


IMPLEMENTATION TECHNICAL PAPER NO. 5

TO: EPA Regional and Authorized State NPDES Permit and Enforcement Coordinators and State Information Technology Staff

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SUBJECT: Implementation Technical Paper No. 5: Data Entry Guidance for Biosolids Data Elements

The NPDES Electronic Reporting Rule (“final rule”) requires the electronic reporting and sharing of NPDES facility and operational information. As part of EPA’s collaboration with the states to move forward with converting the NPDES program from paper to electronic reporting, EPA is developing a series of implementation technical papers to help EPA regions and state NPDES programs make a smooth transition. This is the fifth of these implementation technical papers and this paper provides data entry guidance for biosolids related information.

This paper was developed based on recommendations from the EPA-state Biosolids Technical Workgroup. This workgroup usually met bi-weekly from March 2016 to August 2017 and included 66 subject matter experts from EPA Headquarters, six EPA Regions, and 18 states. EPA distributed the second version of this paper to EPA Regional and state NPDES permitting and enforcement coordinators as well as state information technology staff (the IPT and ICIS-NPDES users). EPA thanks the commenters for their time and efforts to review this paper and provide feedback. This version incorporates these comments. EPA will publish this paper on its website to assist authorized NPDES programs with implementation of the final rule.¹ EPA also plans to provide updates on the progress states are making in sharing these data through regularly scheduled meetings (e.g., ICIS-NPDES IPT monthly meetings, ICIS-NPDES user monthly meetings), the ECHO “NPDES eRule Readiness and Data Completeness Dashboard,” as well as through e-mail news alerts.²

¹ See: <https://www.epa.gov/compliance/npdes-ereporting>

² See: <https://www.epa.gov/compliance/npdes-ereporting-help>

Among other things, the final rule lists the information (“data elements”) to be provided, groups this information by types of reports and identifies the regulatory citations requiring the information. EPA has taken a number of steps to assist the states and regulated community in moving forward with submission of this information. This includes development of electronic reporting forms and outreach efforts to test these forms for ease of submission and accessibility. This paper represents another step in EPA’s effort to aid the electronic reporting effort.

This paper supports implementation of the final rule by providing further information for the data elements identified in the final rule (Appendix A to 40 CFR 127). In particular, this paper provides data entry guidance for the biosolids information submitted during permit applications, which includes both individually permitted facilities and general permit covered facilities, the annual biosolids program report, and state or EPA inspections of biosolids programs (see Attachment 1). These data elements document the measures taken to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants and pathogens that might be present in sewage sludge/biosolids and are included in the following NPDES Data Groups:

- Core NPDES Permitting, Compliance, and Enforcement Data [40 CFR parts 122, 123, 403, 503];
- General Permit Report: Notices of Intent to discharge (NOIs) [40 CFR 122.28]; and
- Sewage Sludge/Biosolids Annual Program Report [40 CFR 503].

Prior to electronic reporting, these data elements were most often reported on paper and in non-standard formats. Paper reporting of these data limited the availability and utility of these data on a national scale as key data from these reports were not generally standardized, aggregated, or publicly available.³ Upon full implementation of the final rule, authorized NPDES programs, EPA, and the public will be able to better identify and evaluate the measures taken to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants and pathogens that might be present in sewage sludge/biosolids.

Sharing these data with EPA’s national NPDES data system (ICIS-NPDES) is particularly useful when the NPDES program is ‘split’ between a state and EPA Region. For example, a state may be authorized for the core NPDES program (40 CFR part 122) but not the Federal biosolids program (40 CFR part 503). For most states the NPDES program is split between EPA and the state as currently only eight states are authorized to run the Federal biosolids program.⁴ Proper use of these data elements and timely sharing with EPA’s national NPDES data system (ICIS-NPDES) will allow both EPA and states to clearly identify all biosolids generators and the corresponding public health and environmental protective measures taken by these generators. This information can also be particularly useful for EPA and the states that are authorized to run the Federal Pretreatment Program (40 CFR part 403).

EPA will use this technical paper to develop electronic reporting tools and to update NPDES data sharing protocols and schemas, EPA’s NPDES data system (ICIS-NPDES), and the forthcoming NPDES Noncompliance Report (NNCR).

³ North East Biosolids and Residual Association, 2007. A National Biosolids Regulation, Quantity, End Use & Disposal Survey, July 20, DCN 0034 - “Consistent data on biosolids management is difficult to obtain and compile...With no centralized data collection and storage system yet in place, disparate pieces of data from various states and EPA regions must be painstakingly collected and interpreted to produce a useful national picture.”

⁴ See: <https://www.epa.gov/npdes/npdes-state-program-information>

EPA will work collaboratively with authorized NPDES programs on the recommended actions in this paper. Authorized NPDES programs can request training or data entry help from EPA by sending an email to: NPDESeReporting@epa.gov.

DISCLAIMER: *This implementation technical paper provides data entry guidance for biosolids data elements. While this document cites statutes and regulations that contain legally binding requirements, it does not itself impose legally binding requirements on EPA, states, tribes, other regulatory authorities, or the regulated community and its content might not apply to a particular situation based upon the circumstances. EPA, state, tribal, and other decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from those provided in this document as appropriate and consistent with statutory and regulatory requirements. This document does not confer legal rights or impose legal obligations upon any member of the public. This document does not constitute a regulation, nor does it change or substitute for any CWA provision or EPA regulations. EPA could update this document as new information becomes available.*

Implementation Technical Paper No. 5 Data Entry Guidance for Biosolids Data Elements

1. Overview of the Federal Biosolids Program and Related Appendix A Data Elements

Wastewater treatment necessarily produces the end products of effluent, sewage sludge, and methane and other gases. Section 405 of the CWA sets the statutory framework for regulating sewage sludge (biosolids). As required by the Clean Water Act Amendments of 1987, EPA developed a regulation to protect public health and the environment from any reasonably anticipated adverse effects of certain pollutants and pathogens that might be present in sewage sludge/biosolids. This regulation, The Standards for the Use or Disposal of Sewage Sludge [Title 40 of the Code of Federal Regulations (CFR), Part 503], was published on 19 February 1993 and became effective on 22 March 1993. EPA has authorized eight states to administer the Federal biosolids program. Part 503 is a “self-implementing” rule, which means that entities producing biosolids are regulated whether or not these requirements are included in an NPDES permit (including cases where the regulated entity does not have an NPDES permit).⁵ EPA administers the Federal biosolids program for the other 42 states and all tribal lands and territories.⁶ For these 42 states and all tribal lands and territories, EPA is the “authorized NPDES program” for the Federal biosolids program (40 CFR part 503).

Detailed information on biosolids management is provided by larger biosolids generators in annual reports (see 40 CFR 503.18, 503.28, and 503.48). Facilities that are required to submit these annual reports are Class I sewage sludge management facilities, POTWs with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve 10,000 people or more. Additionally, these facilities only need to submit an annual report if they land apply, surface dispose, or incinerate any of their biosolids in the reporting period.⁷ These annual reports summarize some of the measures taken to protect human health and watersheds from the mismanagement of biosolids. As previously noted, prior to the final rule, key data from these reports were not standardized, publicly available, or easily sharable because these data were in hard-copy format and were reported on different forms.⁸

EPA’s regulations require authorized NPDES programs to have “inspection and surveillance procedures to determine, independent of information supplied by regulated persons, compliance or noncompliance with applicable program requirements.” See 40 CFR 123.26(b). EPA’s *NPDES Compliance Monitoring Strategy* (CMS) also provides compliance monitoring goals for authorized NPDES programs.⁹ This means that authorized NPDES programs (EPA and the eight authorized states) must inspect POTWs on a regular basis to evaluate their biosolids management program. The final rule includes the “Deficiencies Identified Through the Biosolids/Sewage Sludge Compliance Monitoring” data element and violation codes to identify each deficiency and any corresponding noncompliance in the facility’s biosolids and

⁵ See 40 CFR 122.1(b) and 40 CFR 503.1(b).

⁶ The eight states authorized to administer the Federal biosolids program are: Arizona, Michigan, Ohio, Oklahoma, South Dakota, Texas, Utah, and Wisconsin. See: <https://www.epa.gov/npdes/npdes-state-program-information>

⁷ Some states require all POTWs to submit an annual report (e.g., Texas). EPA has configured its electronic reporting tool and data systems to accept biosolids annual report data for all POTWs.

⁸ See Proposed NPDES Electronic Reporting Rule (30 July 2013; 78 FR 46033).

⁹ U.S. EPA, 2014. Issuance of Clean Water Act National Pollutant Discharge Elimination System Compliance Monitoring Strategy, Memorandum from Lisa Lund, Director, Office of Compliance, July 21. Available at: <https://www.epa.gov/sites/production/files/2013-09/documents/npdescms.pdf>

sewage sludge program (40 CFR part 503) for each compliance monitoring activity (e.g., inspections, audits) by the regulatory authority.

Finally, biosolids management information is provided during NPDES permit applications and NOIs for all treatment works treating domestic sewage (TWTDS), which includes both individually permitted facilities, general permit covered facilities [see 40 CFR 122.21(q) and 40 CFR 122.28], and TWTDS without an NPDES permit. This information is submitted to the EPA Region or state agency that is authorized to run the biosolids program (40 CFR part 503) at the time of their ‘wastewater’ NPDES permit application (40 CFR part 122).¹⁰ This information is particularly useful for EPA and the eight states authorized to provide oversight of biosolids facilities, especially those facilities that do not file a biosolids annual report. These data are most often report on paper NPDES application forms (e.g., NPDES Permit Application Form 2S).¹¹ Biosolids generators covered by a general permit report these data when they submit their Notice of Intent to discharge (NOI). These data are generally updated only at the time of permit issuance, which is generally a five-year period. Under the Clean Water Act, EPA and states with authorized NPDES programs issue NPDES permits with terms no longer than five years. States that are authorized to run the biosolids program (40 CFR part 503) should collect this biosolids information and then share a limited set of these data with EPA’s national NPDES data system (ICIS-NPDES) (see Section 4). EPA NPDES regulations also note that any TWTDS that does not apply for a ‘wastewater’ NPDES permit must submit Form 2S or another form provided by the Director [see 40 CFR 122.21(c)].

