

STATE REVIEW FRAMEWORK

North Carolina

**Clean Air Act, Clean Water Act, &
Resource Conservation & Recovery Act
Implementation in Federal Fiscal Year 2018**

**U.S. Environmental Protection Agency
Region 4**

**Final Report
January 28, 2021**

I. Introduction

A. Overview of the State Review Framework

The State Review Framework (SRF) is a key mechanism for EPA oversight, providing a nationally consistent process for reviewing the performance of state delegated compliance and enforcement programs under three core federal statutes: Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act. Through SRF, EPA periodically reviews such programs using a standardized set of metrics to evaluate their performance against performance standards laid out in federal statute, EPA regulations, policy, and guidance. When states do not achieve standards, the EPA will work with them to improve performance.

Established in 2004, the review was developed jointly by EPA and Environmental Council of the States (ECOS) in response to calls both inside and outside the agency for improved, more consistent oversight of state delegated programs. The goals of the review that were agreed upon at its formation remain relevant and unchanged today:

1. Ensure delegated and EPA-run programs meet federal policy and baseline performance standards
2. Promote fair and consistent enforcement necessary to protect human health and the environment
3. Promote equitable treatment and level interstate playing field for business
4. Provide transparency with publicly available data and reports

B. The Review Process

The review is conducted on a rolling five-year cycle such that all programs are reviewed approximately once every five years. The EPA evaluates programs on a one-year period of performance, typically the one-year prior to review, using a standard set of metrics to make findings on performance in five areas (elements) around which the report is organized: data, inspections, violations, enforcement, and penalties. Wherever program performance is found to deviate significantly from federal policy or standards, the EPA will issue recommendations for corrective action which are monitored by EPA until completed and program performance improves.

The SRF is currently in its 4th Round (FY2018-2022) of reviews, preceded by Round 3 (FY2012-2017), Round 2 (2008-2011), and Round 1 (FY2004-2007). Additional information and final reports can be found at the EPA website under [State Review Framework](#).

II. Navigating the Report

The final report contains the results and relevant information from the review including EPA and program contact information, metric values, performance findings and explanations, program responses, and EPA recommendations for corrective action where any significant deficiencies in performance were found.

A. Metrics

There are two general types of metrics used to assess program performance. The first are **data metrics**, which reflect verified inspection and enforcement data from the national data systems of each media, or statute. The second, and generally more significant, are **file metrics**, which are derived from the review of individual facility files in order to determine if the program is performing their compliance and enforcement responsibilities adequately. In general, each metric is the ratio of the numerator (N) divided by the denominator (D), shown as a percentage in the “relevant metrics” tables below.

Other information considered by EPA to make performance findings in addition to the metrics includes results from previous SRF reviews, data metrics from the years in-between reviews, and multi-year metric trends.

B. Performance Findings

The EPA makes findings on performance in five program areas:

- **Data** - completeness, accuracy, and timeliness of data entry into national data systems
- **Inspections** - meeting inspection and coverage commitments, inspection report quality, and report timeliness
- **Violations** - identification of violations, accuracy of compliance determinations, and determination of significant noncompliance (SNC) or high priority violators (HPV)
- **Enforcement** - timeliness and appropriateness of enforcement, returning facilities to compliance
- **Penalties** - calculation including gravity and economic benefit components, assessment, and collection

Though performance generally varies across a spectrum, for the purposes of conducting a standardized review, SRF categorizes performance into three findings levels:

Meets or Exceeds: No issues are found. Base standards of performance are met or exceeded.

Area for Attention: Minor issues are found. One or more metrics indicates performance issues related to quality, process, or policy. The implementing agency is considered able to correct the issue without additional EPA oversight.

Area for Improvement: Significant issues are found. One or more metrics indicates routine and/or widespread performance issues related to quality, process, or policy. A recommendation for corrective action is issued which contains specific actions and schedule for completion. The EPA monitors implementation until completion.

