the permittee became aware of the circumstances – a written submission is provided within 5 days of the time the permittee becomes aware of the circumstances and contains a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. Verify that the following is included as a part of information which must be reported within 24 h: – any unanticipated bypass which exceeds any effluent limitation in the permit – any upset which exceeds any effluent limitation in the permit – violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 h. (NOTE: The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 h.) Verify that the permittee reports all instances of noncompliance that are not otherwise reported, at the time monitoring reports are submitted. Verify that where the permittee has become aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it promptly submits such facts or information. Verify that the permittee only allows a bypass to occur which does not cause effluent limitations to be exceeded, if it is for essential maintenance to assure efficient operation. Verify that, if the permittee knows in advance of the need for a bypass, it submits prior notice, if possible, at least 10 days before the date of the bypass.

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	Verify that the permittee submits notice of an unanticipated bypass within 24 h. (NOTE: Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless: – bypass was unavoidable to prevent loss of life, personal injury, or severe property damage – there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance.) – the permittee submitted notices as required. Verify that, if a permittee wishes to establish an affirmative defense of upset, they demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that: – an upset occurred and that the permittee can identify the cause(s) of the upset – the permitted facility was at the time being properly operated – the permittee submitted required 24 h notice of the upset – the permittee complied with any remedial measures required.
MWW.10.6. All POTWs are required to meet additional conditions (40 CFR 122.42(b)).	Verify that all POTWs provide adequate notice to the Director of the following: – any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if the POTW were directly discharging those pollutants – any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. (NOTE: Adequate notice shall include information on: – the quality and quantity of effluent introduced into the POTW – any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.)

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MWW.10.7. Municipal separate storm sewer systems are required to meet additional conditions (40 CFR 122.42(c)).	Verify that the operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director submits an annual report by the anniversary of the date of the issuance of the permit for the system. Verify that the report includes: – the status of implementing the components of the storm water management program that are established as permit conditions – proposed changes to the storm water management programs that are established as permit conditions – revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application – a summary of data, including monitoring data, that is accumulated throughout the reporting year – annual expenditures and budget for year following each annual report – a summary describing the number and nature of enforcement actions, inspections, and public education programs – identification of water quality improvements or degradation.
MWW.10.8. Transfer of permits may only occur under certain conditions (40 CFR 122.61 and 122.63).	Verify that a permit is transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under CWA. (NOTE: As an alternative, any NPDES permit may be automatically transferred to a new permittee if: – the current permittee notifies the Director at least 30 days in advance of the proposed transfer date – the notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them – the Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit.) (NOTE: A modification may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement.) (NOTE: Under 40 CFR 122.63, minor modifications may only: – correct typographical errors – require more frequent monitoring or reporting by the permittee – change an interim compliance date in a schedule of compliance, provided the

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	new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement – allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director – change the construction schedule for a discharger which is a new source without affecting a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge – delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits – incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.)

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MWW.30 **PRETREATMENT PROGRAMS**	(NOTE: General Pretreatment regulations (40 CFR 403) apply to the following (40 CFR 403.1(b)): – pollutants from non-domestic sources covered by pretreatment standards which are indirectly discharged into or transported by truck or rail or otherwise introduced into POTWs – POTWs which receive wastewater from sources subject to National pretreatment standards – states which have or are applying for NPDES) programs approved in accordance with section 402 of the CWA – any new or existing source subject to pretreatment standards.) (NOTE: National pretreatment standards do not apply to sources which discharge to a sewer that is not connected to a POTW Treatment Plant.)
MWW.30.1. POTWs are required to develop specific limits to ensure compliance with 40 CFR 403.5(a) and 403.5(b) (40 CFR 403.5(c) and 403.8(f)(4)).	Verify that when the POTW has an approved Pretreatment Program, it develops and enforces specific limits to implement and enforce the prohibitions listed in 40 CFR 403.5(a)(1) and (b) (see checklist item MWW.20.1). (NOTE: Each POTW with an approved pretreatment program shall continue to develop these limits as necessary and effectively enforce such limits.) Verify that all other POTW's, in cases where pollutants contributed by industrial user(s) result in interference or pass-through, and the violation is likely to recur, develop and enforce specific effluent limits for industrial user(s), and all other users, as appropriate, which, together with appropriate changes in the POTW's facilities or operation, ensure renewed and continued compliance with the POTW's NPDES permit or sludge use or disposal practices. (NOTE: Specific effluent limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond.) Verify that, if the POTW has not developed local limits as required, the POTW has demonstrated the limits are not necessary.
MWW.30.2. In certain circumstances, POTWs are required to develop a POTW pretreatment program which meets specific criteria (40 CFR 403.8(a), 403.8(f)(2)).	Verify that any POTW (or combination of POTWs operated by the same authority) with a total design flow greater than 5 million gallons per day (mgd) and receiving from industrial users pollutants which pass through or interfere with the operation of the POTW, or are otherwise subject to pretreatment standards has a POTW pretreatment program. (NOTE: The pretreatment program is not required if the NPDES state exercises its option to assume local responsibilities.)

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	(NOTE: The U.S. EPA or authorized regulatory agency may require that a POTW with a design flow of 5 mgd or less develop a POTW pretreatment program if the nature or volume of the industrial influent, treatment process upsets, violations of POTW effluent limitations, contamination of municipal sludge, or other circumstances warrant, in order to prevent interference with the POTW or pass through.) Verify that the POTW pretreatment program includes procedure which enables the POTW to: – identify and locate all possible industrial users which might be subject to the POTW pretreatment program – identify the character and volume of pollutants contributed to the POTW by the identified industrial users – notify identified industrial users of applicable pretreatment standards and any applicable requirements under sections 204(b) and 405 of the CWA and subtitles C and D of RCRA – receive and analyze self-monitoring reports and other notices submitted by industrial users in accordance with the self-monitoring requirements – randomly sample and analyze the effluent from industrial users and conduct surveillance activities in order to identify, independent of information supplied by industrial users, occasional and continuing noncompliance with pretreatment standards – inspect and sample the effluent from each significant industrial user at least once a year – evaluate, at least once every 2 yr, whether each significant industrial user needs a plan to control slug discharges – investigate instances of noncompliance with pretreatment standards and Requirements, as indicated in the required reports and notices, or indicated by analysis, inspection, and surveillance activities – perform sample taking and analysis and the collection of other information with sufficient care to produce evidence admissible in enforcement proceedings or in judicial actions – comply with the public participation requirements of 40 CFR 25 in the enforcement of national pretreatment standards. Verify that the procedures include provisions for at least annual public notification in the largest daily newspaper published in the municipality in which the POTW is located, of industrial users which, at any time during the previous 12 mo, were in significant noncompliance with applicable pretreatment requirements. (NOTE: An industrial user is in significant noncompliance if its violation meets one or more of the following criteria: – chronic violations of wastewater discharge limits, defined here as those in which 66 percent or more of all of the measurements taken during a 6-mo

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	period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter – Technical Review Criteria (TRC) violations, defined as those in which 33 percent or more of all of the measurements for each pollutant parameter taken during a 6-mo period equal or exceed the product of the daily maximum limit or the average limit multiplied by the applicable TRC (TRC=1.4 for BOD, TSS, fats, oil, and grease, and 1.2 for all other pollutants except pH) – any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass through (including endangering the health of POTW personnel or the general public) – any discharge of a pollutant that has caused imminent endangerment to human health, welfare or to the environment or has resulted in the POTW's exercise of its emergency authority to halt or prevent such a discharge – failure to meet, within 90 days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction, or attaining final compliance – failure to provide, within 30 days after the due date, required reports such as baseline monitoring reports, 90-day compliance reports, periodic self-monitoring reports, and reports on compliance with compliance schedules – failure to accurately report noncompliance – any other violation or group of violations which the Control Authority determines will adversely affect the operation or implementation of the local pretreatment program.)
MWW.30.3. A POTW requesting approval of a POTW pretreatment program is required to develop a program description and follow certain procedures (40 CFR 403.9(a) through 403.9(c), 403.9(e), and 403.9(g)).	Verify that the program description is submitted to the Approval Authority that will make a determination on the request for program approval. Verify that a POTW requesting approval of a POTW pretreatment program develops a program description which contains the following information: – a statement from the City Solicitor or a city official acting in a comparable capacity (or the attorney for those POTWs which have independent legal counsel) that the POTW has authority adequate to carry out the programs described in 40 CFR 403.8. This statement shall: – identify the provision of the legal authority under 40 CFR 403.8(f)(1) which provides the basis for each procedure under 40 CFR 403.8(f)(2) – identify the manner in which the POTW will implement the program requirements set forth in 40 CFR 403.8, including the means by which pretreatment standards will be applied to individual industrial users (e.g., by order, permit, ordinance, etc.) – identify how the POTW intends to ensure compliance with pretreatment standards and requirements, and to enforce them in the event of noncompliance by industrial users

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	– a copy of any statutes, ordinances, regulations, agreements, or other authorities relied upon by the POTW for its administration of the Program, including a statement reflecting the endorsement or approval of the local boards or bodies responsible for supervising and/or funding the POTW Pretreatment Program if approved – a brief description (including organization charts) of the POTW organization which will administer the Pretreatment Program. If more than one agency is responsible for administration of the Program the responsible agencies should be identified, their respective responsibilities delineated, and their procedures for coordination set forth – a description of the funding levels and full- and part-time manpower available to implement the Program. (NOTE: The POTW may request conditional approval of the pretreatment program pending the acquisition of funding and personnel for certain elements of the program. The request for conditional approval must meet the requirements set forth for the program description except that the requirements may be relaxed if the submission demonstrates that: – a limited aspect of the Program does not need to be implemented immediately – the POTW had adequate legal authority and procedures to carry out those aspects of the program which will not be implemented immediately – funding and personnel for the program aspects to be implemented at a later date will be available when needed. The POTW will describe in the submission the mechanism by which this funding will be acquired. Upon receipt of a request for conditional approval, the Approval Authority will establish a fixed date for the acquisition of the needed funding and personnel. If funding is not acquired by this date, the conditional approval of the POTW Pretreatment Program and any removal allowances granted to the POTW, may be modified or withdrawn.) Verify that any POTW requesting POTW pretreatment program approval submits to the Approval Authority three copies of the submission. Verify that the POTW pretreatment program is consistent with any approved water quality management plan developed in accordance with 40 CFR 130, 131, as revised, where such 208 plan includes Management Agency designations and addresses pretreatment in a manner consistent with 40 CFR 403.