Sharing biosolids data with EPA’s national NPDES data system (ICIS-NPDES) is particularly useful when the NPDES program is ‘split’ between a state and EPA Region. For example, a state may be authorized for the core NPDES program (40 CFR part 122) but not the Federal biosolids program (40 CFR part 503). For most states the NPDES program is split between EPA and the state as currently only eight states are authorized to run the Federal biosolids program.¹² Proper use of these data elements and timely sharing with EPA’s national NPDES data system (ICIS-NPDES) will allow both EPA and states to clearly identify all biosolids generators and the corresponding public health and environmental protective measures taken by these generators. This information can also be particularly useful for EPA and the states that are authorized to run the Federal Pretreatment Program (40 CFR part 403).

This paper provides more information on the requirements, reference values, business rules, and important dates for implementing data elements specific to these biosolids data elements.

¹⁰ “In 43 States and territories, the NPDES program is administered at the State level through an EPA-approved NPDES program. There are currently only 3 States that administer an EPA-approved sewage sludge program. Therefore, until more States are authorized to administer the federal sewage sludge program, POTWs in most NPDES States will obtain NPDES permits from the State permitting authority (by submitting Form 2A or a similar State form to the State) and sewage sludge permits from EPA (by submitting Form 2S to the EPA Regional Office). Separate application forms will facilitate this bifurcated permitting process. In addition, even when a State sludge permitting program is approved, the program will not necessarily be administered by the State’s NPDES permitting authority. For example, a POTW in a State with both NPDES and sewage sludge permitting authority could receive its NPDES permit from the water pollution control agency and its sewage sludge permit from a solid waste management agency. Separate Forms 2A and 2S will also facilitate permitting in this situation.” See 64 FR 42438; 4 August 1999, [emphasis added].

¹¹ See: <https://www3.epa.gov/npdes/pubs/final2s.pdf>

¹² See: <https://www.epa.gov/npdes/npdes-state-program-information>

2. Data Elements Specific to the Sewage Sludge/Biosolids Annual Program Report [40 CFR part 503]

EPA Federal biosolids annual reporting regulations (see 40 CFR 503.18, 503.28, and 503.48) only apply to the following facilities:

- Class I sludge management facilities;
- POTWs with a design flow rate equal to or greater than one million gallons per day; or
- POTWs that serve 10,000 people or more.

These facilities need to submit an annual report if their biosolids were land applied, surface disposed, or incinerated in the reporting period. Additionally, other facilities may need to report if required by their NPDES permit, state regulations, or enforcement actions. For example, some states require all POTWs to submit an annual report (e.g., Texas). These annual reports are submitted to the EPA or the state agency that is authorized for the Federal biosolids program (40 CFR part 503). Currently, only eight states are authorized for the Federal biosolids program.¹³

The annual report information that must be shared with EPA is more comprehensive than the NPDES permit application or NOI information that must be shared with EPA (see Section 4). For example, the final rule requires the inclusion of biosolids pollutant and pathogen monitoring data as part of the annual report submission. The data elements for Sewage Sludge/Biosolids Annual Program Report (40 CFR part 503) are provided in Attachment 1.

In 2016, EPA used a technical workgroup to further refine the data elements for the annual report. The EPA-state biosolids technical workgroup members included staff from EPA HQ, EPA Regions, and state agencies (CO, GA, ID, FL, NJ, OR, PA, SC, TN, and WA). This technical workgroup met bi-weekly for about four months. This technical workgroup worked through various tasks including developing: reference values for the biosolids data elements; the design and text of the electronic form; and the approach for form processing. EPA conducted three rounds of user testing, which included representatives from the regulated community, for this report and deployed the form on 21 December 2016. The business rules and form processing requirements are detailed in the help documentation for this electronic reporting tool.¹⁴ EPA also updated the related ICIS Schema and published this new version of the schema in late December 2016 (ICIS Release 7.5).

It is important to note that EPA collected biosolids pollutant concentration data directly on the biosolids annual report form. This was a change as some EPA Regions had previously collected these data on the Discharge Monitoring Report (DMR) form. EPA notes that not using the DMR form allows for a more efficient and easier method of collecting these data (e.g., submission of biosolids data through DMRs requires the creation of “sludge” permitted features and corresponding limits sets). EPA recommends that the eight states authorized for the Federal biosolids program similarly collect these data directly on the biosolids annual report form (and not on the DMR). EPA plans to use the biosolids pollutant concentration data to automatically detect violations of applicable limits. Finally, EPA notes that some states require more pollutant monitoring and reporting (e.g., monitoring and reporting of polychlorinated biphenyls or “PCBs”) and more stringent limits than what is required in EPA’s regulations. EPA plans to work with states to identify these requirements and configure its national

¹³ The eight states authorized to administer the Federal biosolids program are: Arizona, Michigan, Ohio, Oklahoma, South Dakota, Texas, Utah, and Wisconsin. See: <https://www.epa.gov/npdes/npdes-state-program-information>

¹⁴ See: <https://epanet.zendesk.com/hc/en-us>

NPDES data system (ICIS-NPDES) accordingly to automatically detect and quantify the magnitude of any noncompliance.

EPA also recommends that biosolids regulatory authorities not use the “Narrative Conditions and Permit Schedules Information” data elements found in Appendix A, 40 CFR 127, to track biosolids annual report submissions (see ICIS-NPDES screenshot below). POTWs and TWTDS may change their biosolids management practice from year to year [e.g., one year using land application (regulated under Part 503) and the following year using a municipal solid waste landfill (not regulated under Part 503)]. EPA recommends that biosolids regulatory authorities annually review each list of biosolids report filers to identify potential non-filers.

The technical workgroup also refined the “Biosolids or Sewage Sludge - Deficiencies” data element in the annual report to focus on noncompliance with EPA’s biosolids regulations (40 CFR part 503). EPA provides filers with checkboxes on the annual report “to indicate any noncompliance with EPA’s Federal sewage sludge program requirements (see 40 CFR part 503) for this facility during the reporting period.” The noncompliance reporting section also provided references to the corresponding requirement in EPA’s biosolids regulations (see Attachment 2). EPA noted on the annual report form that “any person who prepares sewage sludge (i.e., person who generates sewage sludge or a person who derives a material from sewage sludge) shall ensure that the applicable requirements in EPA’s biosolids regulations (40 CFR part 503) are met when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator (see 40 CFR 503.7).”

Since these checkboxes represent instances of noncompliance, EPA plans to update ICIS-NPDES or EPA’s electronic reporting tool (called NPDES Electronic Reporting Tool or “NeT”) (or both) so that a checked checkbox will automatically trigger the corresponding biosolids violation code. Currently, EPA uses a manual process to convert these noncompliance checkbox data to violations. EPA has created 38 new biosolids violation codes that match the noncompliance checkbox data (see Attachment 3). These violations codes start with the letter “R”, followed by three numbers, and finishing with the letter “B.” For example, the violation code “R001B - PR: Biosolids - Land Application: Pollutant Limit Ceiling Violation” will be used when an annual report filer indicates (via the corresponding noncompliance checkbox) that the filer land applied bulk sewage sludge or sold or gave away sewage sludge in a bag or other container when one or more pollutant concentrations in the sewage sludge exceeded a land application ceiling pollutant limit (see Table 1 of 40 CFR 503.13). EPA also plans to update ICIS-NPDES or NeT (or both) to detect each violation of a biosolids pollutant limit from the biosolids monitoring data and create a violation code (e.g., R090B) for each violation reported on a biosolids annual report.

EPA will use these noncompliance data in the forthcoming NPDES Noncompliance Report (NNCR), which will include all aspects of the NPDES program such as the Federal biosolids program. See 40 CFR 123.45. EPA is working with states to develop the NNCR over the next few years. The start date for publication of the NNCR is 21 December 2021.

Next Steps

EPA released these data in ICIS Release 7.5 and in the ICIS Schema on 19 December 2016. EPA updated the reference table for violations codes to include the new biosolids violation codes (e.g., R001B) in May 2017. Starting on 21 December 2016, all NPDES regulated entities located in states where EPA is the authorized NPDES biosolids program (currently 42 of 50 states and all other tribal lands and territories) must electronically submit this annual biosolids report to EPA if they are required to submit this annual report (see 503.18, 503.28, and 503.48). The first electronic filing due date for this report was 21 February 2017. The next electronic filing due date for this report is 20 February 2018.¹⁵

EPA will work with the eight states that are authorized for the Federal biosolids program (AZ, MI, OH, OK, SD, TX, UT, and WI). In particular, EPA will work with these eight states so that they can convert to electronic reporting for the biosolids annual program report by 21 December 2020 (as this annual report is part of Phase 2 implementation for these eight states). EPA recommends collecting the biosolids pollutant concentration data directly on the biosolids annual report form. EPA recommends the discontinued use of the DMR for collecting these data. EPA also recommends that biosolids regulatory authorities not use the “Narrative Conditions and Permit Schedules Information” data elements found in Appendix A, 40 CFR 127, to track biosolids annual report submissions.

EPA plans to update ICIS-NPDES or NeT (or both) so that noncompliance checkbox data will automatically trigger the corresponding biosolids violation codes. Currently, EPA uses a manual process to convert these noncompliance checkbox data to violations. Similarly, EPA will update ICIS-NPDES or NeT (or both) so that biosolids limit violations can be automatically detected from the pollutant concentration data reported on the annual reports and generate a violation code (e.g., R090B). EPA will also work with the eight states that are authorized for the Federal biosolids program so that their NPDES data system will also automatically create biosolids violation codes based on annual report noncompliance checkbox data and biosolids pollutant concentration data. This will allow for better oversight of the biosolids management program. EPA will coordinate with states prior to any changes related to this automation.

EPA will also continue to work with all interested states on how to search, sort, and display the biosolids annual report data, including the new biosolids violation codes (e.g., R001B), in EPA’s public access website (ECHO).¹⁶ EPA also plans to create new violation codes to uniquely track biosolids limit exceedances (e.g., “R090B” violation codes). Separately, EPA will also work with the eight states authorized to administer the Federal biosolids program on how to incorporate the new biosolids violations codes in the NNCR.

¹⁵ The due date for this annual report is established in EPA’s biosolids reporting regulations as 19 February of each year (see 40 CFR 503.18, 503.28, and 503.48). For 2017, February 19th is a Sunday and the following day is a Federal holiday (Presidents Day). For 2018, February 19th is a Federal holiday (Presidents Day). EPA has configured its electronic reporting tool to allow the user to specify the start and end dates of the reporting period. This will allow for some flexibility in how states implement annual reporting.

¹⁶EPA’s Enforcement and Compliance History Online (ECHO): <https://echo.epa.gov>

ACTION: EPA requests that each of the eight states that are authorized to implement the Federal biosolids program clearly identify how they will implement electronic reporting for this annual report in their Phase 2 Implementation Plan [see 40 CFR 127.26(h)] and how they will share these data with EPA. The Phase 2 Implementation Plan should clearly identify the electronic reporting tools that these eight states intend to use and the schedule for deploying these tools to the biosolids annual report filers in these eight states.