C. Recommendations for Corrective Action

Whenever the EPA makes a finding on performance of *Area for Improvement*, the EPA will include a recommendation for corrective action, or recommendation, in the report. The purpose of recommendations is to address significant performance issues and bring program performance back in line with federal policy and standards. All recommendations should include specific actions and a schedule for completion, and their implementation is monitored by the EPA until completion.

III. Review Process Information

Key Dates:

- September 23, 2019: kick off letter sent to state
- March 18-27, 2020, remote file review for CWA
- February 24 –27, 2020, on-site file review for CAA
- February 24-27, 2020, on-site file review for RCRA

State and EPA key contacts for review:

	North Carolina Department for Environmental Quality (NCDEQ)	EPA Region 4
SRF Coordinator	Sheila Holman Assistant Secretary for Environment North Carolina Department of Environmental Quality	Bryan Myers, SRF Coordinator
CAA	Steve Hall Section Chief, Technical Services Division of Air Quality North Carolina Department of Environmental Quality	Kevin Taylor, Air Enforcement Branch David Lloyd, Air Enforcement Branch Wendell Reed, Air Enforcement Branch
CWA	John Hennessey, Unit Chief Compliance & Expedited Permitting Unit Division of Water Resources North Carolina Department of Environmental Quality	Andrea Zimmer, Policy, Oversight & Liaison Office Becky Garnett, Policy, Oversight & Liaison Office Brad Ammons, Water Enforcement Branch
RCRA	Brent Burch. Compliance Branch Head, Hazardous Waste Section Division of Waste Management N.C. Department of Environmental Quality	Reggie Barrino, Policy, Oversight & Liaison Office Laurie Benton- DiGaetano, Chemical Safety & Land Enforcement Branch

Executive Summary

Introduction

Areas of Strong Performance

The following are aspects of the program that, according to the review, are being implemented at a high level:

Clean Air Act (CAA)

NCDEQ met the negotiated frequency for inspection of sources and included all required elements in their Full Compliance Evaluations (FCEs) and Compliance Monitoring Reports (CMRs).

NCDEQ made accurate compliance determinations for both High Priority Violations (HPVs) and non-HPVs.

Enforcement actions bring sources back into compliance within a specified timeframe, and High Priority Violations (HPVs) are addressed in an appropriate manner.

High Priority Violations (HPVs) were addressed within 180 days or a Case Development and Resolution Timeline (CDRT) was discussed with EPA.

The collection of penalties was adequately documented in state files.

Clean Water Act (CWA)

NCDEQ met or exceeded most of its FY2018 CMS Plan and CWA §106 Workplan inspection commitments.

NCDEQ's inspection reports generally were well written, complete, provided sufficient documentation to determine compliance, and were timely.

NCDEQ's inspection reports consistently documented accurate compliance determinations.

Resource Conservation and Recovery Act (RCRA)

NC DEQ made accurate hazardous waste compliance determinations. In addition, significant noncompliance (SNC) determinations were timely and appropriate.

NC DEQ consistently issues enforcement responses that have returned or will return a facility in significant noncompliance (SNC) or secondary violation (SV) to compliance.

NC DEQ considered gravity and economic benefit when calculating penalties and documented the differences between initial and final penalty assessments.

NC DEQ included documentation in the files that all final assessed penalties were collected.

Priority Issues to Address

The following are aspects of the program that, according to the review, are not meeting federal standards and should be prioritized for management attention:

Clean Air Act (CAA)

None

Clean Water Act (CWA)

Enforcement Responses do not consistently promote a Return to Compliance.

Enforcement Responses do not consistently address violations in an appropriate manner.

The CWA program does not consistently document adequate rationale for the economic benefit component of the penalty.

Resource Conservation and Recovery Act (RCRA)

None.