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MWW.30.4. POTWs are required to have sufficient resources a qualified personnel to carry out the POTW pretreatment program (40 CFR 403.8(f)(3)).	Verify that the POTW has sufficient resources and qualified personnel to carry out the Pretreatment Program authorities and procedures. (NOTE: In some limited circumstances, funding and personnel may be delayed where: – the POTW has adequate legal authority and procedures to carry out the pretreatment program requirements – a limited aspect of the Program does not need to be implemented immediately.)
MWW.30.5. POTWs are required to develop and implement an enforcement response plan (40 CFR 403.8(f)(5)).	Verify that the POTW develops and implements an enforcement response plan that contains detailed procedures indicating how a POTW will investigate and respond to instances of industrial user noncompliance. Verify that the plan, at a minimum: – describes how the POTW will investigate instances of noncompliance – describes the types of escalating enforcement responses the POTW will take in response to all anticipated types of industrial user violations and the time periods within which responses will take place – identifies (by title) the official(s) responsible for each type of response – adequately reflects the POTW's primary responsibility to enforce all applicable pretreatment requirements and standards.
MWW.30.6. POTWs are required to prepare and maintain a list of significant industrial users (40 CFR 403.8(f)(6)).	Verify that the POTW maintains a list of significant industrial users (40 CFR 403.3(t)) and the criteria applicable to each industrial user. Verify that the list indicates whether the POTW has made a determination that the industrial user should not be considered a significant industrial user. Verify that the list, plus any modifications, is submitted to the Approval Authority.
MWW.30.7. POTWs with approved Pretreatment Programs are required to provide the Approval Authority with a report containing certain information (40 CFR 403.12(i)).	Verify that POTWs with approved Pretreatment Programs provide the Approval Authority with a report that briefly describes the POTW's program activities, including activities of all participating agencies, if more than one jurisdiction is involved in the local program. Verify that the required report is submitted no later than 1 yr after approval of the POTW's Pretreatment Program, and at least annually thereafter. Verify that the report includes, at a minimum, the following: – an updated list of the POTW's industrial users, including their names and

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	addresses, or a list of deletions and additions keyed to a previously submitted list, including: – a brief explanation of each deletion – which Industrial Users are subject to categorical pretreatment Standards and specify which Standards are applicable to each Industrial User – which Industrial Users are subject to local standards that are more stringent than the categorical Pretreatment Standards – the Industrial Users that are subject only to local Requirements – a summary of the status of Industrial User compliance over the reporting period – a summary of compliance and enforcement activities (including inspections) conducted by the POTW during the reporting period – a summary of changes to the POTW's pretreatment program that have not been previously reported to the Approval Authority – any other relevant information requested by the Approval Authority.
MWW.30.8. POTWs are required to keep specific reports (40 CFR 403.12(o)).	Verify that records are kept of all information resulting from monitoring activities. Verify that the records include for all samples the following information: – the date, exact place, methods, and time of sampling and the names of the person or persons taking the samples – the dates analyses were performed – who performed analyses – the analytical techniques, methods used – the results of the analyses. Verify that records are kept for 3 yr. and are signed and certified by the equivalent of a responsible corporate officer.
MWW.30.9. POTWs which are required to collect whole effluent toxicity (WET) data must meet specific requirements (40 CFR 122.21(j)).	(NOTE: Many new and existing POTWs (with approved pretreatment programs or meeting certain other criteria) are required to collect WET data for submission to the permitting authority at time of application or re-application for an NPDES permit.) Verify that the following POTWs provide the results of valid whole effluent biological toxicity testing to the Director: – all POTWs with design influent flows equal to or greater than one million gallons per day – all POTWs with approved pretreatment programs or POTWs required to develop a pretreatment program

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	(NOTE: In addition to the POTWs listed above, the Director may require other POTWs to submit the results of toxicity tests with their permit applications, based on consideration of the following factors: – the variability of the pollutants or pollutant parameters in the POTW effluent (based on chemical-specific information, the type of treatment facility, and types of industrial contributors) – the dilution of the effluent in the receiving water (ratio of effluent flow to receiving stream flow) – existing controls on point or nonpoint sources, including total maximum daily load calculations for the waterbody segment and the relative contribution of the POTW – receiving stream characteristics, including possible or known water quality impairment, and whether the POTW discharges to a coastal water, one of the Great Lakes, or a water designated as an outstanding natural resource – other considerations (including but not limited to the history of toxic impact and compliance problems at the POTW), which the Director determines could cause or contribute to adverse water quality impacts.) Verify that POTWs required to conduct toxicity testing use U.S. EPA's methods or other established protocols that are scientifically defensible and sufficiently sensitive to detect aquatic toxicity. Verify that testing has been conducted since the last NPDES permit reissuance or permit modification under 40 CFR 122.62(a), whichever occurred later. Verify that all POTWs with approved pretreatment programs provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1) to the Director.

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USE OR DISPOSAL OF SEWAGE SLUDGE **MWW.100** **General**	(NOTE: These general requirements apply to the final use and disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works. For exclusions see the definition of the term *Exempted Sewage Sludge* (40 CFR 503.1(a)).)
MWW.100.1. Representative samples of sewage sludge applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator are required to be collected and analyzed (40 CFR 503.8).	Determine if sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Verify that the sewage sludge (see definitions of *Class A Sewage Sludge* and *Class B Sewage Sludge* in this document) is analyzed prior to application, placement, or firing for the following according to the methodologies outlined in 40 CFR 503.8(b): – enteric viruses – fecal coliforms – helminth ova – inorganic pollutants – salmonella bacteria – SOUR – total, fixed, and volatile solids.
MWW.100.2. Holders of sludge management permits are required to meet certain conditions (40 CFR 501.15(b)(1), 501.15(b)(2), 501.15(b)(4) through 501.15(b)(8), 501.15(b)(10) through 501.15(b)(14)).	Verify that the permittee complies with all conditions of this permit. (NOTE: Any noncompliance with 40 CFR Part 503 constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Verify that the permittee complies with standards for sewage sludge use or disposal established under 40 CFR 503) within the time provided in the regulations that establish such standards even if this permit has not yet been modified to incorporate the standards. (NOTE: It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.) Verify that the permittee takes all reasonable steps to minimize or prevent sludge use or disposal in violation of the permit that has a reasonable likelihood of adversely affecting human health or the environment.

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	Verify that the permittee all times properly operates and maintains all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of the permit. (NOTE: Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.) Verify that back-up or auxiliary facilities or similar systems that are installed by a permittee are only operated when the operation is necessary to achieve compliance with the conditions of the permit. (NOTE: This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Verify that the permittee furnishes to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Verify that the permittee also furnishes to the Director, upon request, copies of records required to be kept by this permit. Verify that the permittee monitors and reports monitoring results as specified in the permit with a frequency dependent on the nature and effect of its sludge use or disposal practices. (NOTE: At a minimum, this will be as required by 40 CFR 503.) Verify that samples and measurements taken for the purpose of monitoring are representative of the monitored activity. Verify that the permittee retains records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 5 yr from the date of the sample, measurement, report or application, or longer as required by 40 CFR 503. (NOTE: This period for retention of records may be extended by request of the Director at any time.) Verify that records of monitoring information include: – the date, exact place, and time of sampling or measurements – the individuals who performed the sampling or measurements – the dates analyses were performed

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	– the individuals who performed the analyses – the analytical techniques or methods used; – the results of such analyses. Verify that monitoring is conducted according to test procedures specified in 40 CFR 503 or 136 unless other test procedures have been specified in this permit. Verify that all applications, reports, or information submitted to the Director shall be signed and certified according to the provisions of 40 CFR 122.22. Verify that the permittee gives notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility, or significant changes planned in the permittee's sludge disposal practice, where such alterations, additions, or changes may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. Verify that the permittee gives advance notice to the Director of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. (NOTE: This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA.) Verify that the permittee reports all instances of noncompliance and the reports of noncompliance are submitted with the permittee's next self monitoring report or earlier, if requested by the Director or if required by an applicable standard for sewage sludge use or disposal or condition of this permit. Verify that, where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it promptly submits such facts or information. (NOTE: If a standard for sewage sludge use or disposal applicable to permittee's use or disposal methods is promulgated before the expiration of this permit, and that standard is more stringent than the sludge pollutant limits or acceptable management practices authorized in this permit, or controls a pollutant or practice not limited in this permit, this permit may be promptly modified or revoked and reissued to conform to the new standard for sludge use or disposal. Verify that, if the permittee wishes to continue an activity regulated by the permit after the expiration date of this permit, the permittee applies for a new permit.

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USE OR DISPOSAL OF SEWAGE SLUDGE **MWW.120** **Land Application - General**	(NOTE: These general requirements apply to the final use and disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works. For exclusions see the definition of the term *Exempted Sewage Sludge* (40 CFR 503.1(a)).) (NOTE: The requirements for land application of sewage sludge apply to any person who prepares sewage sludge that is applied to the land, to any person who applies sewage sludge to the land, to sewage sludge applied to the land, and to the land on which sewage sludge is applied (40 CFR 503.10(a)).) (NOTE: These requirements for land application do not apply when one or both of the following meets the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and one of the eight processing options for meeting the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document): – when a bulk material derived from sewage sludge is applied to the land – when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land (40 CFR 503.10(d), and 503.10(g)).)
MWW.120.1. The land application of sewage sludge must meet certain general requirements (40 CFR 503.10(b), 503.10(c), 503.10(e), 503.10(f), and 503.12(a) through 503.12(c), 503.12(e), 503.12(h), and 503.12(j)).	(NOTE: These requirements do not apply when the following meets the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and one of the eight processing options for meeting the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document): – when bulk sewage sludge is applied to the land – when a bulk material derived from sewage sludge is applied to the land – when sewage sludge is sold or given away in a bag or other container for application to the land – when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land.) Verify that no person applies bulk sewage sludge subject to the cumulative pollutant loading rates in 40 CFR 503.13(b)(2) (see Table 2 of Appendix B of this document) to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates has been reached. Verify that no person applies domestic septage to agricultural land, forest, or a reclamation site during a 365 day period if the annual application rate in 40 CFR 503.13(c) (see checklist item MWW.120.3) has been reached during that period.