EPA will also work with the eight states that are authorized for the Federal biosolids program so that their NPDES data system will also automatically create biosolids violation codes (e.g., R001B) based on annual report noncompliance checkbox data and biosolids pollutant concentration data. EPA will also continue to work with all interested states on how to search, sort, and display the biosolids annual report data in ECHO.

EPA also recommends that biosolids regulatory authorities not use the “Narrative Conditions and Permit Schedules Information” data elements found in Appendix A, 40 CFR 127, to track biosolids annual report submissions. EPA recommends that biosolids regulatory authorities annually review the list of biosolids report filers to identify potential non-filers. As part of this review, biosolids regulatory authorities should also update the “NPDES Data Group Number” data in ICIS-NPDES so that all biosolids annual report filers can be identified with the following filter: “NPDES Data Group Number = G04 [Sewage Sludge/Biosolids Annual Program Report (40 CFR 503)].” This applies to individually permitted facilities and general permit covered facilities. Regulatory authorities should identify biosolids annual report filers using the NPDES ID that correspond to permitted wastewater discharges (e.g., AL0020141 and not ALLO20141). This will allow EPA and states to clearly identify each of the reports and notices that a permitted facility is required to submit.

It is important to note that EPA regulations provide facilities with different biosolids management options. Facilities can pick one or more of these options to manage their biosolids and switch options as needed. This means that biosolids generators may not need to submit an annual report if their biosolids are not land applied, surface disposed, or incinerated their biosolids (i.e., use of the regulated management options under Part 503). Consequently, EPA requests authorized NPDES programs update the “NPDES Data Group Number” data element by April 3rd of each year (i.e., 40 days after the regulatory filing due date) and within 40 days of receipt for late filers.¹⁷ EPA will adjust the “NPDES Data Group Number” data for biosolids annual report filers in the states, tribes, and territories where it is authorized for the Federal biosolid program (40 CFR 503).

3. Sewage Sludge/Biosolids Inspection Data Element

As previously noted, the final rule includes the “Deficiencies Identified Through the Biosolids/Sewage Sludge Compliance Monitoring” data element to identify each deficiency in the facility’s biosolids and sewage sludge program (40 CFR part 503) for each compliance monitoring activity (e.g., inspections, audits, information collection requests) by the regulatory authority. The objective of a sewage sludge/biosolids inspection is to assess facilities engaged in a regulated sludge or biosolids activity to evaluate compliance with applicable regulatory provisions, including sludge monitoring, recordkeeping

¹⁷ The latest date for Presidents Day is February 21st (third Monday of February). Forty days after February 22nd (the next business day) is April 3rd (in a non-leap year). The NPDES eRule requires authorized NPDES programs to share the minimum set of NPDES program data (Appendix A to 40 CFR part 127), which includes the “NPDES Data Group Number data element,” with EPA within 40 days of receipt of the annual report [see 40 CFR 127.23(c)(1)].

and reporting, treatment operations, sampling and laboratory quality assurance and use or disposal practices.¹⁸ These inspections may be conducted in conjunction with compliance inspections at POTWs. Inspections may also be conducted to respond to citizen tips or complaints. For the eight states with the Federal biosolids program authorization, the recommended inspection frequency goal is at least one sludge/biosolids inspection of each major POTW every five years. The EPA NPDES CMS provides data entry guidance on how to correctly record these biosolids inspections in ICIS-NPDES.

This data element includes unique codes to identify when the regulatory authority identifies deficiencies with a biosolids management program. See Attachment 2. Authorized NPDES programs are required to share this data element with EPA in a timely, accurate, complete, and consistent format (see Subpart C to 40 CFR part 127). As noted in Attachment 1, authorized NPDES programs will directly enter this data element into ICIS-NPDES or share this data element with ICIS-NPDES through EDT. As discussed in Section 2, EPA used a technical workgroup to further refine the reference values for this data element.

During development of the rulemaking, states asked EPA to use the term ‘deficiency’ for this data element as they noted that this will match the current processing of these data. It is current practice for an EPA or state inspector to document their findings made during a biosolids inspection and note any ‘deficiencies.’ EPA created 38 different deficiency codes to identify potential noncompliance with EPA’s Federal biosolids regulations. Typically, their manager will review these ‘deficiencies’ and decide if any of them warrant identification as violations. Previously, ICIS-NPDES only had one violation code to identify noncompliance with EPA’s Federal biosolids regulations.¹⁹ There are now 38 different violation codes to identify noncompliance with EPA’s Federal biosolids regulations. These violation codes start with the letter “F”, followed by three numbers, and finishing with the letter “B.” For example, the violation code “F001B - Biosolids - Land Application: Pollutant Limit Ceiling Violation” should be used when the authorized NPDES program is identifying a facility that land applied bulk sewage sludge or sold or gave away sewage sludge in a bag or other container when one or more pollutant concentrations in the sewage sludge exceeded a land application ceiling pollutant limit (see Table 1 of 40 CFR 503.13). These 38 new biosolids violation codes also directly correspond to the noncompliance reporting that is collected on the biosolids annual report (see Attachment 3).

EPA will work with the eight states that are authorized for the Federal biosolids program (AZ, MI, OH, OK, SD, TX, UT, and WI) on how to correctly record or share these new biosolids violation codes in EPA's national NPDES data system (ICIS-NPDES).

Next Steps

EPA released the deficiency data element in ICIS Release 7.5 and in the ICIS Schema on 19 December 2016. EPA updated the reference table for violations codes to include the new 38 biosolids violation codes (e.g., F001B) in May 2017. EPA will work with the eight states that are authorized for the Federal biosolids program so that they now start recording and sharing the biosolids deficiency and violation codes in EPA's national NPDES data system (ICIS-NPDES) as these data are included in the Phase 1 implementation of the final rule (start date of 21 December 2016).

¹⁸ See U.S. EPA, 2014.

¹⁹ EPA inactivated the single biosolids violation code [B0024 - Management Practice Violations - Biosolids/Sewage Sludge Violation (Part 503 and State Regulations)] in May 2017.

EPA will also work with interested states on how to search, sort, and display these deficiency and violation codes in EPA's data access website (ECHO Gov and ECHO).²⁰ Separately, EPA will also work with interested states on how to use these 38 new biosolids violations codes in the forthcoming NPDES Noncompliance Report (see 40 CFR 123.45).

ACTION: EPA requests the eight states that are authorized for the Federal biosolids program to now start using and sharing the "Deficiencies Identified Through the Biosolids/Sewage Sludge Compliance Monitoring" data element. EPA also requests these eight states to start using and sharing the 38 new biosolids violation codes to identify noncompliance with EPA's Federal biosolids regulations. These eight states should now start sharing these biosolids deficiency and violation data with EPA's national NPDES data system (ICIS-NPDES) in a timely, accurate, complete, and consistent format. See Attachment 3.

EPA will work with authorized NPDES programs to help expedite this data sharing. States can request data entry help from EPA by sending an email (NPDESreporting@epa.gov).

4. Data Elements Specific to the Biosolids Information Provided with NPDES Permit Applications

As previously noted, biosolids management information is provided with NPDES permit applications and NOIs from POTWs and other treatment works treating domestic sewage (TWTDS). See 40 CFR 122.21(q) and 122.28.²¹ The NPDES-regulated entity must identify the expected use or disposal practices. These data are generally updated only at the time of permit issuance, which is generally on a five-year period. The reporting requirements at 40 CFR 122.21(q), 122.41(l)(iii), and 122.28 apply to all POTWs and other TWTDS. This biosolids data collection is part of the Federal biosolids program (40 CFR part 503). As required by the final rule (see 40 CFR 127.23), all eight states authorized for the Federal biosolids program (40 CFR part 503) will share the biosolids management information that is provided with NPDES permit applications and NOIs with EPA's national NPDES data system (ICIS-NPDES). The specific data elements that must be shared with EPA are provided below.

The biosolids management information that is provided at the same time as NPDES permit applications and NOIs supplements the biosolids annual report information discussed in Section 2. Sharing these two sets of biosolids data (i.e., biosolids permit application/NOI data and biosolids annual report data) with EPA's national NPDES data system (ICIS-NPDES) is particularly useful when the NPDES program is 'split' between a state and EPA Region [i.e., a state may be authorized for the core NPDES program (40 CFR part 122) but not for the Federal biosolids program (40 CFR part 503)]. This information can be particularly useful for EPA and the states that are authorized to run the Federal Pretreatment Program (40 CFR part 403). EPA will integrate biosolids management information that is provided at the same time as NPDES permit applications and NOIs with information from the biosolids annual reports to create a more complete picture of biosolids management for all facilities.

²⁰ ECHO Gov is restricted to Federal and state government use.

²¹ EPA NPDES regulations also note that any TWTDS that does not apply for a 'wastewater' NPDES permit must also submit the same information as a TWTWDS that does apply for a 'wastewater' NPDES permit using Form 2S or another form provided by the Director [see 40 CFR 122.21(c)]. These regulations also note that 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."

It is important to note that these data are not compliance monitoring data but rather describe the expected use or disposal practices. These data are meant to broadly describe the biosolids management activities at the facility. For example, a facility should not automatically be identified in noncompliance if it reports to its regulatory authority that it expects to annually land apply 10 dry metric tons but instead land applies 9 or 11 dry metric tons. However, significant changes in the biosolids management program should be reported to the authorized NPDES program (40 CFR part 503). EPA regulations require facilities to update the biosolids management information that they share with their regulatory authority when there is an alteration or addition that 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.” See 40 CFR 122.41(l)(1)(iii).

As listed in Appendix A, the final rule identified the following data elements for the biosolids management information that is provided at the same time as NPDES permit applications and NOIs (see also Attachment 1). As discussed in Section 2, EPA used a technical workgroup to further refine the reference values for these data elements.

- Biosolids/Sewage Sludge Management Facility Type
- Biosolids or Sewage Sludge Treatment Processes (Permit/NOI)
- Biosolids or Sewage Sludge Form (Permit/NOI)
- Biosolids or Sewage Sludge Management Practice (Permit/NOI)
- Biosolids or Sewage Sludge Pathogen Class (Permit/NOI)
- Biosolids or Sewage Sludge Vector Attraction Reduction Options (Permit/NOI)
- Biosolids or Sewage Sludge Pathogen Reduction Options (Permit/NOI)
- Biosolids or Sewage Sludge Amount (Permit/NOI)

Attachment 4 shows mock-ups for these data elements. EPA designed these mock-ups to use the same reference values and business rules from the biosolids annual report. This will allow EPA to integrate these two data sets to create a more complete and nationwide assessment of all biosolids management programs.