Clean Air Act Findings

CAA Element 1 - Data

Finding 1-1

Area for Attention

Recurring Issue:

No

Summary:

Minimum Data Requirements (MDRs) for High Priority Violations (HPVs), compliance monitoring and enforcement actions were deficient in their timely input to ICIS-Air.

Explanation:

Metrics 3a2, 3b1 and 3b3 indicated that NCDEQ was deficient in timely reporting of the MDRs for HPVs (11%), compliance monitoring (31.1%) and enforcement actions (28.1%) to ICIS-Air, respectively. However, NCDEQ informed EPA during the FY 2019 Region 4 Annual State Visit, that there were issues with their FY 2018 data, due to their data system IBEAM, which uploads to ICIS-Air, not successfully batch uploading all its data. As a result, it was discovered on November 9, 2018 that certain historical data in ICIS-Air were deleted or overwritten with bad data. On November 13, 2018, NCDEQ did successfully batch upload its data. However, since the original facility data entries in ICIS-AIR had been deleted/overwritten in the previously unsuccessful upload, November 13, 2018 became the date used for any dates that were previously deleted from the system. Therefore, if a HPV, compliance monitoring or enforcement activity occurred prior to November 13, 2018 but was deleted in the unsuccessful batch upload, then the date would be replaced with the November 13, 2018 date of the successful upload and the MDR would be miscalculated to be well beyond the required time period for reporting.

NCDEQ also informed the EPA that corrective actions were implemented by programming the IBEAM system to send an email to the data administrator listing the specific batch payloads whose data did not get staged correctly because of a batch job error prior to its submission to ICIS-Air. NCDEQ is also monitoring the record counts for each batch payload and comparing the counts to what is expected from the system. If there is a batch error or if the record count does not match, the data is not submitted to ICIS-Air and the submission problems are investigated.

As a follow-up to the FY 2018 data issues identified, EPA conducted a review of the FY 2019 data for Metrics 3a2, 3b1 and 3b3 after the data verification period update which occurred in the April 2020. The results revealed significant improvements in the reporting of the compliance monitoring (Metric 3b1) and enforcement activities (Metric 3b3) of 99.2% and 97%, respectively and minimal improvement for reporting of HPVs (Metric 3a2) of 22.2%.

EPA is therefore recommending that this element be considered an Area of Attention, and that NCDEQ continue its corrective action procedures to ensure timely reporting of MDRs to

ICIS-Air. EPA will review, the FY 2020 data for Metrics 3a2, 3b1 and 3b3, after the data verification period update in April 2021 to ensure that NCDEQ has sustained the improvements for timely reporting of compliance monitoring and enforcement activities and made significant improvements for time reporting of HPVs to ICIS-Air.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
3a2 Timely reporting of HPV determinations [GOAL]	100%	44.9%	1	9	11.1%
3b1 Timely reporting of compliance monitoring MDRs [GOAL]	100%	85.2%	356	1144	31.1%
3b3 Timely reporting of enforcement MDRs [GOAL]	100%	71.8%	41	146	28.1%

State Response:

EPA’s explanation of November 2018 ICIA-AIR upload data glitch is accurate. This unfortunate event caused NCDEQ’s CAA timeliness data for FFY2018 to be artificially skewed to make it appear that specific compliance and enforcement activities in NC took much longer than what the actual data in NCDEQ’s internal database shows. A comparison of NCDEQ’s CAA data metrics for FFY2017 and FFY2019 clearly demonstrate the impact of the November 2018 data glitch on NCDEQ’s FFY2018 timeliness metrics. Without the data upload glitch, NCDEQ’s CAA data timeliness for FFY2018 in ICIS-AIR would be very similar to the CAA timeliness data in FFY2017 and FFY2019. Although NCDEQ was unable to determine the cause of the payload upload failure to ICIS-Air which resulted in the subsequent deletion and overwriting of the previous data, we continue to follow the practices implemented after the data glitch to immediately provide notification to key staff of potential data payload issues prior to uploading the data to ICIS-AIR to avoid similar glitches in the future.