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	Verify that the person who applies sewage sludge to the land obtains the information needed to comply with the requirements in 40 CFR 503, Subpart B: Land Application. Verify that before bulk sewage sludge subject to the cumulative pollutant loading rates in Table 2 of Appendix B of this document is applied to the land, the person who proposes to apply the bulk sewage sludge contacts the permitting authority for the state in which the bulk sewage sludge will be applied to determine whether bulk sewage sludge subject to the cumulative pollutant loading rates in Table 2 of Appendix 3 has been applied to the site since July 20, 1993. (NOTE: If bulk sewage sludge subject to the cumulative pollutant loading rates in Table 2, Appendix B of this document has not been applied to the site since July 20, 1993, the cumulative amount for each pollutant listed in Table 2, Appendix B of this document may be applied to agricultural land, a forest, a public contact site, or a reclamation site.) Verify that, if bulk sewage sludge subject to the cumulative pollutant loading rates in Table 2, Appendix B of this document has been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site in the bulk sewage sludge since that date is known, the cumulative amount of each pollutant applied to the site is used to determine the additional amount of each pollutant that can be applied to agricultural land, a forest, a public contact site, or a reclamation site. Verify that, if bulk sewage sludge subject to the cumulative pollutant loading rates in Table 2, Appendix B of this document has been applied to the site since July 20, 1993, and the cumulative amount of each pollutant applied to the site in the bulk sewage sludge since that date is not known, an additional amount of each pollutant is not applied to the agricultural land, a forest, a public contact site, or a reclamation site. Verify that the person who applies bulk sewage sludge to the land provides the owner or lease holder of the land on which the bulk sewage sludge is applied notice and necessary information to comply with the requirements in Subpart B of 40 CFR 503. Verify that any person who applies bulk sewage sludge subject to the cumulative pollutant loading rates in Table 2 of Appendix B of this document to the land provides written notice, prior to the initial application of bulk sewage sludge to a land application site by the applier, to the permitting authority for the state in which the bulk sewage sludge will be applied and the permitting authority shall retain and provide access to the notice. Verify that the notice includes:

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	– the location, by either street address or latitude and longitude, of the land application site – the name, address, telephone number, and NPDES permit number (if appropriate) of the person who will apply the bulk sewage sludge. (NOTE: The U.S. EPA or authorized regulatory agency, in the case of a state with an approved sludge management program, may apply any or all of these requirements to the bulk sewage sludge or to bulk material derived from sewage sludge on a case-by-case basis after determining that the general requirements are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any pollutant in the bulk sewage sludge or the bulk material derived from sewage sludge.)
MWW.120.2. Preparers of sewage sludge for land application are required to meet general requirements (40 CFR 503.10(b), 503.10(c), 503.10(e), 503.10(f), and 503.12(d), 503.12(f), 503.12(g), and 503.12(i)).	(NOTE: These requirements do not apply when the following meets the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and one of the eight processing options for meeting the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document): – when bulk sewage sludge is applied to the land – when a bulk material derived from sewage sludge is applied to the land – when sewage sludge is sold or given away in a bag or other container for application to the land – when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land.) Verify that the person who prepares bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site provides the person who applies the bulk sewage sludge written notification of the concentration of total nitrogen (as N on a dry weight basis) in the bulk sewage sludge. Verify that when a person who prepares bulk sewage sludge provides the bulk sewage sludge to a person who applies the bulk sewage sludge to the land, the person who prepares the bulk sewage sludge provides the person who applies the sewage sludge notice and necessary information to comply with the requirements in Subpart B of 40 CFR 503. Verify that when a person who prepares sewage sludge provides the sewage sludge to another person who prepares the sewage sludge, the person who provides the sewage sludge provides the person who receives the sewage sludge notice and necessary information to comply with the requirements in Subpart B of 40 CFR 503.

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	Verify that any person who prepares bulk sewage sludge that is applied to land in a state other than the state in which the bulk sewage sludge is prepared provides written notice, prior to the initial application of bulk sewage sludge to the land application site by the applier, to the permitting authority for the state in which the bulk sewage sludge is proposed to be applied. Verify that the notice includes: – the location, by either street address or latitude and longitude, of each land application site – the approximate time period bulk sewage sludge will be applied to the site – the name, address, telephone number, and NPDES permit number (if appropriate) for the person who prepares the bulk sewage sludge – the name, address, telephone number, and NPDES permit number (if appropriate) for the person who will apply the bulk sewage sludge. (NOTE: The U.S. EPA or authorized regulatory agency, in the case of a state with an approved sludge management program, may apply any or all of these requirements to the bulk sewage sludge or to bulk material derived from sewage sludge on a case-by-case basis after determining that the general requirements are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any pollutant in the bulk sewage sludge or the bulk material derived from sewage sludge.)
MWW.120.3. Sewage sludge and domestic septage must meet specific standards according to the type of land application it will be used for (40 CFR 503.13(a) and 503.13(c))	Verify that bulk sewage sludge or sewage sludge sold or given away in a bag or other container shall not be applied to the land if the concentration of any pollutant in the sewage sludge exceeds the ceiling concentration for the pollutant in Table 3 of Appendix B of this document. Verify that, if bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site, either: – the cumulative loading rate for each pollutant does not exceed the cumulative pollutant loading rate for the pollutant in Table 2 of Appendix B of this document – the concentration of each pollutant in the sewage sludge does not exceed the concentration for the pollutant in Table 1 of Appendix B of this document. Verify that, if bulk sewage sludge is applied to a lawn or a home garden, the concentration of each pollutant in the sewage sludge does not exceed the concentration for the pollutant in Table 1 of Appendix B of this document. Verify that, if sewage sludge is sold or given away in a bag or other container for application to the land, either:

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	– the concentration of each pollutant in the sewage sludge does not exceed the concentration for the pollutant in Table 1 of Appendix B of this document – the product of the concentration of each pollutant in the sewage sludge and the annual whole sludge application rate for the sewage sludge does not cause the annual pollutant loading rate for the pollutant in Table 4 of Appendix B to be exceeded. (NOTE: The procedure used to determine the annual whole sludge application rate is presented in appendix A of 40 CFR 503.) Verify that the annual application rate for domestic septage applied to agricultural lands, forest or a reclamation site during a 365 day period does not exceed the annual application rate calculated using the following equation: $$AAR = \frac{N}{0.0026}$$ AAR = annual application rate in gallons per acre per 365-day period N = amount of nitrogen in lb per acre per 365 day period needed by the crop or vegetation grown on the land.
MWW.120.4. Certain management practices are required for the land application of sludge (40 CFR 503.10(b), 503.10(c), 503.10(e), 503.10(f), and 503.14).	(NOTE: These requirements do not apply when the following meets the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and one of the eight processing options for meeting the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document): – when bulk sewage sludge is applied to the land – when a bulk material derived from sewage sludge is applied to the land – when sewage sludge is sold or given away in a bag or other container for application to the land – when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land.) Verify that bulk sewage sludge is not applied to the land if it is likely to adversely affect a threatened or endangered species listed under section 4 of the *Endangered Species Act* or its designated critical habitat. Verify that bulk sewage sludge is not applied to agricultural land, forest, a public

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	contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters of the United States, except as provided in a permit issued pursuant to section 402 or 404 of the CWA. Verify that bulk sewage sludge is not applied to agricultural land, forest, or a reclamation site that is 10 m or less from waters of the United States unless otherwise specified by the permitting authority. Verify that bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site at a whole sludge application rate that is equal to or less than the agronomic rate for the bulk sewage sludge, unless, in the case of a reclamation site, otherwise specified by the permitting authority. Verify that, either a label is affixed to the bag or other container in which sewage sludge that is sold or given away for application to the land, or an information sheet is provided to the person who receives sewage sludge sold or given away in another container for application to the land. Verify that the label or information sheet contains the following information: – the name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land – a statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the label or information sheet – the annual whole sludge application rate for the sewage sludge that does not cause any of the annual pollutant loading rates in Table 4 of Appendix B of this document to be exceeded. (NOTE: The U.S. EPA or authorized regulatory agency, in the case of a state with an approved sludge management program, may apply any or all of these requirements to the bulk sewage sludge or to bulk material derived from sewage sludge on a case-by-case basis after determining that the general requirements are needed to protect public health and the environment from any reasonably anticipated adverse effect that may occur from any pollutant in the bulk sewage sludge or the bulk material derived from sewage sludge.)
MWW.120.5. The land application of sludge is required to meet certain operational practices for pathogen and vector attraction reduction (40 CFR 503.15).	Verify that the Class A pathogen requirements or the Class B pathogen requirements and site restrictions (see definitions of *Class A Sewage Sludge* and *Class B Sewage Sludge* in this document) are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site. (NOTE: The site restrictions related to Class B pathogen requirements are: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after

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	application of sewage sludge – food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil – food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge – animals will not be allowed to graze on the land for 30 days after application of sewage sludge – turf grown on land where sewage sludge is applied is not harvested for 1 yr after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority – public access to land with a high potential for public exposure is restricted for 1 yr after application of sewage sludge – public access to land with a low potential for public exposure is restricted for 30 days after application of sewage sludge.) Verify that the Class A pathogen requirements (see definition of *Class A Sewage Sludge*) are met when: – bulk sewage sludge is applied to a lawn or a home garden (40 CFR 503.10(b)(1)) – sewage sludge is sold or given away in a bag or other container for application to the land (40 CFR 503.10(e)). Verify that either of the following requirements are met when domestic septage is applied to agricultural land, forest, or a reclamation site: – compliance with the site restrictions associated with Class B Sewage Sludge (see previous NOTE) – the pH of domestic septage is raised to 12 or higher by alkali addition and, without the addition of more alkali, remains at 12 or higher for 30 minutes and the following site restrictions are met: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after application of sewage sludge – food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil

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	– food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge. Verify that one of the vector attraction reduction requirements in paragraphs 1 through 10 of the definition of *Vector Attraction Reduction Options* is met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site. Verify that one of the vector attraction reduction requirements in paragraphs 1 through 8 of the definition of *Vector Attraction Reduction Options* is met when bulk sewage sludge is applied to a lawn or a home garden. Verify that one of the vector attraction reduction requirements in paragraphs 1 through 8 of the definition of *Vector Attraction Reduction Options* is met when sewage sludge is sold or given away in a bag or other container for application to the land. Verify that the vector requirements in paragraphs 9, 10, or 12 of the definition of *Vector Attraction Reduction Options* is met when domestic septage is applied to agricultural land, forest, or a reclamation site.
MWW.120.6. Monitoring of land application sludge is required to be done according to specific parameters (40 CFR 503.16).	Verify that the frequency of monitoring for the following is done according to the frequencies listed in Table 5 of Appendix B of this document: – the pollutants listed in Table 1, Table 2, Table 3 and Table 4 of Appendix B of this document – the pathogen density requirements and the vector attraction reduction (see checklist item MWW.120.5). (NOTE: After the sewage sludge has been monitored for 2 yr at the frequency in Table 5 of Appendix B of this document, the permitting authority may reduce the frequency of monitoring for pollutant concentrations and for the pathogen density requirements, but in no case shall the frequency of monitoring be less than once per year when sewage sludge is applied to the land.) Verify that, if either the following pathogen requirements or the vector attraction reduction requirements are met when domestic septage is applied to agricultural land, forest, or a reclamation site, each container of domestic septage applied to the land is monitored for compliance with these requirements.