Next Steps

EPA plans to integrate these data elements into ICIS-NPDES and the related schema in January 2018 (ICIS Release 7.8, ICIS Schema Release 5.9). EPA will work with all authorized NPDES programs (40 CFR part 503) to provide outreach and training when these data can be reported to ICIS-NPDES. Initially, EPA and the eight states authorized to run the Federal biosolids program will only be able to share these data with ICIS-NPDES via electronic data transfers (EDT). EPA will be introducing a web user interface so that regulatory authorities (or appropriate persons) will be able to directly enter the necessary data. EPA will work with states in the development (and rollout/training) of this new feature. States can request data entry help from EPA by sending an email (NPDESeReporting@epa.gov).

ACTION:

Individually Permitted Facilities

If not doing so already, EPA recommends that authorized NPDES programs (40 CFR part 503) start collecting these biosolids data from individual permit applications as required by EPA's NPDES individual permit application regulations [40 CFR 122.21(q)]. EPA recommends that authorized NPDES programs (40 CFR part 503) prioritize the collection of these eight biosolids data elements for facilities with individual "wastewater" permit applications or who otherwise file NPDES Form 2S (e.g., facilities without a NPDES-permitted discharge to waters of the U.S.). The following are the recommended start dates for sharing these data with ICIS-NPDES:

- **Phase 1:** Where EPA is the authorized NPDES program (40 CFR part 503), the start date for sharing these data is 31 January 2019 (which is approximately one-year after deployment of these data elements in ICIS-NPDES).
- **Phase 2:** For the eight authorized states (40 CFR part 503), the start date for sharing these data is 21 September 2020 (which is three months prior to the Phase 2 deadline). See 40 CFR 127.23(a).

General Permit Covered Facilities

EPA recommends that authorized NPDES programs (40 CFR part 503) integrate these biosolids data elements into their electronic NOIs for POTWs and other TWTDS, which are subject to general permits, as they implement Phase 2 of the NPDES Electronic Reporting Rule. The final rule requires NOIs to be electronically reported starting no later than 21 December 2020. EPA will integrate these data elements into its NPDES electronic reporting tool for any general permit that covers POTWs and other TWTDS.

Biosolids Permit Components for All Facilities

EPA asks that authorized NPDES programs (40 CFR part 503) identify all entities regulated under the Federal biosolids program with the biosolids permit component. The "Permit Component" data element is in the ICIS schema and is included in Appendix A. Authorized NPDES programs (40 CFR part 122) must share this data element with ICIS-NPDES (40 CFR 127.23) as part of the Phase 1 implementation. As a result of this data sharing, all POTWs and TWTDS will have a biosolids permit component in ICIS-NPDES. The following are the recommended start dates for sharing these data with ICIS-NPDES:

- The due date for identifying individually permitted facilities or facilities or who otherwise file NPDES Form 2S with the biosolids permit component is 31 January 2019.
- The start date for identifying general permit covered facilities with the biosolids permit component is 21 December 2020.

Authorized NPDES programs should add the biosolids permit component to all NPDES IDs that correspond to permitted wastewater discharges (e.g., AL0020141). These authorized NPDES programs should not use other NPDES IDs that correspond to other aspects such as permitted stormwater discharges or the biosolids annual report submission (e.g., ALL020141). EPA will coordinate with states that are authorized for the core NPDES program (40 CFR part 122) but not the Federal biosolids program (40 CFR part 503) before adding a biosolids permit component to a NPDES ID.

5. Linkages to Authorized NPDES Programs Compliance Monitoring and Enforcement Actions

The data elements in this paper will be linkable to compliance monitoring activities (e.g., inspections) and enforcement actions. This will help distinguish between resolved and unresolved violations found through authorized NPDES programs compliance monitoring activities (e.g., inspections) or compliance monitoring reports from permittees (e.g., DMRs, program reports). These linkages will also identify if the authorized NPDES program has taken an enforcement action for any given violation.

Attachment 1: Data Elements Discussed in this Paper (taken from Appendix A to 40 CFR 127)

Data Elements Specific to Sewage Sludge/Biosolids Annual Program Reports (40 CFR part 503)		
Data Name	Data Description	NPDES Data Group Number
Biosolids or Sewage Sludge Treatment Processes	The one or more unique codes/descriptions that identify the biosolids or sewage sludge treatment process or processes at the facility. For example, this data element uses codes to identify treatment processes in the following categories: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.	4
Biosolids or Sewage Sludge Analytical Methods	The one or more unique codes/descriptions that identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, <i>helminth ova</i> , <i>Salmonella sp.</i> , and other regulated parameters. For example, EPA requires facilities to monitor for the certain parameters, which are listed in Tables 1, 2, 3, and 4 at 40 CFR 503. 13 and Tables 1 and 2 at 40 CFR 503.23. This data element stores each analytic method used by the facility only once for each annual report (not for each parameter measurement).	4

Data Elements Specific to Sewage Sludge/Biosolids Annual Program Reports (40 CFR part 503)		
Data Name	Data Description	NPDES Data Group Number
Biosolids or Sewage Sludge Form	The one or more unique codes/descriptions that identify the nature of each biosolids and sewage sludge material generated by the facility in terms of whether the material is a biosolid or sewage sludge and whether the material is ultimately conveyed off-site in bulk or in bags. The facility will separately report the form for each biosolids or sewage sludge management practice or practices used by the facility and pathogen class.	4

Data Elements Specific to Sewage Sludge/Biosolids Annual Program Reports (40 CFR part 503)		
Data Name	Data Description	NPDES Data Group Number
Biosolids or Sewage Sludge Management Practice	The one or more unique codes/descriptions that identify the type of biosolids or sewage sludge management practice or practices (<i>e.g.</i> , land application, surface disposal, incineration) used by the facility. The facility will separately report the management practice for each biosolids or sewage sludge form and pathogen class. This data element will also identify the management practices used by surface disposal site owners/operators (see 40 CFR 503.24).	4
Biosolids or Sewage Sludge Pathogen Class	The one or more unique codes/descriptions that identify the pathogen class or classes [<i>e.g.</i> , Class A, Class B, Not Applicable (Incineration)] for biosolids or sewage sludge generated by the facility. The facility will separately report the pathogen class for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form.	4

Data Elements Specific to Sewage Sludge/Biosolids Annual Program Reports (40 CFR part 503)		
Data Name	Data Description	NPDES Data Group Number
Biosolids or Sewage Sludge Amount (Program Report)	This is the amount (in dry metric tons) of biosolids or sewage sludge applied to the land, prepared for sale or give-away in a bag or other container for application to the land, or placed on an active sewage sludge unit. This identification will be made for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form as well as by each biosolids or sewage sludge pathogen class.	4
Biosolids or Sewage Sludge Pathogen Reduction Options	The one or more unique codes/descriptions that identify the options used by the facility to control pathogens [e.g., Class A – Alternative 1, Class A – Alternative 2, Class A – Alternative 3, Class A – Alternative 4, Class A – Alternative 5, Class A – Alternative 6, Class B – Alternative 1, Class B – Alternative 2, Class B – Alternative 3, or pH Adjustment (Domestic Septage)]. The facility will separately report the pathogen reduction options for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form as well as by each biosolids or sewage sludge pathogen class.	4
Biosolids or Sewage Sludge Vector Attraction Reduction Options	The one or more unique codes/descriptions that identify the options used by the facility for vector attraction reduction. See a listing of these vector attraction reduction options at 40 CFR 503.33(b)(1) through (11). The facility will separately report the vector attraction reduction options for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form as well as by each biosolids or sewage sludge pathogen class.	4
Biosolids or Sewage Sludge Monitored Parameter	This is the biosolids or sewage sludge parameter that is monitored by the facility. If there is more than one class, then the facility will separately report each monitored parameter for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form. EPA requires facilities to monitor for the certain parameters, which are listed in Tables 1, 2, 3, and 4 at 40 CFR 503.13 and Tables 1 and 2 at 40 CFR 503.23, pathogens (e.g., fecal coliform, <i>Salmonella sp.</i> , enteric viruses, <i>helminth ova</i>), and vector attraction reduction parameters (e.g., specific oxygen uptake rate, and total, fixed, and volatile solids).	4
Biosolids or Sewage Sludge Monitored Parameter Value	This is the value of the Biosolids or Sewage Sludge Monitored Parameter.	4
Biosolids or Sewage Sludge Monitored Parameter Units	This is the measurement unit (e.g., mg/kg) associated with the Biosolids or Sewage Sludge Monitored Parameter Value.	4

Data Elements Specific to Sewage Sludge/Biosolids Annual Program Reports (40 CFR part 503)		
Data Name	Data Description	NPDES Data Group Number
Biosolids or Sewage Sludge Monitored Parameter End Date	This is the end date of the monthly monitoring period for the biosolids or sewage sludge sampling (<i>e.g.</i> , 1/31/2015 for biosolids or sewage sludge monitoring data in January 2015). This data element is used to track the frequency of biosolids or sewage sludge monitoring in the reporting period (<i>e.g.</i> , annually, quarterly, bi-monthly, or monthly). For example, see Table 1 of 40 CFR 503.16 (Land Application), Table 1 of 40 CFR 503.26 (Surface Disposal).	4
Biosolids or Sewage Sludge - Pollutant Concentration	This data element is applicable to facilities that use active surface disposal sites (<i>e.g.</i> , monofills, surface impoundments, lagoons, waste piles, dedicated disposal sites, and dedicated beneficial use sites) without a liner. This data element identifies the maximum allowable pollutant concentration for each of the three pollutants: arsenic, chromium, and nickel (in units of mg/kg). This data element will use Tables 1 and 2 of 40 CFR 503.23 or the procedures identified in 40 CFR 503.23(b).	4
Biosolids or Sewage Sludge - Deficiencies	This data element is applicable to facilities that use land application and/or an active surface disposal site (<i>e.g.</i> , monofills, surface impoundments, lagoons, waste piles, dedicated disposal sites, and dedicated beneficial use sites). This data element uses one or more unique codes/descriptions to identify all deficiencies in the biosolids or sewage sludge program within the reporting period. For example, this data element uses a unique code/description to identify when a biosolids or sewage sludge pollutant concentration exceed a ceiling concentration (<i>e.g.</i> , Table 1 of 40 CFR 503.13 for facilities utilizing land application). This data element also uses a unique code/description to identify when the facility failed to properly collect and analyze its biosolids or sewage sludge in accordance with the approved analytical methods (including appropriate method holding times). This data element also uses a unique code/description to identify deficiencies with pathogen reduction and/or vector attraction reduction. For facilities that use an active surface disposal site this data element will use a unique code/description to identify any deficiencies in meeting the applicable surface disposal requirements [see 40 CFR 503.24(a) through (n)].	4