Recommendation:

CAA Element 1 - Data

Finding 1-2

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NCDEQ met the expectation for complete and accurate reporting of Minimum Data Requirements (MDRs).

Explanation:

Metric 2b indicated that 33 of the 35 files reviewed (94.3%) had all MDRs reported accurately into ICIS-Air.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
2b Files reviewed where data are accurately reflected in the national data system [GOAL]	100%		33	35	94.3%

State Response:

NCDEQ will continue to follow current practices and procedures in meeting this metric.

CAA Element 1 - Data

Finding 1-3

Area for Attention

Recurring Issue:

No

Summary:

Stack tests and stack test results were deficient in their timely input to ICIS-Air.

Explanation:

Metric 3b2 indicated that half of the stack tests results (124 of 248) were not entered to ICIS-Air within the established timeframe of 120 days. However, NCDEQ informed EPA during the FY 2019 Region 4 Annual State Visit, that there were issues with their FY 2018 data, due to their data system IBEAM, which uploads to ICIS-Air, not successfully batch uploading all its data. As a result, it was discovered on November 9, 2018 that certain historical data in ICIS-Air were deleted or overwritten with bad data. On November 13, 2018, NCDEQ did successfully batch upload its data. However, since the original facility data entries in ICIS-AIR had been deleted/overwritten in the previously unsuccessful upload, November 13, 2018 became the date used for any dates that were previously deleted from the system. Therefore, if a stack test and its results were entered to ICIS-Air prior to November 13, 2018, but was deleted in the unsuccessful batch upload, then the date would be replaced with the November 13, 2018 date of the successful upload and the stack test and its results would be miscalculated to be well beyond the required time period for reporting.

NCDEQ also informed the EPA that corrective actions were implemented by programming the IBEAM system to send an email to the data administrator listing the specific batch payloads whose data did not get staged correctly because of a batch job error prior to its submission to ICIS-Air. NCDEQ is also monitoring the record counts for each batch payload and comparing the counts to what is expected from the system. If there is a batch error or if the record count does not match, the data is not submitted to ICIS-Air and the submission problems are investigated.

As a follow-up to the FY 2018 data issues identified, EPA conducted a review of the FY 2019 data for Metric 3b2 after the data verification period update which occurred in the April 2020. The results revealed significant improvements in the reporting of stack test and stack test results (Metric 3b2) of 94.7%.

EPA is therefore recommending that this element be considered an Area of Attention, and that NCDEQ continue its corrective action procedures to ensure accurate and timely reporting of stack tests and stack tests results to ICIS-Air. EPA will review, the FY 2020 data for Metric 3b2 after the data verification period update in April 2021 to ensure that NCDEQ has sustained the improvements for reporting stack tests and stack test results to ICIS-Air.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
3b2 Timely reporting of stack test dates and results [GOAL]	100%	65.1%	124	248	50%

State Response:

EPA’s explanation of November 2018 ICIS-AIR data upload glitch is accurate. This unfortunate event caused NCDEQ’s CAA timeliness data for FFY2018 to be artificially skewed to make it appear that specific compliance and enforcement activities in NC took much longer than what the actual data in NCDEQ’s internal database shows. As noted above, the November 2018 data glitch was also responsible for skewing NCDEQ’s CAA stack testing results reporting timeliness data in ICIS-Air. To address this, we will continue to follow the practices implemented after the November 2018 data glitch to immediately provide notification to key staff of potential data payload issues prior to uploading the data to ICIS-AIR to avoid similar glitches in the future. In addition, NCDEQ has begun the process of providing specific notification to the assigned CAA stack test report review engineers of the 120-day timeframe for stack test results reviews to help prioritize the review process to meet the MDR’s.

Recommendation:

CAA Element 2 - Inspections

Finding 2-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NCDEQ met the negotiated frequency for inspection of sources and included all required elements in their Full Compliance Evaluations (FCEs) and Compliance Monitoring Reports (CMRs).