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	– the pH of domestic septage is raised to 12 or higher by alkali addition and, without the addition of more alkali, remains at 12 or higher for 30 minutes and the following site restrictions are met: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after application of sewage sludge – food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil – food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge – the pH of domestic septage is raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 30 min.
MWW.120.7. Specific recordkeeping requirements must be met by preparers of sewage sludge (40 CFR 503.17(a)(1)).	(NOTE: This checklist item applies to persons who prepares the following sewage that meets the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge*), and one of the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options):* – bulk sewage sludge applied to the land – sewage sludge sold or given away in a bag or other container for application to the land.) Verify that the preparer develops the following information and retains the information for 5 yr: – the concentration of each pollutant listed in Table 1 of Appendix B of this document in the sewage sludge – the following certification statement: "I certify, under penalty of law, that the Class A pathogen requirements in Sec. 503.32(a) and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Sec. 503.33(b)(1) through Sec. 503.33(b)(8)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

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	– a description of how the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document) are met. – a description of how one of the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document*)* is met.
MWW.120.8. Specific recordkeeping requirements must be met by persons deriving materials from sewage sludge (40 CFR 503.17(a)(2)).	(NOTE: This checklist item applies to persons who prepares the following sewage that meets the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and one of the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document*):* – when a bulk material derived from sewage sludge is applied to the land – when a material derived from sewage sludge is sold or given away in a bag or other container for application to the land.) Verify that the person who derives the material develops the following information and retains the information for 5 yr: – the concentration of each pollutant listed in Table I of Appendix B of this document – the following certification statement: "I certify, under penalty of law, that the Class A pathogen requirements in Sec. 503.32(a) and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Sec. 503.33 (b)(1) through (b)(8)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and the vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document) are met – a description of how one of the vector attraction reduction requirements (see definition for *Vector Attraction Reduction Options* in this document*)* is met.

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MWW.120.9. Specific recordkeeping requirements must be met when bulk sewage sludge meeting the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements, and certain vector attraction reduction requirements, is applied to agricultural land, forest, a public contact site, or a reclamation site (40 CFR 503.17(a)(3)).	(NOTE: This checklist item applies to the application of bulk sewage sludge to agricultural land, forest, a public contact site, or a reclamation site.) Verify that, if the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and the vector attraction reduction requirements (see paragraph 9 or 10 in the definition for *Vector Attraction Reduction Options* in this document*)* are met, the person who prepares the bulk sewage sludge develops the following information and retains the information for 5 yr: – the concentration of each pollutant listed in Table 1 of Appendix B of this document in the bulk sewage sludge – the following certification statement: "I certify, under penalty of law, that the pathogen requirements in Sec. 503.32(a) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document) are met. Verify that, if the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements (see definition for *Class A Sewage Sludge* in this document), and the vector attraction reduction requirements (see paragraph 9 or 10 in the definition for *Vector Attraction Reduction Options* in this document*)* are met, the person who applies the bulk sewage sludge develops the following information and retains the information for 5 yr: – the following certification statement: "I certify, under penalty of law, that the management practices in Sec. 503.14 and the vector attraction reduction requirement in [insert either Sec. 503.33 (b)(9) or (b)(10)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including fine and imprisonment." – a description of how the management practices in 40 CFR 503.14 (see checklist item MWW.120.4) are met for each site on which bulk sewage sludge is applied – a description of how the vector attraction reduction requirements (see paragraph 9 or 10 in the definition for *Vector Attraction Reduction Options*

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	in this document) are met for each site on which bulk sewage sludge is applied.
MWW.120.10. Specific recordkeeping requirements must be met when bulk sewage sludge meeting the pollutant concentrations in Table 1 of Appendix B of this document and the Class B pathogen requirements is applied to agricultural land, forest, a public contact site, or a reclamation site (40 CFR 503.17(a)(4)).	(NOTE: This checklist item applies to the application of bulk sewage sludge to agricultural land, forest, a public contact site, or a reclamation site.) Verify that, if the pollutant concentrations in Table 1 of Appendix B of this document and the Class B pathogen requirements (see definition for *Class B Sewage Sludge* in this document) are met, the person who prepares the bulk sewage sludge develops the following information and retains the information for 5 yr: – the concentration of each pollutant listed in Table 1 of Appendix B of this document in the bulk sewage sludge – the following certification statement: "I certify under, penalty of law, that the Class B pathogen requirements in Sec. 503.32(b) and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Sec. 503.33 (b)(1) through (b)(8) if one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements [and vector attraction reduction requirements if applicable] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the Class B pathogen requirements (see definition for *Class B Sewage Sludge* in this document) are met – a description of how the vector attraction reduction requirements (see paragraphs 1 through 8 in the definition for *Vector Attraction Reduction Options* in this document) are met for each site on which bulk sewage sludge is applied. Verify that, if the pollutant concentrations in Table 1 of Appendix B of this document and the Class B pathogen requirements (see definition for *Class B Sewage Sludge* in this document) are met, the person who applies the bulk sewage sludge develops the following information and retains the information for 5 yr: – the following certification statement: "I certify, under penalty of law, that the management practices in Sec. 503.14, the site restrictions in Sec. 503.32(b)(5), and the vector attraction reduction requirements in [insert either Sec. 503.33 (b)(9) or (b)(10), if one of those requirements is met] have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to

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	ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices and site restrictions [and the vector attraction reduction requirements if applicable] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the management practices in 40 CFR 503.14 (see checklist item MWW.120.4) are met for each site on which bulk sewage sludge is applied – a description of how the following site restrictions are met for each site on which bulk sewage sludge is applied: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after application of sewage sludge – food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil – food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge – animals will not be allowed to graze on the land for 30 days after application of sewage sludge – turf grown on land where sewage sludge is applied is not harvested for 1 yr after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority – public access to land with a high potential for public exposure is restricted for 1 yr after application of sewage sludge – public access to land with a low potential for public exposure is restricted for 30 days after application of sewage sludge – a description of how the vector attraction reduction requirements (see paragraph 9 or 10 in the definition for *Vector Attraction Reduction Options* in this document*)* are met for each site on which bulk sewage sludge is applied.

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MWW.120.11. Specific recordkeeping requirements must be met when the cumulative loading rate for each pollutant does not exceed the cumulative pollutant loading rate for the pollutant in bulk sewage sludge applied to agricultural land, forest, a public contact site, or a reclamation site (40 CFR 503.17(a)(5)).	Verify that, if the cumulative loading rate for each pollutant does not exceed the cumulative pollutant loading rate for the pollutant in Table 2 Appendix B of this document are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site, the person who prepares the bulk sewage sludge develops the following information and retains the information for 5 yr: – the concentration of each pollutant listed in Table 3 of Appendix B of this document in the bulk sewage sludge – the following certification statement: "I certify, under penalty of law, that the pathogen requirements in [insert either Sec. 503.32(a) or Sec. 503.32(b)] and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Sec. 503.33 (b)(1) through (b)(8) if one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements [and vector attraction reduction requirements] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how either the Class A or Class B pathogen requirements are met (see the definitions for *Class A Sewage Sludge* and *Class B Sewage Sludge* in this document) – a description of how the vector attraction reduction requirements (see paragraph 1 through 8 in the definition for *Vector Attraction Reduction Options* in this document*)* are met for each site on which bulk sewage sludge is applied. Verify that, if the cumulative loading rate for each pollutant does not exceed the cumulative pollutant loading rate for the pollutant in Table 2, Appendix B of this document are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site, the person who applies the bulk sewage sludge develops the following information and retains the information indefinitely: – the location, by either street address or latitude and longitude, of each site on which bulk sewage sludge is applied – the number of hectares in each site on which bulk sewage sludge is applied – the date and time bulk sewage sludge is applied to each site – the cumulative amount of each pollutant (i.e., kilograms) listed in Table 2 of Appendix B of this document in the bulk sewage sludge applied to each site, including the cumulative amount of each pollutant in the bulk sewage sludge applied to the site after July 20, 1993 – the amount of sewage sludge (i.e., metric tons) applied to each site – the following certification statement:

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	"I certify, under penalty of law, that the requirements to obtain information in Sec. 503.12(e)(2) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment." – a description of how the requirements to obtain information on whether bulk sewage sludge subject to the cumulative pollutant loading rates has been applied to the site since July 20, 1993. Verify that, if the cumulative loading rate for each pollutant does not exceed the cumulative pollutant loading rate for the pollutant in Table 2 Appendix B of this document are met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site, the person who applies the bulk sewage sludge develops the following information and retains the information for 5 yr. – the following certification statement: "I certify, under penalty of law, that the management practices in Sec. 503.14 have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment." – a description of how the management practices in 40 CFR 503.14 (see checklist item MWW.120.4) are met for each site on which bulk sewage sludge is applied – the following certification statement when the bulk sewage sludge meets the Class B pathogen requirements (see the definition of *Class B Sewage Sludge* in this document: "I certify, under penalty of law, that the site restrictions in Sec. 503.32(b)(5) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the site restrictions have been met. I am aware that there are significant penalties for false certification including fine and imprisonment." – a description of how the following site restrictions are met for each site on which Class B bulk sewage sludge is applied: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after application of sewage sludge

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	– food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil – food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge – animals will not be allowed to graze on the land for 30 days after application of sewage sludge – turf grown on land where sewage sludge is applied is not harvested for 1 yr after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority – public access to land with a high potential for public exposure is restricted for 1 yr after application of sewage sludge – public access to land with a low potential for public exposure is restricted for 30 days after application of sewage sludge – the following certification statement when the vector attraction reduction requirements are met (see paragraphs 9 or 10 in the definition for *Vector Attraction Reduction Options* in this document): "I certify, under penalty of law, that the vector attraction reduction requirement in [insert either Sec. 503.33(b)(9) or Sec. 503.33(b)(10)] has been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the vector attraction reduction requirement has been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – if the vector attraction reduction requirements are met (see paragraphs 9 or 10 in the definition for *Vector Attraction Reduction Options* in this document), a description of how the requirements are met.
MWW.120.12. Specific recordkeeping requirements must be met when sewage sludge is sold or given away in a bag or other container for application to the land (40 CFR 503.17(a)(6)).	(NOTE: This checklist applies when the product of the concentration of each pollutant in the sewage sludge and the annual whole sludge application rate for the sewage sludge do not cause the annual pollutant loading rate for the pollutant in Table 4 of Appendix B of this document to be exceeded when sewage sludge is sold or given away in a bag or other container for application to the land.) Verify that, the person who prepares the sewage sludge that is sold or given away in a bag or other container develops the following information and retains the