Sewage Sludge/Biosolids Inspection Data Element (Authorized NPDES Program under 40 CFR part 503)

Data Name	Data Description	NPDES Data Group Number
Deficiencies Identified Through the Biosolids/Sewage Sludge Compliance Monitoring	This is the unique code/description that identifies each deficiency in the facility's biosolids and sewage sludge program (40 CFR part 503) for each compliance monitoring activity (e.g., inspections, audits) by the regulatory authority. This data element includes unique codes to identify when the facility failed to comply with any applicable permit requirements or enforcement actions. The values for this data element will distinguish between the different levels of noncompliance.	1

Sewage Sludge/Biosolids Information Submitted at Same Time of NPDES Permit Application or Notice of Intent		
(Note: Authorized NPDES programs (40 CFR part 503) are required to collect biosolids information from NPDES permit applicants (for both individual permits and general permits). See 40 CFR 122.21(q) and 122.28.		
Data Name	Data Description	NPDES Data Group Number
Biosolids/Sewage Sludge Management Facility Type	The unique code/description that identifies whether the facility was issued a permit as a biosolids/sewage sludge generator, processor, or end user (e.g., land application site, surface disposal site, incinerator). For the Sewage Sludge/Biosolids Annual Report this data element is also the unique code/description that identifies if an off-site facility or location receives biosolids or sewage sludge from this facility. This data element is also required for the Sewage Sludge/Biosolids Annual Report.	1,2, and 4
Biosolids or Sewage Sludge Treatment Processes (Permit)	The one or more unique codes/descriptions that identifies the biosolids or sewage sludge treatment process or processes at the facility. For example, this may include treatment processes in the following categories: preliminary operations (e.g., sludge grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.	1,2
Biosolids or Sewage Sludge Form (Permit)	The one or more unique codes/descriptions that identify the nature of each biosolids and sewage sludge material generated by the facility in terms of whether the material is a biosolid or sewage sludge and whether the material is ultimately conveyed off-site in bulk or in bags. The facility will separately report the form for each biosolids or sewage sludge management practice and pathogen class.	1,2
Biosolids or Sewage Sludge Management Practice (Permit)	The one or more unique codes/descriptions that identify the type of biosolids or sewage sludge management practice or practices (e.g., land application, surface disposal, incineration) used by the facility. The facility will separately report the practice for each different form of biosolids and sewage sludge generated by the facility and pathogen class.	1,2
Biosolids or Sewage Sludge Pathogen Class (Permit)	The one or more unique codes/descriptions that identify the pathogen class or classes (e.g., Class A, Class B, Not Applicable) for biosolids or sewage sludge generated by the facility. The facility will separately report the pathogen class for each biosolids or sewage sludge management practice used by the facility and for each biosolids or sewage sludge form.	1,2
Biosolids or Sewage Sludge Vector Attraction Reduction Options (Permit)	The one or more unique codes/descriptions that identify the option(s) used by the facility for vector attraction reduction. See a listing of these vector attraction reduction options at 40 CFR 503.33(b)(1) through (11). The facility will separately report the vector attraction reduction options for each biosolids or sewage sludge management practice used by the facility and for each biosolids or sewage sludge form as well as by each biosolids or sewage sludge pathogen class.	1,2

Sewage Sludge/Biosolids Information Submitted at Same Time of NPDES Permit Application or Notice of Intent		
(Note: Authorized NPDES programs (40 CFR part 503) are required to collect biosolids information from NPDES permit applicants (for both individual permits and general permits). See 40 CFR 122.21(q) and 122.28.		
Data Name	Data Description	NPDES Data Group Number
Biosolids or Sewage Sludge Pathogen Reduction Options (Permit)	The one or more unique codes/descriptions that identify the option(s) used by the facility to control pathogens (e.g., Class A – Alternative 1, Class A – Alternative 2, Class A – Alternative 3, Class A – Alternative 4, Class A – Alternative 5, Class A – Alternative 6, Class B – Alternative 1, Class B – Alternative 2, Class B – Alternative 3, or pH Adjustment (Domestic Septage). The facility will separately report the pathogen reduction options for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form as well as by each biosolids or sewage sludge pathogen class.	1,2
Biosolids or Sewage Sludge Amount (Permit)	This is the amount (in dry metric tons) of biosolids or sewage sludge applied to the land, prepared for sale or give-away in a bag or other container for application to the land, or placed on an active sewage sludge unit in the preceding 365-day period. This identification will be made for each biosolids or sewage sludge management practice used by the facility and by each biosolids or sewage sludge form as well as by each biosolids or sewage sludge pathogen class.	1,2

Note: EPA’s biosolids regulations use the term “dry weight basis” to define requirements (e.g., frequency of monitoring, agronomic rate application, annual whole sludge application rate). EPA’s biosolids regulations specify the process for measuring the mass of biosolids based on a “dry weight basis.” See 40 CFR 503.9(h). Under the EPA process for determining the “dry weight basis” of the biosolids, the operator heats a representative biosolids sample to 105 degrees Celsius until no more water in the biosolids sample can be removed (i.e., after sufficient heating the biosolids sample is at a constant mass and is in state of essentially 100 percent solids content). The metric ton is a unit of mass equal to 1,000 kilograms and is approximately equivalent to 2,205 pounds. Therefore, the term “dry metric tons” is a unit of mass (approximately equivalent to 2,205 pounds) that only measures the dry solids portion of the biosolids.

Attachment 2: Screenshots and Reference Values for the “Deficiencies Identified Through the “Biosolids or Sewage Sludge - Deficiencies” and “Biosolids/Sewage Sludge Compliance Monitoring” Data Elements

Noncompliance Reporting on the Federal Biosolids Annual Report

As previously noted, the technical workgroup refined the “Biosolids or Sewage Sludge - Deficiencies” data element in the annual report to focus on noncompliance with EPA’s Federal biosolids regulations (40 CFR part 503). EPA provides filers with checkboxes on the annual report “to indicate any noncompliance with EPA’s Federal sewage sludge program requirements (see 40 CFR part 503) for this facility during the reporting period.” The noncompliance reporting section also provided references to the corresponding requirement in EPA’s biosolids regulations. As shown in the screenshot below, the annual report form includes the following instructions, “any person who prepares sewage sludge (i.e., person who generates sewage sludge or a person who derives a material from sewage sludge) shall ensure that the applicable requirements in EPA’s biosolids regulations (40 CFR part 503) are met when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator (see 40 CFR 503.7).”

The screenshot below shows how noncompliance data are collected on the biosolids annual report through EPA’s electronic reporting tool (NeT). The noncompliance checkbox data that are collected by NeT are stored in the “XREF_PROG_RPT_BIO_MGMT_DEF” ICIS-NPDES table. The reference values for the annual report noncompliance data are located in the “REF_PROG_DEFICIENCY” table in ICIS-NPDES and are provided in the table below.

Noncompliance Reporting

Please use the check boxes below to indicate any noncompliance with EPA's Federal sewage sludge program requirements (see [40 CFR 503](#)) for this facility during the reporting period. EPA notes that any person who prepares sewage sludge (i.e., person who generates sewage sludge or a person who derives a material from sewage sludge) shall ensure that the applicable requirements in EPA's biosolids regulations ([40 CFR 503](#)) are met when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator (see [40 CFR 503.7](#)).

Land Application

- Facility land applied bulk sewage sludge or sold or gave away sewage sludge in a bag or other container when one or more pollutant concentrations in the sewage sludge exceeded a land application ceiling pollutant limit (see Table 1 of [40 CFR 503.13](#)).
- Facility failed to properly collect and analyze its sewage sludge in accordance with the required monitoring frequency and approved analytical methods in order to obtain an accurate and representative sample (including appropriate method holding times) (see permit requirements and [40 CFR 503.8](#)).
- Facility had deficiencies with pathogen reduction (see [40 CFR 503.32](#)).
- Facility had deficiencies with vector attraction reduction (see [40 CFR 503.33](#)).
- Land application of bulk sewage sludge likely to adversely affected a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat (see [40 CFR 503.14\(a\)](#)).
- Bulk sewage sludge was applied to agricultural land, forest, a public contact site, or a reclamation site that was flooded, frozen, or snow-covered such that the bulk sewage sludge entered a wetland or other waters of the United States, as defined in [40 CFR 122.2](#), except as provided in a permit issued pursuant to Section 402 or 404 of the CWA (see [40 CFR 503.14\(b\)](#)).

Deficiencies Identified Through the Biosolids/Sewage Sludge Compliance Monitoring

During development of the rulemaking, states asked EPA to use the term ‘deficiency’ for this data element as they noted that this will match the current processing of these data. It is current practice for an EPA or state inspector to document their findings made during a biosolids inspection and note any ‘deficiencies.’ EPA created 38 different deficiency codes in December 2016 (ICIS Release 7.5) to identify potential noncompliance with EPA’s Federal biosolids regulations. Typically, their manager will review these ‘deficiencies’ and decide if any of them warrant identification as violations. These violations of the Federal biosolids program are stored in a separate table in ICIS-NPDES.

The reference values associated with the “Deficiencies Identified Through the Biosolids/Sewage Sludge Compliance Monitoring” data element can be directly entered into ICIS-NPDES (see screenshot).

Deficiencies in biosolids management that are identified through state or EPA compliance monitoring (e.g., inspections) are stored in ICIS-NPDES. A manager can subsequently identify a deficiency as a violation using the violation codes in Attachment 3.

The screenshot displays the ICIS-NPDES interface. The top section is titled "Statute / Programs" and contains two main areas: "Federal Statute" and "Programs".