Explanation:

Metrics 5a and 5b indicated that NCDEQ met the expectation of providing adequate inspection coverage for major and SM-80 sources during FY2018 by ensuring that all major sources were inspected at least every 2 years, and each SM-80 source was inspected at least every 5 years. In addition, Metrics 6a and 6b confirmed that all elements of an FCE and CMR required by the Clean Air Act Stationary Source Compliance Monitoring Strategy (CMS Guidance) were addressed in facility files reviewed.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
5a FCE coverage: majors and mega-sites [GOAL]	100%	88.1%	278	278	100%
5b FCE coverage: SM-80s [GOAL]	100%	93.7%	579	579	100%
6a Documentation of FCE elements [GOAL]	100%		30	30	100%
6b Compliance monitoring reports (CMRs) or facility files reviewed that provide sufficient documentation to determine compliance of the facility [GOAL]	100%		33	33	100%

State Response:

NCDEQ will continue to follow current practices and procedures in meeting this metric.

CAA Element 2 - Inspections

Finding 2-2

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NCDEQ met the goal of ensuring that all Title V Annual Compliance Certification (ACC) reviews are completed and entered into ICIS-Air.

Explanation:

Metric 5e indicated that 266 of 268 Title V ACCs (99.3%) were reviewed by the NCDEQ and recorded in ICIS-Air.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
5e Reviews of Title V annual compliance certifications completed [GOAL]	100%	82.5%	266	268	99.3%

State Response:

NCDEQ will continue to follow current practices and procedures in meeting this metric.

CAA Element 3 - Violations

Finding 3-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NCDEQ made accurate compliance determinations for both High Priority Violations (HPVs) and non-HPVs.

Explanation:

Metric 7a indicated that NCDEQ made accurate compliance determinations in all 35 files reviewed (100%). Metric 8c indicated that NCDEQ's made accurate HPV determinations in 18 of 19 files reviewed with violations (94.7%).

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
7a Accurate compliance determinations [GOAL]	100%		35	35	100%
8c Accuracy of HPV determinations [GOAL]	100%		18	19	94.7%

State Response:

NCDEQ will continue to follow current practices and procedures in meeting this metric.

Recommendation:

CAA Element 3 - Violations

Finding 3-2

Area for Attention

Recurring Issue:

No

Summary:

HPVs were deficient in their timely input to ICIS-Air.

Explanation:

Metric 13 indicated that only 6 of the 9 HPVs (66.7%) were entered to ICIS-Air within 90 days of the discovery action. However, NCDEQ informed EPA during the FY 2019 Region 4 Annual State Visit, that there were issues with their FY 2018 data, due to their data system IBEAM, which uploads to ICIS-Air, not successfully batch uploading all its data. As a result, it was discovered on November 9, 2018 that certain historical data in ICIS-Air were deleted or overwritten with bad data. On November 13, 2018, NCDEQ did successfully batch upload its data. However, since the original facility data entries in ICIS-AIR had been deleted/overwritten in the previously unsuccessful upload, November 13, 2018 became the date used for any dates that were previously deleted from the system. Therefore, if a HPV was entered to ICIS-Air prior to November 13, 2018, but was deleted in the unsuccessful batch upload, then the date would be replaced with the November 13, 2018 date of the successful upload and the HPV would be miscalculated to be well beyond the required time period for reporting.

NCDEQ also informed the EPA that corrective actions were implemented by programming the IBEAM system to send an email to the data administrator listing the specific batch payloads whose

data did not get staged correctly because of a batch job error prior to its submission to ICIS-Air. NCDEQ is also monitoring the record counts for each batch payload and comparing the counts to what is expected from the system. If there is a batch error or if the record count does not match, the data is not submitted to ICIS-Air and the submission problems are investigated.

As a follow-up to the FY 2018 data issues identified, EPA conducted a review of the FY 2019 data for Metric 13 after the data verification period update which occurred in the April 2020. The results revealed minimal improvements in the reporting of HPVs (Metric 13) of 75%.