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	information for 5 yr: – the annual whole sludge application rate for the sewage sludge that does not cause the annual pollutant loading rates in Table 4 of Appendix B of this document to be exceeded – the concentration of each pollutant listed in Table 4 of Appendix B of this document in the sewage sludge – the following certification statement: "I certify, under penalty of law, that the management practice in Sec. 503.14(e), the Class A pathogen requirement in Sec. 503.32(a), and the vector attraction reduction requirement in [insert one of the vector attraction reduction requirements in Sec. 503.33 (b)(1) through (b)(8)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practice, pathogen requirements, and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the Class A pathogen requirements are met (see the definition of *Class A Sewage Sludge* in this document) – a description of how the vector attraction requirements are met (see paragraphs 1 through 8 in the definition for *Vector Attraction Reduction Options* in this document).
MWW.120.13. Specific recordkeeping requirements must be met when domestic septage is applied to agricultural land, forest, a public contact site, or a reclamation site (40 CFR 503.17(b)).	Verify that, when domestic septage is applied to agricultural land, forest, or a reclamation site, the person who applies the domestic septage develops the following information and retains the information for 5 yr: – the location, by either street address or latitude and longitude, of each site on which domestic septage is applied – the number of acres in each site on which domestic septage is applied – the date and time domestic septage is applied to each site – the nitrogen requirement for the crop or vegetation grown on each site during a 365 day period – the rate, in gallons per acre per 365 day period, at which domestic septage is applied to each site – the following certification statement: "I certify, under penalty of law, that the pathogen requirements in [insert either Sec. 503.32(c)(1) or Sec. 503.32(c)(2)] and the vector attraction reduction requirements in [insert Sec. 503.33(b)(9), Sec. 503.33(b)(10), or Sec. 503.33(b)(12)] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate

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	the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the one of the following pathogen requirements are met: – the following site restrictions are met when domestic septage is applied to agricultural land, forest, or a reclamation site: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after application of sewage sludge – food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil – food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge – animals will not be allowed to graze on the land for 30 days after application of sewage sludge – turf grown on land where sewage sludge is applied is not harvested for 1 yr after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority – public access to land with a high potential for public exposure is restricted for 1 yr after application of sewage sludge – public access to land with a low potential for public exposure is restricted for 30 days after application of sewage sludge – the pH of domestic septage applied to agricultural land, forest, or a reclamation site is raised to 12 or higher by alkali addition and, without the addition of more alkali, remains at 12 or higher for 30 min and the following site restrictions are met: – food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface will not be harvested for 14 mo after application of sewage sludge – food crops with harvested parts below the surface of the land will not be harvested for 20 mo after application of sewage sludge when the sewage sludge remains on the land surface for 4 mo or longer prior to incorporation into the soil – food crops with harvested parts below the surface of the land will not be harvested for 38 mo after application of sewage sludge when the sewage sludge remains on the land surface for less than 4

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	mo prior to incorporation into the soil – food crops, feed crops, and fiber crops will not be harvested for 30 days after application of sewage sludge – a description of how the vector attraction reduction requirements are met (see paragraphs 9, 10, or 12 in the definition for *Vector Attraction Reduction Options* in this document).
MWW.120.14. Certain facilities are required to submit specific information to the permitting authority (40 CFR 503.18).	Verify that Class I sludge management facilities, POTWs (as defined in 40 CFR 501.2) with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve 10,000 people or more submit the following information to the permitting authority: – the information in 40 CFR 503.17(a) (see checklist items MWW.120.7 through MWW.120.12), except the following information, on February 19 of each year: – the information required for persons applying bulk sewage sludge meeting the pollutant concentrations in Table 1 of Appendix B of this document, the Class A pathogen requirements, and certain vector attraction reduction requirements, to agricultural land, forest, a public contact site, or a reclamation site (40 CFR 503.17(a)(3)(ii), see checklist item MWW.120.9) – the information required for persons applying bulk sewage sludge meeting the pollutant concentrations in Table 1 of Appendix B of this document and the Class B pathogen requirements to agricultural land, forest, a public contact site, or a reclamation site (40 CFR 503.17(a)(4)(ii), see checklist item MWW.120.10) – the information required for persons applying bulk sewage sludge to agricultural land, forest, a public contact site, or a reclamation site when the cumulative loading rate for each pollutant does not exceed the cumulative pollutant loading rate for the pollutant in bulk sewage sludge 40 CFR 503.17(a)(5)(ii), see checklist item MWW.120.11) – the following information each year when 90 percent or more of any of the cumulative pollutant loading rates in Table 2 of Appendix B of this document is reached at a site: – the location, by either street address or latitude and longitude, of each site on which bulk sewage sludge is applied – the number of hectares in each site on which bulk sewage sludge is applied – the date and time bulk sewage sludge is applied to each site – the cumulative amount of each pollutant (i.e., kilograms) listed in Table 2 of Appendix B of this document in the bulk sewage sludge applied to each site, including the cumulative amount of each pollutant in the bulk sewage sludge applied to the site after July 20, 1993 – the amount of sewage sludge (i.e., metric tons) applied to each site

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	– the following certification statement: "I certify, under penalty of law, that the requirements to obtain information in Sec. 503.12(e)(2) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment." – a description of how the requirements to obtain information on whether bulk sewage sludge subject to the cumulative pollutant loading rates has been applied to the site since July 20, 1993.

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USE OR DISPOSAL OF SEWAGE SLUDGE **MWW.200** **Surface Disposal**	(NOTE: These general requirements apply to the final use and disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works. For exclusions see the definition of the term *Exempted Sewage Sludge* in this document (40 CFR 503.1(a)).) (NOTE: The requirements concerning the surface disposal of sludge apply to any person who prepares sewage sludge that is placed on a surface disposal site, to the owner/operator of a surface disposal site, to sewage sludge placed on a surface disposal site, and to a surface disposal site. The requirements concerning surface disposal of sludge do not apply to sewage sludge stored on the land or to the land on which sewage sludge is stored. It also does not apply to sewage sludge that remains on the land for longer than 2 yr when the preparer of the sewage sludge demonstrates that the land on which the sewage sludge remains is not an active sewage sludge unit. It also does not apply to sewage treated on the land or to the land on which the sewage sludge is treated (40 CFR 503.20).)
MWW.200.1. In order to substantiate the claim of exemption from the requirements for surface disposal, the person who prepares sewage sludge that remains on the land for longer than 2 yr is required to maintain certain information (40 CFR 503.20(b)).	Verify that, in order to substantiate the claim of exemption from the requirements for surface disposal, the person who prepares sewage sludge that remains on the land for longer than 2 yr maintains documentation of the following: – the name and address of the person who prepares the sewage sludge – the name and address of the person who either owns the land or leases the land – the location, by either street address or latitude and longitude, of the land – an explanation of why sewage sludge needs to remain on the land for longer than 2 yr prior to final use or disposal – the approximate time period when the sewage sludge will be used or disposed.
MWW.200.2. An active sewage sludge unit that is located within 60 m of a fault that has displacement in Holocene time, is located in an unstable area pursuant to either section 402 or 404 of the CWA is required to close by March 22, 1994 (40 CFR 503.22(b)).	Determine if there is a sewage sludge unit that is located within 60 m of a fault that has displacement in Holocene time, is located in an unstable area pursuant to either section 402 or 404 of the CWA. Verify that the unit was closed by March 22, 1994 unless, in the case of an active sewage sludge unit located within 60 m of a fault that has displacement in Holocene time, otherwise specified by the permitting authority. (NOTE: If such a unit is not closed and not otherwise specified by the permitting authority, steps should be taken to close the facility as soon as possible.)

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MWW.200.3. A written closure and postclosure plan that meets specific requirements must be submitted to the permitting authority 180 days prior to the date of closure of an active sewage sludge unit (40 CFR 503.22(c)).	Closure/Postclosure Plan Determine if there are plans to close an active sewage sludge unit or if one has recently been closed. Verify that the closure and postclosure plan was submitted to the permitting authority at least 180 days in advance of closure and the plan contained the following: – a discussion of how the leachate collection system will be operated and maintained for 3 yr after closure if the unit has a liner and leachate collection system – a description of the system used to monitor for methane gas in the air in any structure within the surface disposal site and in the air at the property line of the surface disposal site – a discussion of how public access will be restricted for 3 yr after the last sewage sludge was placed on the land.
MWW.200.4. The owner of a surface disposal site is required to provide written notification to the subsequent owner of the site that sewage sludge was placed on the land (40 CFR 503.22(d)).	Verify that if there are plans to turn the surface disposal site over to another owner, the subsequent owner is notified that sewage sludge was placed on the land.
MWW.200.5. Active sewage sludge units without a liner and leachate collection system are required to meet specific standards (40 CFR 503.23).	Verify that the following concentrations are not exceeded in sewage sludge placed on an active sewage sludge unit without a liner and leachate collection system: – arsenic: 73 mg/kg – chromium: 600 mg/kg – nickel: 420 mg/kg. (NOTE: Amounts are based on a dry weight basis.) (NOTE: At the time of permit application, the owner/operator of a surface disposal site may request site-specific pollutant limits for an active sewage sludge unit without a liner and leachate collection system when the existing values for site parameters specified by the permitting authority are different from the values for those parameters used to develop the above pollutant limits and when the permitting authority determines that site-specific pollutant limits are appropriate for the active sewage sludge unit.)