- Federal Statute:** A text input field contains "CWA: Clean Water Act".
- Programs:** A list of programs is shown with "2 selected". The list includes:
 - NPDES - Sanitary Sewer Overflow (SSO)
 - NPDES - Section 308 Information Requests
 - NPDES - Sludge/Biosolids
 - NPDES - Stormwater - Construction
 - NPDES - Stormwater - MS4

The bottom section is titled "Program Deficiencies" and contains a "Select options" area with a list of deficiency codes:

- Check all
- Uncheck all
- Biosolids Land Application : Facility had deficiencies with pathogen reduction (see 40 CFR 503.32). (Land Application)
- Biosolids Land Application : Facility had deficiencies with vector attraction reduction (see 40 CFR 503.33). (Land Application)
- Biosolids Land Application : Facility land applied bulk sewage sludge or sold or gave away sewage sludge in a bag or other container when one or more pollutant concentrations in the sewage sludge exceeded a land application ceiling pollutant limit (see Table 1 of 40 CFR 503.13).

Reference Values for the “Deficiencies Identified Through the “Biosolids or Sewage Sludge - Deficiencies” and “Biosolids/Sewage Sludge Compliance Monitoring” Data Elements (see REF_PROG_DEFICIENCY)

No.	Code	Biosolids/Sewage Sludge Deficiency	Biosolids/Sewage Sludge Management Type
1	SPC	Facility land applied bulk sewage sludge or sold or gave away sewage sludge in a bag or other container when one or more pollutant concentrations in the sewage sludge exceeded a land application ceiling pollutant limit (see Table 1 of 40 CFR 503.13).	Land Application
2	TAA	Facility failed to properly collect and analyze its sewage sludge in accordance with the required monitoring frequency and approved analytical methods in order to obtain an accurate and representative sample (including appropriate method holding times) (see permit requirements and 40 CFR 503.8). (Land Application)	Land Application
3	FPR	Facility had deficiencies with pathogen reduction (see 40 CFR 503.32). (Land Application)	Land Application
4	FVR	Facility had deficiencies with vector attraction reduction (see 40 CFR 503.33). (Land Application)	Land Application
5	LBS	Land application of bulk sewage sludge likely adversely affected a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat (see 40 CFR 503.14(a)).	Land Application
6	BSS	Bulk sewage sludge was applied to agricultural land, forest, a public contact site, or a reclamation site that was flooded, frozen, or snow-covered such that the bulk sewage sludge entered a wetland or other waters of the United States, as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to Section 402 or 404 of the CWA (see 40 CFR 503.14(b)).	Land Application
7	BAL	Bulk sewage sludge was applied to agricultural land, forest, or a reclamation site that was 10 meters or less from waters of the United States, as defined in 40 CFR 122.2, unless otherwise specified by the permitting authority (see 40 CFR 503.14(c)).	Land Application
8	BAF	Bulk sewage sludge was applied to agricultural land, forest, a public contact site, or a reclamation site at a whole sludge application rate that was greater than the agronomic rate for the bulk sewage sludge, unless, in the case of a reclamation site, otherwise specified by the permitting authority (see 40 CFR 503.14(d)).	Land Application
9	LSR	One or more label or information sheet requirements were not met for sewage sludge that was sold or given away for land application (see 40 CFR 503.14(e)).	Land Application

No.	Code	Biosolids/Sewage Sludge Deficiency	Biosolids/Sewage Sludge Management Type
10	CPL	Bulk sewage sludge was applied to land where the cumulative pollutant loading rates in 40 CFC 503.13(b)(2) have been reached.	Land Application
11	LAA	The required notice and information was not provided to the land application applier [see 40 CFR 503.12(f) and (g)].	Land Application
12	OLL	The required notice and information was not provided to the owner or lease holder of the land on which bulk sewage sludge was applied [see 40 CFR 503.12(h)].	Land Application
13	WNP	The required notice was not provided to the permitting authority for the State in which bulk sewage sludge was applied if the bulk sewage sludge was applied to land in a State other than the State in which the bulk sewage sludge was prepared [see 40 CFR 503.12(i) and (j)].	Land Application
14	KNR	The facility failed to keep the necessary records for preparers and appliers during the reporting period [see 40 CFR 503.27].	Land Application
15	FCP	Food crops with harvested parts that touched the sewage sludge/soil mixture (such as melons, cucumbers, squash, etc.) were harvested within 14 months after application of sewage sludge [see 40 CFR 503.32(b)(5)(i)].	Land Application (Additional Pathogen Class B Requirements)
16	FCH	Food crops with harvested parts below the soil surface (root crops such as potatoes, carrots, radishes) were harvested within 20 months after application of sewage sludge and the sewage sludge remained on the land surface for four months or longer prior to incorporation into the soil [see 40 CFR 503.32(b)(5)(ii)].	Land Application (Additional Pathogen Class B Requirements)
17	PSS	Food crops with harvested parts below the soil surface (root crops such as potatoes, carrots, radishes) were harvested within 38 months after application of the sewage sludge and the sewage sludge remained on the land surface for less than four months prior to incorporation into the soil [see 40 CFR 503.32(b)(5)(iii)].	Land Application (Additional Pathogen Class B Requirements)
18	FFF	Food crops, feed crops, and fiber crops were harvested within 30 days after application of sewage sludge [see 40 CFR 503.32(b)(5)(iv)].	Land Application (Additional Pathogen Class B Requirements)
19	GRZ	Animals were grazed on a site within 30 days after application of sewage sludge [see 40 CFR 503.32(b)(5)(v)].	Land Application (Additional Pathogen Class B Requirements)

No.	Code	Biosolids/Sewage Sludge Deficiency	Biosolids/Sewage Sludge Management Type
20	TUR	Turf was harvested within 1 year after application of sewage sludge if the turf was placed on land with a high potential for public exposures or a lawn, unless otherwise specified by the permitting authority [see 40 CFR 503.32(b)(5)(vi)].	Land Application (Additional Pathogen Class B Requirements)
21	PUC	Public access to land with high potential for public exposure was not restricted for 1 year after application of sewage sludge [see 40 CFR 503.32(b)(5)(vii)].	Land Application (Additional Pathogen Class B Requirements)
22	PUL	Public access to land with a low potential for public exposure was not restricted for 30 days after application of sewage sludge [see 40 CFR 503.32(b)(5)(viii)].	Land Application (Additional Pathogen Class B Requirements)
23	PCE	Facility placed sewage sludge on a surface disposal site when one or more pollutant concentrations in the sewage sludge exceeded a surface disposal pollutant limit (see 40 CFR 503.23).	Surface Disposal
24	RMF	Facility failed to properly collect and analyze its sewage sludge in accordance with the required monitoring frequency and approved analytical methods in order to obtain an accurate and representative sample (including appropriate method holding times) (see permit requirements and 40 CFR 503.8). (Surface Disposal)	Surface Disposal
25	DPR	Facility had deficiencies with pathogen reduction (see 40 CFR 503.32). (Surface Disposal)	Surface Disposal
26	DVR	Facility had deficiencies with vector attraction reduction (see 40 CFR 503.33). (Surface Disposal)	Surface Disposal
27	WPD	Facility stored sewage sludge for more than two years without proper documentation (see 40 CFR 503.20).	Surface Disposal
28	ALA	Surface disposal of bulk sewage sludge on an active sewage sludge unit likely adversely affected a threatened or endangered species listed under Section 4 of the Endangered Species Act or its designated critical habitat (see 40 CFR 503.24(a)).	Surface Disposal
29	ASD	Facility did not comply with one or more of the applicable surface disposal requirements (see 40 CFR 503.24(b) through (n)).	Surface Disposal
30	ELN	Facility failed to comply with emissions limits as specified in the NPDES permit or 40 CFR 503.43.	Incineration

No.	Code	Biosolids/Sewage Sludge Deficiency	Biosolids/Sewage Sludge Management Type
31	CAS	Facility failed to properly collect and analyze its sewage sludge in accordance with the required monitoring frequency and approved analytical methods in order to obtain an accurate and representative sample (including appropriate method holding times) (see permit requirements and 40 CFR 503.8). (Incineration)	Incineration
32	BER	Facility failed to comply with the National Emission Standards for Beryllium in Subpart C of 40 CFR Part 61.	Incineration
33	MER	Facility failed to comply with the National Emission Standards for Mercury in Subpart E of 40 CFR Part 61.	Incineration
34	CIC	Facility failed to operate, maintain, and calibrate the instruments that continuously measure and record THC (or alternatively CO), oxygen concentration, moisture content, and combustion temperatures (see 40 CFR 503.45).	Incineration
35	OOR	Facility incinerator failed to operate within the required range of the air pollution control devices operating parameters as specified in the permit.	Incineration
36	FTE	Incineration of sewage sludge likely adversely affected a threatened or endangered species listed under section 4 of the Endangered Species Act or its designated critical habitat (see 40 CFR 503.45(g)).	Incineration
37	DAI	Facility did not comply with one or more of the applicable incineration requirements (see 40 CFR 503.45(a) through (f) and (h)).	Incineration
38	OTH	Other management practice deficiency	Other Management Practice

Attachment 3: ICIS-NPDES Biosolids Violation Codes

For EPA or state compliance monitoring activities, EPA has created 38 separate ways of identifying deficiencies or noncompliance with EPA’s Federal biosolids program. “Deficiencies” are identified by EPA inspectors and entered into ICIS-NPDES as part of the inspection report data. A manager can subsequently identify a deficiency as a violation using one or more of the following violation codes. The “deficiency” codes are also shown below to help identify the linkages between the biosolids “deficiency” codes and new biosolids violation codes.

Violations Identified Through EPA or State Biosolids/Sewage Sludge Compliance Monitoring

No.	Violation Code (REF_VIOLATION.VIOLATION.CODE)	Violation Description (REF_VIOLATION.VIOLATION.DESC)	Violation Group Code (REF_VIOLATION.VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type	Deficiency Code (REF_PROG_DEFICIENCY.PROG_DEFICIENCY_CODE)
1	F001B	Biosolids - Land Application: Pollutant Limit Ceiling Violation	SEV	Land Application	SPC
2	F002B	Biosolids - Land Application: Invalid Monitoring or Unrepresentative Sample Violation	SEV	Land Application	TAA
3	F003B	Biosolids - Land Application: Pathogen Reduction Violation	SEV	Land Application	FPR
4	F004B	Biosolids - Land Application: Vector Attraction Reduction Violation	SEV	Land Application	FVR
5	F005B	Biosolids - Land Application: Endangered Species Act Violation	SEV	Land Application	LBS
6	F006B	Biosolids - Land Application: Applied to Flooded, Frozen, or Snow Covered Land Violation	SEV	Land Application	BSS
7	F007B	Biosolids - Land Application: Applied to Land that is 10 meters or Less from WOTUS Violation	SEV	Land Application	BAL
8	F008B	Biosolids - Land Application: Applied to Land at Greater than the Agronomic Rate Violation	SEV	Land Application	BAF
9	F009B	Biosolids - Land Application: Label or Information Sheet Requirements Violation	SEV	Land Application	LSR

No.	Violation Code (REF_VIOLATION.VIOLATION.CODE)	Violation Description (REF_VIOLATION.VIOLATION.DESC)	Violation Group Code (REF_VIOLATION.VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type	Deficiency Code (REF_PROG_DEFICIENCY.PROG_DEFICIENCY_CODE)
10	F010B	Biosolids - Land Application: Cumulative Pollutant Loading Violation	SEV	Land Application	CPL
11	F011B	Biosolids - Land Application: Failure to Notify Land Application Applier	SEV	Land Application	LAA
12	F012B	Biosolids - Land Application: Failure to Notify Owner or Lease Holder	SEV	Land Application	OLL
13	F013B	Biosolids - Land Application: Failure to Notify State Permitting Authority	SEV	Land Application	WNP
14	F014B	Biosolids - Land Application: Facility Failed to Keep Records for Preparers and Appliers	SEV	Land Application	KNR
15	F015B	Biosolids - Land Application: Biosolids Touching Harvestable Food Crops Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	FCP
16	F016B	Biosolids - Land Application: Biosolids Touching Root Crops Within 20 Months Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	FCH
17	F017B	Biosolids - Land Application: Biosolids Touching Root Crops Within 38 Months Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	PSS
18	F018B	Biosolids - Land Application: Food Crops, Feed Crops, and Fiber Crops Harvest Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	FFF
19	F019B	Biosolids - Land Application: Animal Grazing Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	GRZ
20	F020B	Biosolids - Land Application: Turf Harvest Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	TUR
21	F021B	Biosolids - Land Application: High Potential Public Exposure Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	PUC

No.	Violation Code (REF_VIOLATION.VIOLATION.CODE)	Violation Description (REF_VIOLATION.VIOLATION.DESC)	Violation Group Code (REF_VIOLATION.VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type	Deficiency Code (REF_PROG_DEFICIENCY.PROG_DEFICIENCY_CODE)
22	F022B	Biosolids - Land Application: Low Potential Public Exposure Violation	SEV	Land Application (Additional Pathogen Class B Requirements)	PUL
23	F023B	Biosolids - Surface Disposal: Pollutant Limit Ceiling Violation	SEV	Surface Disposal	PCE
24	F024B	Biosolids - Surface Disposal: Invalid Monitoring or Unrepresentative Sample Violation	SEV	Surface Disposal	RMF
25	F025B	Biosolids - Surface Disposal: Pathogen Reduction Violation	SEV	Surface Disposal	DPR
26	F026B	Biosolids - Surface Disposal: Vector Attraction Reduction Violation	SEV	Surface Disposal	DVR
27	F027B	Biosolids - Surface Disposal: Sewage Sludge Storage Violation (More than Two Years)	SEV	Surface Disposal	WPD
28	F028B	Biosolids - Surface Disposal: Endangered Species Act Violation	SEV	Surface Disposal	ALA
29	F029B	Biosolids - Surface Disposal: Other Surface Disposal Requirement Violation	SEV	Surface Disposal	ASD
30	F030B	Biosolids - Incineration: Emissions Limits Violation	SEV	Incineration	ELN
31	F031B	Biosolids - Incineration: Invalid Monitoring or Unrepresentative Sample Violation	SEV	Incineration	CAS
32	F032B	Biosolids - Incineration: Violation of National Emission Standards for Beryllium	SEV	Incineration	BER
33	F033B	Biosolids - Incineration: Violation of National Emission Standards for Mercury	SEV	Incineration	MER
34	F034B	Biosolids - Incineration: Failure to Properly Manage Continuous Monitoring Equipment Violation	SEV	Incineration	CIC

No.	Violation Code (REF_VIOLATION. VIOLATION.CODE)	Violation Description (REF_VIOLATION. VIOLATION.DESC)	Violation Group Code (REF_VIOLATION. VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type	Deficiency Code (REF_PROG_DEFICIENCY. PROG_DEFICIENCY_CODE)
35	F035B	Biosolids - Incineration: Failure to Properly Operate Air Pollution Control Devices Violation	SEV	Incineration	OOR
36	F036B	Biosolids - Incineration: Endangered Species Act Violation	SEV	Incineration	FTE
37	F037B	Biosolids - Incineration: Other Incineration Requirement Violation	SEV	Incineration	DAI
38	F038B	Biosolids: Other Management Practice Violation	SEV	Other Management Practice	OTH

Note:

- EPA’s NPDES data system (ICIS-NPDES) will track detected violations to determine whether the violation is resolved (e.g., regulatory authority has concluded a formal enforcement action against the violator), is resolved pending (e.g., the regulatory authority has initiated a formal enforcement action against the violator), or is still unresolved (e.g., regulatory authority has not initiated any formal enforcement action against the violator).

Violations Reported on the Biosolids/Sewage Sludge Annual Report

The biosolids annual report allows filers using checkboxes to identify up to 38 different types of noncompliance with EPA’s Federal biosolids regulations (40 CFR part 503). As noted above, EPA will update ICIS-NPDES or NeT (or both) so that noncompliance checkbox data will automatically trigger the following biosolids violation codes.

EPA will also update ICIS-NPDES or Net (or both) to detect each violation of a biosolids pollutant limit and create a violation code (e.g., R090B) for each violation reported on a biosolids annual report. For example, if there are three pollutant concentrations above a limit this will result in the creation of three violation codes. In particular, these violations will separately track the following violations of the following requirements:

- 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 1 of §503.13 [40 CFR 503.13(a)(1)];
- Sewage sludge placed on an active sewage sludge unit shall not exceed the concentration for the pollutant in Tables 1 or 2 of §503.23 or site specific limits [40 CFR 503.23];

- Firing of sewage sludge in a sewage sludge incinerator shall not violate the requirements in the National Emission Standard for Beryllium in subpart C of 40 CFR part 61 or National Emission Standard for Mercury in subpart E of 40 CFR part 61; and
- The average daily concentration for arsenic, cadmium, chromium, lead, and nickel in sewage sludge fed to a sewage sludge incinerator each shall not exceed site specific limits [40 CFR 503.43].

This will allow ICIS-NPDES to uniquely track each violation similar to how it tracks effluent limit violations. EPA will coordinate with states during implementation of this approach.

No.	Violation Code (REF_VIOLATION. VIOLATION.CODE)	Violation Description (REF_VIOLATION. VIOLATION.DESC)	Violation Group Code (REF_VIOLATION. VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type
1	R001B	PR: Biosolids - Land Application: Pollutant Limit Ceiling Violation	SEV	Land Application
2	R002B	PR: Biosolids - Land Application: Invalid Monitoring or Unrepresentative Sample Violation	SEV	Land Application
3	R003B	PR: Biosolids - Land Application: Pathogen Reduction Violation	SEV	Land Application
4	R004B	PR: Biosolids - Land Application: Vector Attraction Reduction Violation	SEV	Land Application
5	R005B	PR: Biosolids - Land Application: Endangered Species Act Violation	SEV	Land Application
6	R006B	PR: Biosolids - Land Application: Applied to Flooded, Frozen, or Snow Covered Land Violation	SEV	Land Application
7	R007B	PR: Biosolids - Land Application: Applied to Land that is 10 meters or Less from WOTUS Violation	SEV	Land Application
8	R008B	PR: Biosolids - Land Application: Applied to Land at Greater than the Agronomic Rate Violation	SEV	Land Application
9	R009B	PR: Biosolids - Land Application: Label or Information Sheet Requirements Violation	SEV	Land Application
10	R010B	PR: Biosolids - Land Application: Cumulative Pollutant Loading Violation	SEV	Land Application
11	R011B	PR: Biosolids - Land Application: Failure to Notify Land Application Applier	SEV	Land Application
12	R012B	PR: Biosolids - Land Application: Failure to Notify Owner or Lease Holder	SEV	Land Application
13	R013B	PR: Biosolids - Land Application: Failure to Notify State Permitting Authority	SEV	Land Application

No.	Violation Code (REF_VIOLATION.VIOLATION.CODE)	Violation Description (REF_VIOLATION.VIOLATION.DESC)	Violation Group Code (REF_VIOLATION.VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type
14	R014B	PR: Biosolids - Land Application: Facility Failed to Keep Records for Preparers and Appliers	SEV	Land Application
15	R015B	PR: Biosolids - Land Application: Biosolids Touching Harvestable Food Crops Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
16	R016B	PR: Biosolids - Land Application: Biosolids Touching Root Crops Within 20 Months Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
17	R017B	PR: Biosolids - Land Application: Biosolids Touching Root Crops Within 38 Months Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
18	R018B	PR: Biosolids - Land Application: Food Crops, Feed Crops, and Fiber Crops Harvest Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
19	R019B	PR: Biosolids - Land Application: Animal Grazing Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
20	R020B	PR: Biosolids - Land Application: Turf Harvest Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
21	R021B	PR: Biosolids - Land Application: High Potential Public Exposure Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
22	R022B	PR: Biosolids - Land Application: Low Potential Public Exposure Violation	SEV	Land Application (Additional Pathogen Class B Requirements)
23	R023B	PR: Biosolids - Surface Disposal: Pollutant Limit Ceiling Violation	SEV	Surface Disposal
24	R024B	PR: Biosolids - Surface Disposal: Invalid Monitoring or Unrepresentative Sample Violation	SEV	Surface Disposal
25	R025B	PR: Biosolids - Surface Disposal: Pathogen Reduction Violation	SEV	Surface Disposal

No.	Violation Code (REF_VIOLATION. VIOLATION.CODE)	Violation Description (REF_VIOLATION. VIOLATION.DESC)	Violation Group Code (REF_VIOLATION. VIOLATION_GROUP_CODE)	Biosolids/Sewage Sludge Management Type
26	R026B	PR: Biosolids - Surface Disposal: Vector Attraction Reduction Violation	SEV	Surface Disposal
27	R027B	PR: Biosolids - Surface Disposal: Sewage Sludge Storage Violation (More than Two Years)	SEV	Surface Disposal
28	R028B	PR: Biosolids - Surface Disposal: Endangered Species Act Violation	SEV	Surface Disposal
29	R029B	PR: Biosolids - Surface Disposal: Other Surface Disposal Requirement Violation	SEV	Surface Disposal
30	R030B	PR: Biosolids - Incineration: Emissions Limits Violation	SEV	Incineration
31	R031B	PR: Biosolids - Incineration: Invalid Monitoring or Unrepresentative Sample Violation	SEV	Incineration
32	R032B	PR: Biosolids - Incineration: Violation of National Emission Standards for Beryllium	SEV	Incineration
33	R033B	PR: Biosolids - Incineration: Violation of National Emission Standards for Mercury	SEV	Incineration
34	R034B	PR: Biosolids - Incineration: Failure to Properly Manage Continuous Monitoring Equipment Violation	SEV	Incineration
35	R035B	PR: Biosolids - Incineration: Failure to Properly Operate Air Pollution Control Devices Violation	SEV	Incineration
36	R036B	PR: Biosolids - Incineration: Endangered Species Act Violation	SEV	Incineration
37	R037B	PR: Biosolids - Incineration: Other Incineration Requirement Violation	SEV	Incineration
38	R038B	PR: Biosolids: Other Management Practice Violation	SEV	Other Management Practice

Note:

- EPA's NPDES data system (ICIS-NPDES) will track detected violations to determine whether the violation is resolved (e.g., regulatory authority has concluded a formal enforcement action against the violator), is resolved pending (e.g., the regulatory authority has initiated a formal enforcement action against the violator), or is still unresolved (e.g., regulatory authority has not initiated any formal enforcement action against the violator).