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	Verify that, the concentration of each pollutant listed above in sewage sludge placed on an active sewage sludge unit without a liner and leachate collection system, does not exceed either the concentration for the pollutant determined during a site-specific assessment, as specified by the permitting authority, or the existing concentration of the pollutant in the sewage sludge, whichever is lower. Verify that, except when there are site specific limits, the concentration of arsenic, chromium, and nickel in sewage sludge placed on an active sewage sludge unit whose boundary is less than 150 m from the property line of the surface disposal site does not exceed the concentration determined using the following procedure: – the actual distance from the active sewage sludge unit boundary to the property line of the surface disposal site is determined – the concentration of each pollutant listed in Table 1, Appendix C of this document in the sewage sludge does not exceed the concentration that corresponds to the actual distance in Table 1, Appendix C of this document.
MWW.200.6. Sewage sludge units are required to be operated according to specific operation and management standards (40 CFR 503.24).	Verify that sewage sludge is not placed in an active sewage sludge unit if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act, or its designated critical habitat. Verify that active sewage sludge units: – do not restrict the flow of a base flood – are located 60 m or more from a fault that has displacement in Holocene time, unless otherwise specified by the permitting authority – are not located in an unstable area – will not contaminate an aquifer – are not located in a wetland unless by permit under 402 or 404 of the CWA. (NOTE: The results of a groundwater monitoring program developed by a qualified groundwater scientist or a certification by a qualified groundwater scientist will be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.) Verify that when a surface disposal site is located in a seismic impact zone, the unit is designed to withstand the maximum recorded horizontal ground level acceleration. Verify that for runoff the following occurs: – the runoff is collected and disposed of in accordance with an NPDES permit and any other applicable requirements – the runoff collection system has the capacity to handle runoff from a 24-h,

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	25- yr storm event. Verify that leachate is handled so that: – the leachate collection system for an active sewage sludge unit that has a liner and leachate collection system is operated and maintained during the period the sewage sludge unit is active and for 3 yr after the sewage sludge unit closes – leachate from an active sewage sludge unit that has a liner and a leachate collection system is collected and disposed of in accordance with the applicable requirements from when the unit is active and for 3 yr after the sewage sludge unit closes. Verify that the following occurs when a cover is placed on an active sewage sludge unit: – the concentration of methane gas in the air in any structure within the surface disposal site of an active unit does not exceed 25 percent of the lower explosive limit for methane gas during the period that the unit is active and the concentration of the methane gas in air at the property line of the surface disposal site does not exceed the lower explosive limit for methane gas during the period that the sewage sludge unit is active – at closure when the final cover is placed the concentration of methane gas in air in any structure within any structure within the surface disposal site does not exceed 25 percent of the lower explosive limit for methane gas for 3 yr after the unit closes and the concentration of methane gas in air at the property line of the unit does not exceed the lower explosive limit for methane gas 3 yr after closure unless otherwise specified by the permitting authority. Verify that a food or feed crop or a fiber crop are not grown on an active sewage sludge unit unless it has been demonstrated to the permitting authority that through management practices, public health and the environment are protected from any reasonably anticipated adverse effects. Verify that animals are not grazed on an active sewage sludge unit unless it has been demonstrated to the permitting authority that through management practices, public health and the environment are protected from any reasonably anticipated adverse effects. Verify that public access is restricted for the period that the surface disposal site contains an active unit, and for 3 yr after the last active sewage sludge unit in the surface disposal site closes.

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MWW.200.7. Class A or one of the Class B pathogen requirements (see definitions in this document) must be met when placing sewage sludge on an active sewage sludge unit unless it is covered with soil or other material at the end of each operating day (40 CFR 503.25(a)).	Verify that sewage sludge being placed on an active sewage sludge unit meets Class A or one of the Class B pathogen requirements. Verify that if the sludge does not meet pathogen requirements, it is covered with soil or other material at the end of each operating day.
MWW.200.8. Vector attraction reduction must be done when sewage sludge or domestic septage is placed on an active sewage sludge unit (40 CFR 503.25(b) and 503.25(c)).	Verify that, when other than domestic septage is placed on an active sewage sludge unit, one of the vector attraction reduction requirements (see paragraphs 1 through 11 of the definition for *Vector Attraction Reduction Options* in this document) are met when sewage sludge is placed on an active sewage sludge unit. Verify that, when domestic septage is placed on an active sewage sludge unit, one of the vector attraction reduction requirements (see paragraphs 9 through 12 of the definition for *Vector Attraction Reduction Options* in this document) are met when domestic septage is placed on an active sewage sludge unit.
MWW.200.9. Monitoring for pollutants, pathogens, and vector attraction reduction requirements for sewage sludge placed on an active sewage sludge unit must be done according to the frequency in Table 2, Appendix C of this document (40 CFR 503.26(a)).	Verify that monitoring for pollutants, pathogens, and vector attraction reduction requirements for sewage sludge, other than domestic septage, placed on an active sewage sludge unit is done according to the frequency in Table 2, Appendix C of this document. (NOTE: The permitting authority may reduce the frequency of monitoring after the sewage sludge has been monitored for 2 yr at the required frequencies.)
MWW.200.10. If, when domestic septage is placed on an active sewage sludge unit, the pH of the septage is raised to 12 or higher by alkali addition and remains at 12 or higher without alkali addition for 30 min, each container of domestic septage must be monitored (40 CFR 503.26(b)).	Verify that when domestic septage is placed on an active sewage sludge unit and the pH of the septage is raised to 12 or higher by alkali addition and remains at 12 or higher without alkali addition for 30 min, each container of domestic septage is monitored.

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MWW.200.11. In specific circumstances, air in structures within a surface disposal site and at property lines of the surface disposal site are required to be monitored continuously for methane gas (40 CFR 503.26(c).	Verify that continuous monitoring for methane gas occurs during the period that the surface disposal site contains an active sewage sludge unit on which the sewage sludge is covered and for 3 yr after a unit closes when a final cover is placed on the sewage sludge.
MWW.200.12. Specific recordkeeping requirements must be met when sewage sludge, other than domestic septage, is placed on an active sewage sludge unit (40 CFR 503.27(a)).	Verify that the person who prepares sewage sludge retains the following information for 5 yr: – the concentration of arsenic, chromium and nickel in the sludge – the following certification statement: "I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in (insert Sec. 503.32(a), Sec. 503.32(b)(2), Sec. 503.32(b)(3), or Sec. 503.32(b)(4) when one of those requirements is met) and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in Sec. 503.33(b)(1) through (b)(8) if one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the pathogen requirements are being met when done – a description of how the vector attraction reduction requirements are being met when done. Verify that the owner/operator of the surface disposal site retains the following for 5 yr: – the concentrations of the pollutants listed in Table 1, Appendix C of this document – the following certification statement: "I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in Sec. 503.24 and the vector attraction reduction requirement in (insert one of the requirements in Sec. 503.33(b)(9) through Sec. 503.33(b)(11) if one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am

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	aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the management practices in 40 CFR 503.24 (see checklist item MWW.200.6) are being met – a description of how the vector attraction reduction requirements are being met when they are done.
MWW.200.13. Specific recordkeeping requirements must be met when domestic septage is placed on an active sewage sludge unit (40 CFR 503.27(b)).	Verify that the person who applies domestic septage with a pH of greater than 12 retains the following information for 5 yr: – the following statement: "I certify, under penalty of law, that the information that will be used to determine compliance with the vector attraction reduction requirements in Sec. 503.33(b)(12) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the vector attraction reduction requirements are being met when done. Verify that the owner/operator of the surface disposal site retains the following for 5 yr: – the following statement: "I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in Sec. 503.24 and the vector attraction reduction requirements in (insert Sec. 503.33(b)(9) through Sec. 503.33(b)(11) if one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine or imprisonment." – a description of how the management practices of 40 CFR 503.24 (see checklist item MWW.200.6) are being met – a description of how the vector attraction reduction requirements are being met when they are done.

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MWW.200.14. Class I sludge management facilities, POTWs with a design flow rate equal to or greater than 1 million gal/day, and POTWs that serve 10,000 people or more are required to submit specific information to the permitting authority on February 19 of each year (40 CFR 503.28).	Verify that the following information is submitted to the permitting authority on February 19 of each year: – the concentration of arsenic, chromium and nickel in the sludge – the following certification statement: "I certify, under penalty of law, that the pathogen requirements in [insert Sec. 503.32(a), Sec. 503.32(b)(2), Sec. 503.32(b)(3), or Sec. 503.32(b)(4) when one of those requirements is met] and the vector attraction reduction requirements in [insert one of the vector attraction reduction requirements in Sec. 503.33(b)(1) through Sec. 503.33(b)(8) when one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine the [pathogen requirements and vector attraction reduction requirements if appropriate] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the pathogen requirements are being met when done – a description of how the vector attraction reduction requirements are being met when done – the concentrations of the pollutants listed in Table 1, Appendix C of this document – the following certification statement: "I certify, under penalty of law, that the management practices in Sec. 503.24 and the vector attraction reduction requirement in [insert one of the requirements in Sec. 503.33 (b)(9) through (b)(11) if one of those requirements is met] have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices [and the vector attraction reduction requirements if appropriate] have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." – a description of how the management practices in 40 CFR 503.24 (see checklist item MWW.200.6) are being met.

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USE OR DISPOSAL OF SEWAGE SLUDGE **MWW.240** **Incineration**	(NOTE: These general requirements apply to the final use and disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works. For exclusions see the definition of the term *Exempted Sewage Sludge* (40 CFR 503.1(a)).) (NOTE: The requirements concerning the incineration of sewage sludge apply to a person who fires sewage sludge in a sewage sludge incinerator, to a sewage sludge incinerator, and to sewage sludge fired in a sewage sludge incinerator. They also apply to the exit gas from a sewage sludge incinerator stack (40 CFR 503.40(a) and 503.40(b)).)
MWW.240.1. Sewage sludge incinerators are required to meet specific pollutant limitations (40 CFR 503.43).	Verify that firing of sewage sludge in a sewage sludge incinerator does not violate the requirements in the National Emission Standard for Beryllium in Subpart C of 40 CFR 61. Verify that firing of sewage sludge in a sewage sludge incinerator does not violate the requirements in the National Emission Standard for Mercury in subpart E of 40 CFR 61. Verify that the daily concentration of lead in sewage sludge fed to a sewage sludge incinerator does not exceed the concentration calculated using the following equation: $$C = \frac{0.1 \times NAAQS \times 86{,}400}{DF \times (1 - CE) \times SF}$$ Where: C = Daily concentration of lead in sewage sludge in mg/kg of total solids (dry weight basis). NAAQS = National Ambient Air Quality Standard for lead in $\mu g/m^3$. DF = Dispersion factor in micrograms per cubic meter per gram per second. CE = Sewage sludge incinerator control efficiency for lead in hundredths. SF = Sewage sludge feed rate in metric tons per day (dry weight basis). (NOTE: The control efficiency (CE) in the above equation shall be determined from a performance test of the sewage sludge incinerator, as specified by the permitting authority.) (NOTE: When the sewage sludge stack height is 65 m or less, the actual sewage sludge incinerator stack height shall be used in an air dispersion model specified by the permitting authority to determine the dispersion factor (DF) in them above equation. When the sewage sludge incinerator stack height exceeds 65 m, the creditable stack height shall be determined in accordance with 40 CFR 51.100(ii) and the creditable stack height shall be used in an air dispersion model specified