Attachment 4: Mock-ups for Biosolids Permit Application Data Elements

The following are mock-ups for biosolids information submitted at the time of individual permit applications and NOI submittals. The authorized NPDES program (40 CFR part 503) will collect these data from individual permit applications and NOIs and electronically share these data with EPA through electronic data transfers. Authorized NPDES program must share these data with ICIS-NPDES in a timely fashion (e.g., within 40 days of receipt – see 40 CFR 127.23). When the state is authorized for the ‘core’ NPDES program (40 CFR part 122) but not for the Federal biosolids program (40 CFR part 503), EPA will separately collect these data at the same time that the facility submits a ‘wastewater’ NPDES permit application or NOI to the state.

EPA designed the reference values for these data elements to match the reference values for the biosolids annual report. This will allow EPA to integrate these two data sets and generate a more complete and nationwide assessment of all biosolids management programs.

As part of this data sharing, EPA asks that authorized NPDES programs (40 CFR part 503) identify all POTWs and TWTDS as biosolids facilities in ICIS-NPDES. These authorized NPDES programs (40 CFR part 503) should do this by adding a biosolids permit component to all NPDES IDs for POTWs and TWTDS that correspond to permitted wastewater discharges (e.g., AL0020141). These authorized NPDES programs should not use other NPDES IDs that correspond to other aspects such as permitted stormwater discharges or the biosolids annual report submission (e.g., AL0020141). The “Permit Component” data element is included in the ICIS schema and Appendix A. Authorized NPDES programs (40 CFR part 122) must share this data element with ICIS-NPDES (40 CFR 127.23).

Biosolids/Sewage Sludge Management Facility Type

Please identify the type of biosolids/sewage sludge facility (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> POTW with a design flow rate equal to or greater than one million gallons per day | <input type="checkbox"/> Biosolids or sewage sludge processor |
| <input type="checkbox"/> POTW that serves 10,000 people or more | <input type="checkbox"/> Biosolids or sewage sludge end user - land application site |
| <input type="checkbox"/> Class I Sludge Management Facility as defined in 40 CFR 503.9 | <input type="checkbox"/> Biosolids or sewage sludge end user - surface disposal site |
| <input type="checkbox"/> Biosolids or sewage sludge generator | <input type="checkbox"/> Biosolids or sewage sludge end user – incinerator |
| | <input type="checkbox"/> None of the above |

Biosolids or Sewage Sludge Treatment Processes

Please check the box next to the following biosolids or sewage sludge treatment processes that you will use on the sewage sludge or biosolids generated or produced at your facility during the permit term (check one or more that apply).

Pathogen Reduction Operations (see Appendix B to Part 503)

Processes to Significantly Reduce Pathogens (PSRP)

- Aerobic Digestion
- Air Drying (or "sludge drying beds")
- Anaerobic Digestion
- Lower Temperature Composting
- Lime Stabilization

Processes to Further Reduce Pathogens (PFRP)

- Higher Temperature Composting
- Heat Drying (e.g., flash dryer, spray dryer, rotary dryer)
- Heat Treatment (Liquid sewage sludge is heated to temp. of 356°F (or 180°C) or higher for 30 min.)
- Thermophilic Aerobic Digestion
- Beta Ray Irradiation
- Gamma Ray Irradiation
- Pasteurization

Physical Treatment Operations

- Preliminary Operations (e.g., sludge grinding, degritting, blending)
- Thickening (e.g., gravity and/or flotation thickening, centrifugation, belt filter press, vacuum filter)
- Sludge Lagoon

Other Processes to Manage Sewage Sludge

- Temporary Sludge Storage (sewage sludge stored on land 2 years or less, not in sewage sludge unit)
- Long-term Sludge Storage (sewage sludge stored on land 2 years or more, not in sewage sludge unit)
- Methane or Biogas Capture and Recovery
- Other Treatment Process:

Biosolids or Sewage Sludge Management Practice, Form, Pathogen Class, and Amount

Please use the selections below to identify how sewage sludge or biosolids generated or produced at your facility will be managed, used, or disposed by you or your facility during the permit term. The NPDES-regulated entity must identify the expected use or disposal practices to the authorized NPDES program at the time of NPDES permit application or when requested to do so by the authorized NPDES program. You can use the button below to add as many Sewage Sludge Unique Identifier (SSUID) sections as needed to describe how you manage your sewage sludge.

Sewage Sludge Unique Identifier (SSUID): 001

Management Practice Type *	Handler or Preparer Type *	Management Practice Detail *
<input type="text"/>	<input type="text"/>	<input type="text"/>

Please Note: Land Application includes the distribution and marketing (sale or give away) of Class A EQ.

Other Management Practice Detail Description: *

Bulk or Bag/Container *	Pathogen Class *	Volume Amount (dry metric tons) *
<input type="text"/>	<input type="text"/>	<input type="text"/>

[Click to Add Another Sewage Sludge Unique Identifier](#)

The following are reference values for these data fields:

- **Management Practice Type Options:** Land Application, Surface Disposal, Incineration, Other Management Practice
- **Handler or Preparer Type Options:** Owner or Operator, Off-Site Third-Party Handler or Preparer
- **Management Practice Detail Options (Land Application):** Agricultural Land Application, Reclamation Site Application, Distribution and Marketing – Compost, Distribution and Marketing – Other, Heat Dried Biosolids Distribution and Marketing, Advanced Alkaline Stabilized Biosolids Distribution and Marketing, Other.
- **Management Practice Detail Options (Other Management Practice):** Disposal in a Municipal Landfill (40 CFR 258), Use as Daily Cover for Municipal Landfill (40 CFR 258), Sent to Cement Kiln for Use as Alternative Energy, Used in Production of Syngas, Deep-well Injection Disposal, Use in Construction, Storage, Other.
- **Other Management Practice Detail Description (for Land Application or Other Management Practice):** [Open Text]

- **Bulk or Bag/Container Options:** Bulk, Bag or Container
- **Pathogen (Biosolids) Class Options:** Class A EQ (sale/give away), Class A, Class B, Not Applicable. [Note: This is sometimes described as the biosolids class.”]
- **Volume Amount (dry metric tons):** [number]

Biosolids or Sewage Sludge Vector Attraction Reduction Options

<input type="checkbox"/> A1	Class A-Alternative 1: Time/Temperature
<input type="checkbox"/> A2	Class A-Alternative 2: pH/Temperature/Percent Solids
<input type="checkbox"/> A3	Class A-Alternative 3: Test Enteric Viruses and Helminth ova; Operating Parameters
<input type="checkbox"/> A4	Class A-Alternative 4: Test Enteric Viruses and Helminth ova; No New Solids
<input type="checkbox"/> A51	Class A-Alternative 5 PFRP 1: Composting
<input type="checkbox"/> A52	Class A-Alternative 5 PFRP 2: Heat Drying
<input type="checkbox"/> A53	Class A-Alternative 5 PFRP 3: Liquid Heat Treatment
<input type="checkbox"/> A54	Class A-Alternative 5 PFRP 4: Thermophilic Aerobic Digestion (ATAD)
<input type="checkbox"/> A55	Class A-Alternative 5 PFRP 5: Beta Ray Irradiation
<input type="checkbox"/> A56	Class A-Alternative 5 PFRP 6: Gamma Ray Irradiation
<input type="checkbox"/> A57	Class A-Alternative 5 PFRP 7: Pasteurization
<input type="checkbox"/> A6	Class A-Alternative 6: PFRP Equivalency
<input type="checkbox"/> B1	Class B-Alternative 1: Fecal Coliform Geometric Mean
<input type="checkbox"/> B21	Class B-Alternative 2 PSRP 1: Aerobic Digestion
<input type="checkbox"/> B22	Class B-Alternative 2 PSRP 2: Air Drying
<input type="checkbox"/> B23	Class B-Alternative 2 PSRP 3: Anaerobic Digestion
<input type="checkbox"/> B24	Class B-Alternative 2 PSRP 4: Composting
<input type="checkbox"/> B25	Class B-Alternative 2 PSRP 5: Lime Stabilization
<input type="checkbox"/> B3	Class B-Alternative 3: PSRP Equivalency
<input type="checkbox"/> pH	pH Adjustment (Domestic Septage)

Biosolids or Sewage Sludge Pathogen Reduction Options

Vector Attraction Reduction Options	
<input type="checkbox"/> VR1	Option 1-Volatile Solids Reduction
<input type="checkbox"/> VR2	Option 2-Bench-Scale Volatile Solids Reduction (Anaerobic Bench Test)
<input type="checkbox"/> VR3	Option 3-Bench-Scale Volatile Solids Reduction (Aerobic Bench Test with Percent Solids of Two Percent or Less)
<input type="checkbox"/> VR4	Option 4-Specific Oxygen Uptake Rate
<input type="checkbox"/> VR5	Option 5-Aerobic Processing (Thermophilic Aerobic Digestion/Composting)
<input type="checkbox"/> VR6	Option 6-Alkaline Treatment
<input type="checkbox"/> VR7	Option 7-Drying (Equal to or Greater than 75 Percent)
<input type="checkbox"/> VR8	Option 8-Drying (Equal to or Greater than 90 Percent)
<input type="checkbox"/> VR9	Option 9-Sewage Sludge Injection
<input type="checkbox"/> VR10	Option 10-Sewage Sludge Timely Incorporation into Land
<input type="checkbox"/> VR11	Option 11-Sewage sludge Covered at the End of Each Operating Day