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	by the permitting authority to determine the dispersion factor (DF) in the above equation.) Verify that the daily concentration for arsenic, cadmium, chromium, and nickel in sewage sludge fed to a sewage sludge incinerator each do not exceed the concentration calculated using the following equation: $$C = \frac{RSC \times 86{,}400}{DF \times (1 - CE) \times SF}$$ Where: C = Average daily concentration of arsenic, cadmium, chromium, or nickel in sewage sludge in mg/kg of total solids (dry weight basis). CE = Sewage sludge incinerator control efficiency for arsenic, cadmium, chromium, or nickel in hundredths. DF = Dispersion factor in micrograms per cubic meter per gram per second. RSC = Risk specific concentration for arsenic, cadmium, chromium, or nickel in $\mu g/m^3$. SF = Sewage sludge feed rate in metric tons per day (dry weight basis). (NOTE: See the text of 40 CFR 503.43(d)(2) and 503.43(d)(3) for guidance on calculating the RSC.) (NOTE: When the sewage sludge incinerator stack height is equal to or less than 65 m, the actual sewage sludge incinerator stack height shall be used in an air dispersion model, as specified by the permitting authority, to determine the dispersion factor (DF) in the above equation. When the sewage sludge incinerator stack height is greater than 65 m, the creditable stack height shall be determined in accordance with 40 CFR 51.100(ii) and the creditable stack height shall be used in an air dispersion model, as specified by the permitting authority, to determine the dispersion factor (DF) in the above equation. The control efficiency (CE) in the above equation shall be determined from a performance test of the sewage sludge incinerator, as specified by the permitting authority.) (NOTE: See the text of 40 CFR 503.43(e) for details on air dispersion modeling.)
MWW.240.2. Sewage sludge incinerators are required to meet specific operational standards (40 CFR 503.44).	Verify that the total hydrocarbons concentration in the exit gas from a sewage sludge incinerator is corrected for zero percent moisture by multiplying the measured total hydrocarbons concentration by the correction factor calculated using the following equation: $$\text{Correction factor (percent moisture)} = \frac{1}{(1 - X)}$$

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REGULATORY REQUIREMENT OR MANAGEMENT PRACTICE	**REVIEWER CHECKS**
	Where: X=decimal fraction of the percent moisture in the sewage sludge incinerator exit gas in hundredths. Verify that the total hydrocarbons concentration in the exit gas from a sewage sludge incinerator is corrected to seven percent oxygen by multiplying the measured total hydrocarbons concentration by the correction factor calculated using the following equation: $\text{Correction factor (oxygen)} = \frac{14}{(21 - Y)}$ Where: Y=Percent oxygen concentration in the sewage sludge incinerator stack exit gas (dry volume/dry volume). Verify that the monthly average concentration for total hydrocarbons in the exit gas from a sewage sludge incinerator stack, corrected for zero percent moisture using the correction factor from the first equation and to seven percent oxygen using the correction factor from the second equation does not exceed 100 parts per million on a volumetric basis when measured using the instrument required by 40 CFR 503.45(a) (see checklist item MWW.240.3).
MWW.240.3. Sewage sludge incinerators are required to meet specific management standards for total hydrocarbons (40 CFR 503.40(c) and 503.45).	Verify that an instrument that measures and records the total hydrocarbons concentration in the sewage sludge incinerator stack exit gas continuously is installed, calibrated, operated, and maintained for each sewage sludge incinerator. Verify that the total hydrocarbons instrument employs a flame ionization detector has a heated sampling line maintained at a temperature of 150 ^{o}C or higher at all times; and is calibrated at least once every 24-h operating period using propane. (NOTE: The requirements for total hydrocarbon instrumentation do not apply if the following conditions are met: – the exit gas from a sewage sludge incinerator stack is monitored continuously for carbon monoxide – the monthly average concentration of carbon monoxide in the exit gas from a sewage sludge incinerator stack, corrected for zero percent moisture and to seven percent oxygen, does not exceed 100 parts per million on a volumetric basis – the person who fires sewage sludge in a sewage sludge incinerator retains the following information for 5 yr: – the carbon monoxide concentrations in the exit gas

COMPLIANCE CATEGORY: MUNICIPAL WASTEWATER MANAGEMENT	
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	– a calibration and maintenance log for the instrument used to measure the carbon monoxide concentration – Class I sludge management facilities, POTWs with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve a population of 10,000 people or greater submit the monthly average carbon monoxide concentrations in the exit gas to the permitting authority on February 19 of each year.) Verify that an instrument that measures and records the oxygen concentration in the sewage sludge incinerator stack exit gas continuously is installed, calibrated, operated, and maintained for each sewage sludge incinerator. Verify that an instrument that measures and records information used to determine the moisture content in the sewage sludge incinerator stack exit gas continuously is installed, calibrated, operated, and maintained for each sewage sludge incinerator. Verify that an instrument that measures and records combustion temperatures continuously is installed, calibrated, operated, and maintained for each sewage sludge incinerator. Verify that operation of a sewage sludge incinerator does not cause the operating combustion temperature for the sewage sludge incinerator to exceed the performance test combustion temperature by more than 20 percent. (NOTE: An air pollution control device shall be appropriate for the type of sewage sludge incinerator and the operating parameters for the air pollution control device shall be adequate to indicate proper performance of the air pollution control device. For sewage sludge incinerators subject to the requirements in Subpart O of 40 CFR 60, operation of the air pollution control device shall not violate the requirements for the air pollution control device in subpart O of 40 CFR 60. For all other sewage sludge incinerators, operation of the air pollution control device shall not cause a significant exceedance of the average value for the air pollution control device operating parameters from the performance test. Verify that sewage sludge is not be fired in a sewage sludge incinerator if it is likely to adversely affect a threatened or endangered species listed under section 4 of the Endangered Species Act or its designated critical habitat.
MWW.240.4. Sewage sludge incinerators are required to meet specific monitoring standards (40 CFR 503.40(c) and 503.46).	(NOTE: The frequency of monitoring for beryllium and mercury shall be as specified by the permitting authority.) Verify that the frequency of monitoring for arsenic, cadmium, chromium, lead, and nickel in sewage sludge fed to a sewage sludge incinerator is as outlined in Table 2, Appendix C of this document.

COMPLIANCE CATEGORY: MUNICIPAL WASTEWATER MANAGEMENT	
REGULATORY REQUIREMENT OR MANAGEMENT PRACTICE	**REVIEWER CHECKS**
	(NOTE: After the sewage sludge has been monitored for 2 yr at the frequency in Table 2, Appendix C of this document, the permitting authority may reduce the frequency of monitoring for arsenic, cadmium, chromium, lead, and nickel.) Verify that the total hydrocarbons concentration and oxygen concentration in the exit gas from a sewage sludge incinerator stack, the information used to measure moisture content in the exit gas, and the combustion temperatures for the sewage sludge incinerator are monitored continuously. (NOTE: The requirements for total hydrocarbon monitoring do not apply if the following conditions are met: – the exit gas from a sewage sludge incinerator stack is monitored continuously for carbon monoxide – the monthly average concentration of carbon monoxide in the exit gas from a sewage sludge incinerator stack, corrected for zero percent moisture and to seven percent oxygen, does not exceed 100 parts per million on a volumetric basis – the person who fires sewage sludge in a sewage sludge incinerator retains the following information for 5 yr: – the carbon monoxide concentrations in the exit gas – a calibration and maintenance log for the instrument used to measure the carbon monoxide concentration – Class I sludge management facilities, POTWs with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve a population of 10,000 people or greater submit the monthly average carbon monoxide concentrations in the exit gas to the permitting authority on February 19 of each year.) (NOTE: For sewage sludge incinerators subject to the requirements in subpart O of 40 CFR 60, the frequency of monitoring for the appropriate air pollution control device operating parameters shall be the frequency of monitoring in subpart O of 40 CFR 60. For all other sewage sludge incinerators, the appropriate air pollution control device operating parameters shall be at least daily.)
MWW.240.5. Sewage sludge incinerators are required to meet specific recordkeeping standards (40 CFR 503.40(c) and 503.47).	Verify that the person who fires sewage sludge in a sewage sludge incinerator shall develop the following information and retain that information for 5 yr: – the concentration of lead, arsenic, cadmium, chromium, and nickel in the sewage sludge fed to the sewage sludge incinerator – the total hydrocarbons concentration in the exit gas from the sewage sludge incinerator stack – information that indicates the requirements in the National Emission Standard for beryllium in subpart C of 40 CFR 61 are met – information that indicates the requirements in the National Emission

COMPLIANCE CATEGORY: MUNICIPAL WASTEWATER MANAGEMENT	
REGULATORY REQUIREMENT OR MANAGEMENT PRACTICE	**REVIEWER CHECKS**
	Standard for mercury in subpart E of 40 CFR 61 are met – the operating combustion temperatures for the sewage sludge incinerator – values for the air pollution control device operating parameters – the oxygen concentration and information used to measure moisture content in the exit gas from the sewage sludge incinerator stack – the sewage sludge feed rate – the stack height for the sewage sludge incinerator – the dispersion factor for the site where the sewage sludge incinerator is located – the control efficiency for lead, arsenic, cadmium, chromium, and nickel for each sewage sludge incinerator – the risk specific concentration for chromium calculated using the required equation, if applicable – a calibration and maintenance log for the instruments used to measure the total hydrocarbons concentration and oxygen concentration in the exit gas from the sewage sludge incinerator stack, the information needed to determine moisture content in the exit gas, and the combustion temperatures. (NOTE: The requirements for total hydrocarbon recordkeeping do not apply if the following conditions are met: – the exit gas from a sewage sludge incinerator stack is monitored continuously for carbon monoxide – the monthly average concentration of carbon monoxide in the exit gas from a sewage sludge incinerator stack, corrected for zero percent moisture and to seven percent oxygen, does not exceed 100 parts per million on a volumetric basis – the person who fires sewage sludge in a sewage sludge incinerator retains the following information for 5 yr: – the carbon monoxide concentrations in the exit gas – a calibration and maintenance log for the instrument used to measure the carbon monoxide concentration – Class I sludge management facilities, POTWs with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve a population of 10,000 people or greater submit the monthly average carbon monoxide concentrations in the exit gas to the permitting authority on February 19 of each year.)

COMPLIANCE CATEGORY: MUNICIPAL WASTEWATER MANAGEMENT	
REGULATORY REQUIREMENT OR MANAGEMENT PRACTICE	**REVIEWER CHECKS**
MWW.240.6. Class I sludge management facilities, POTWs with a design flow rate equal to or greater than 1 million gal/day, and POTWs that serve 10,000 people or more are required to submit specific information to the permitting authority on February 19 of each year (40 CFR 503.48).	Verify that Class I sludge management facilities, POTWs with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve a population of 10,000 people or greater submit the following information to the permitting authority on February 19 of each year: – the concentration of lead, arsenic, cadmium, chromium, and nickel in the sewage sludge fed to the sewage sludge incinerator – the total hydrocarbons concentrations in the exit gas from the sewage sludge incinerator stack – information that indicates the requirements in the National Emission Standard for beryllium in subpart C of 40 CFR 61 are met – information that indicates the requirements in the National Emission Standard for mercury in subpart E of 40 CFR 61 are met – the combustion temperatures, including the maximum combustion temperature, for the sewage sludge incinerator – values for the air pollution control device operating parameters – the oxygen concentration and information used to measure moisture content in the exit gas from the sewage sludge incinerator stack.

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Protocol for Conducting Environmental Compliance Audits of Municipal Facilities under EPA's Wastewater Regulations

Appendix A:
Designated Toxic Pollutants (40 CFR 401.15)

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Designated Toxic Pollutants
(40 CFR 401.15)

The following comprise the list of toxic pollutants designated pursuant to section 307(a)(1) of the Act:

1. Acenaphthene
2. Acrolein
3. Acrylonitrile
4. Aldrin/Dieldrin [1]
5. Antimony and compounds [2]
6. Arsenic and compounds
7. Asbestos
8. Benzene
9. Benzidine [1]
10. Beryllium and compounds
11. Cadmium and compounds
12. Carbon tetrachloride
13. Chlordane (technical mixture and metabolites)
14. Chlorinated benzenes (other than di-chlorobenzenes)
15. Chlorinated ethanes (including 1,2-di-chloroethane, 1,1,1-trichloroethane, and hexachloroethane)
16. Chloroalkyl ethers (chloroethyl and mixed ethers)
17. Chlorinated naphthalene
18. Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)
19. Chloroform
20. 2-chlorophenol
21. Chromium and compounds
22. Copper and compounds
23. Cyanides
24. DDT and metabolites [1]
25. Dichlorobenzenes (1,2-, 1,3-, and 1,4-di-chlorobenzenes)
26. Dichlorobenzidine
27. Dichloroethylenes (1,1-, and 1,2-dichloroethylene)
28. 2,4-dichlorophenol
29. Dichloropropane and dichloropropene
30. 2,4-dimethylphenol
31. Dinitrotoluene
32. Diphenylhydrazine
33. Endosulfan and metabolites
34. Endrin and metabolites \1\
35. Ethylbenzene
36. Fluoranthene
37. Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis(dichloroisopropyl) ether, bis-(chloroethoxy) methane and polychlorinated diphenyl ethers)
38. Halomethanes (other than those listed elsewhere; includes methylene chloride, methylchloride, methylbromide, bromoform, dichlorobromomethane
39. Heptachlor and metabolites
40. Hexachlorobutadiene
41. Hexachlorocyclohexane
42. Hexachlorocyclopentadiene
43. Isophorone
44. Lead and compounds
45. Mercury and compounds
46. Naphthalene
47. Nickel and compounds
48. Nitrobenzene

49. Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
50. Nitrosamines
51. Pentachlorophenol
52. Phenol
53. Phthalate esters
54. Polychlorinated biphenyls (PCBs) [1]
55. Polynuclear aromatic hydrocarbons (including benzanthracenes, benzopyrenes, benzofluoranthene, chrysenes, dibenz-anthracenes, and indenopyrenes)
56. Selenium and compounds
57. Silver and compounds
58. 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)
59. Tetrachloroethylene
60. Thallium and compounds
61. Toluene
62. Toxaphene [1]
63. Trichloroethylene
64. Vinyl chloride
65. Zinc and compounds

[1] Effluent standard promulgated (40 CFR 129).
[2] The term compounds shall include organic and inorganic compounds.

Protocol for Conducting Environmental Compliance Audits of Municipal Facilities under EPA's Wastewater Regulations

Appendix B:
Use or Disposal of Sewage Sludge: Land Application
(40 CFR 503.13(b)(1) through 503.13(b)(4), and 503.16, Table 1)

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Use or Disposal of Sewage Sludge: Land Application
(40 CFR 503.13(b) and 503.16, Table 1)

Table 1:
Pollutant Concentrations for Sludge
(40 CFR 503.513(b)(3), Table 3)

Pollutant	Monthly Average Concentrations (mg/kg, dry weight basis)
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	36
Zinc	2800

Table 2:
Cumulative Pollutant Loading Rates for Sludge
(40 CFR 503.513(b)(2), Table 2)

Pollutant	Cumulative Pollutant Loading Rate (kg/hectare)
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800

Table 3:
Ceiling Concentrations for Sludge
(40 CFR 503.513(b)(1), Table 1)

Pollutant	Ceiling Concentration (mg/kg, dry weight basis)
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

Table 4:
Annual Pollutant Loading Rates
(40 CFR 503.513(b)(4), Table 4)

Pollutant	Annual Pollutant Loading Rates (kg/hectare/365-day period)
Arsenic	2.0
Cadmium	1.9
Copper	75
Lead	15
Mercury	0.85
Nickel	21
Selenium	5.0
Zinc	140

Table 5:
Frequency of Monitoring - Land Application and Surface Disposal
(40 CFR 503.16, Table 1)

Amount of sewage sludge[*] (metric tons/365 day period)	**Frequency**
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1500	Once per quarter (four times per year)
Equal to or greater than 1500 but less than 15,000	Once per 60 days (six times per year
Equal to or greater than 15,000	Once per month (12 times per year)

[*] Either the amount of bulk sewage sludge applied to the land or the amount of sewage sludge received by a person who prepares sewage sludge that is sold or given away in a bag or other container for application to the land (dry weight basis).

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Protocol for Conducting Environmental Compliance Audits of Municipal Facilities under EPA's Wastewater Regulations

Appendix C:
Use or Disposal of Sewage Sludge:
Surface Disposal and Incineration
(40 CFR 503.23, Table 2; 503.26, Table 1; 503.46, Table 1)

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Use or Disposal of Sewage Sludge: Surface Disposal and Incineration
(40 CFR 503.23, Table 2; 503.26, Table 1; 503.46, Table 1)

Table 1:
Pollutant Concentrations for an Active Sewage Sludge Unit: Surface Disposal
(40 CFR 503.23, Table 2)

Unit Boundary to Property Site Distance *(meters)	Pollutant Concentration [1]		
	Arsenic mg/kg	Chromium mg/kg	Nickel mg/kg
0 to less than 25	30	200	210
25 to less than 50	34	220	240
50 to less than 75	39	260	270
75 to less than 100	46	300	320
100 to less than 125	53	360	390
125 to less than 150	62	450	420
[1] Dry weight basis			

Table 2:
Frequency of Monitoring - Surface Disposal and Incineration
(40 CFR 503.26, Table 1 and 503.46, Table 1)

Amount of sewage sludge* (metric tons/365 day period)	Frequency
Greater than zero but less than 290	Once per year
Equal to or greater than 290 but less than 1500	Once per quarter (four times per year)
Equal to or greater than 1500 but less than 15,000	Once per 60 days (six times per year
Equal to or greater than 15,000	Once per month (12 times per year)

* Either the amount of bulk sewage sludge applied to the land or the amount of sewage sludge received by a person who prepares sewage sludge that is sold or given away in a bag or other container for application to the land (dry weight basis).

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Protocol for Conducting Environmental Compliance Audits of Municipal Facilities under EPA's Wastewater Regulations

Appendix D:
User Satisfaction Questionnaire and Comment Form

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User Satisfaction Survey
(OMB Approval No. 1860.01)
Expires 9/30/2001

We would like to know if this Audit Protocol provides you with useful information. This information will be used by EPA to measure the success of this tool in providing compliance assistance and to determine future applications and needs for regulatory checklists and auditing materials.

1. Please indicate which Protocol(s) this survey applies to:

   Title:_____

   EPA Document Number:_____

2. Overall, did you find the Protocol helpful for conducting audits:

   Yes ___ No___

   If not, what areas of the document are difficult to understand?

3. How would you rate the usefulness of the Protocol(s) for conducting compliance audits on a scale of 1-5?

   1 = not useful or effective, 3 = somewhat useful/effective, 5 = very useful/effective

Low			Medium	High	
1	2	3	4	5	Introduction Section
1	2	3	4	5	Key Compliance Requirements
1	2	3	4	5	Key Terms and Definitions
1	2	3	4	5	Checklist

4. What actions do you intend to take as a result of using the protocol and/or conducting the audit? Please check all that apply.

   ____ Contact a regulatory agency
   ____ Contact a compliance assisstance provider (e.g., trade association, state agency, EPA)
   ____ Contact a vendor
   ____ Disclose violations discovered during the audit under EPA's audit Policy
   ____ Disclose violations discovered under EPA's Small Business Policy
   ____ Obtain a permit or certification
   ____ Change the handling of a waste, emission or pollutant
   ____ Change a process or practice
   ____ Purchase new process equipment
   ____ Install emission control equipment (e.g., scrubbers, wastewater treatment)
   ____ Install waste treatment system (control technique)
   ____ Implement or improve pollution prevention practices (e.g., source reduction, recycling)
   ____ Improve organizational auditing program
   ____ Institute an Environmental Management System
   ____ Improve the existing Environmental Management System (e.g., improve training, clarify standard operating procedures, etc.)
   ____ Other _____

5. What, if any, environmental improvements will result from the actions to be taken (check all that apply)?

____ reduced emissions
____ waste reduction
____ reduced risk to human health and the environment due to better management practices
____ reduced quantity and toxicity of raw materials
____ water conservation
____ energy conservation
____ conserved raw materials
____ conservation of habitat or other environmental stewardship practice: _____
____ other: _____
____ no environmental improvements are likely to result from the use of this document

6. How did you hear about this document?
____ trade association
____ state technical assistance provider
____ EPA internet homepage or website
____ document catalog
____ co-worker or business associate
____ EPA, state, or local regulator
____ other (please specify) _____

7. In order to understand your response, we would like to know what function you perform with respect to environmental compliance and the size of your organization.

____ Company Personnel
____ Environmental Auditor
____ Corporate Level
____ Plant-level
____ Legal
____ Environmental Manager
____ Operator - (e.g., Pollution Control Equipment
____ Other: _____
_____

____ Trade Association
____ National
____ Regional
____ Local
____ Manager
____ Information Specialist

____ Compliance Assistance Provider
____ EPA
____ State
____ State Small Business Assistance
____ Local
____ Other _____
_____

____ Regulatory Personnel
____ State
____ Local
____ EPA

____ Vendor/Consultant
____ Environmental Auditor
____ Environmental Engineer/Scientist
____ Attorney

8. How many employees are located at your facility (including full-time contractors?)

___ 0 - 9 ___ 10 - 49 ___ 50 - 100 ___ 101-500 ___ More than 500

Optional (Please Print)

Name: _____Address:_____

Title:_____City:_____State:_____

Zip code:_____

Organization Name:_____

Phone: (__)_____E-mail:_____

Please return all pages (1 thru 3) of this survey by folding pages 1 and 2 into page 3 and using the preprinted, pre-stamped address on the reverse side of page 3. If you have accessed this document electronically from one of EPA's web sites, simply e-mail this questionnaire to: satterfield.richard@epa.gov.

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