EPA is therefore recommending that this element be considered an Area of Attention, and that NCDEQ continue its corrective action procedures to ensure timely reporting of HPVs to ICIS-Air. EPA will review, the FY 2020 data for Metric 13 after the data verification period update in April 2021 to ensure that NCDEQ has made improvements for reporting HPVs to ICIS-Air.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
13 Timeliness of HPV Identification [GOAL]	100%	89.5%	6	9	66.7%

State Response:

EPA’s explanation of November 2018 ICIS-AIR data upload glitch is accurate. This unfortunate event caused NCDEQ’s CAA timeliness data for FFY2018 to be artificially skewed to make it appear that specific compliance and enforcement activities in NC took much longer than what the actual data in NCDEQ’s internal database shows. As noted above, the November 2018 data glitch may not have been wholly responsible for the timeliness issues for this specific metric when comparing FFY2018 data metrics to the results for this data element in FFY2019. NC DEQ will continue to follow the practices implemented after the November 2018 data glitch to immediately provide notification to key staff of potential data payload issues prior to uploading the data to ICIS-AIR to avoid similar glitches in the future. Additionally, NC DEQ will review its internal procedures for entering HPVs into ICIS-Air and look for specific opportunities to streamline these procedures to improve the timeliness of these actions.

CAA Element 4 - Enforcement

Finding 4-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

Enforcement actions bring sources back into compliance within a specified timeframe, and High Priority Violations (HPVs) are addressed in an appropriate manner.

Explanation:

Metric 9a indicated that all 21 formal enforcement actions reviewed (100%) brought sources back into compliance through corrective actions in the order, or compliance was achieved prior to issuance of the order. Metric 14 indicated that all two CD&RT's (100%) contained the required policy elements for HPVs addressed in FY2018. Metric 10b indicated that appropriate enforcement action was taken to address all eight HPVs (100%) evaluated during the file review.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
10b Percent of HPVs that have been addressed or removed consistent with the HPV Policy [GOAL]	100%		8	8	100%
14 HPV case development and resolution timeline in place when required that contains required policy elements [GOAL]	100%		2	2	100%
9a Formal enforcement responses that include required corrective action that will return the facility to compliance in a specified time frame or the facility fixed the problem without a compliance schedule [GOAL]	100%		21	21	100%

State Response:

NCDEQ continues to follow the practices implemented to immediately provide notification of successful payload upload or failure so that the data can successfully displayed in ICIS-Air on a timely basis.

CAA Element 4 - Enforcement

Finding 4-2

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

High Priority Violations (HPVs) were addressed within 180 days or a Case Development and Resolution Timeline (CDRT) was discussed with EPA.

Explanation:

Metric 10a indicated that all 8 HPVs (100%) were addressed within 180 days or alternatively had a CDRT in place.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
10a Timeliness of addressing HPVs or alternatively having a case development and resolution timeline in place	100%		8	8	100%

State Response:

NCDEQ will continue to follow current practices and procedures in meeting this metric.

CAA Element 5 - Penalties

Finding 5-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

The collection of penalties was adequately documented in state files.

Explanation:

Metric 12b (100%) confirmed that documentation of the collection of seven penalty payments made by sources was included in the file.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
12b Penalties collected [GOAL]	100%		16	16	100%

State Response:

NCDEQ will continue to follow current practices and procedures in meeting this metric.

CAA Element 5 - Penalties

Finding 5-2

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NCDEQ considered gravity when calculating penalties, and in most cases, economic benefit was considered, or a rationale was provided for not including economic benefit in the penalty. In addition, differences between initial and final penalty assessments was adequately documented.

Explanation:

Metric 11a indicated that NCDEQ considered gravity and economic benefit in 14 of 15 penalty calculations reviewed (93.3%). Metric 12a indicated that all 14 penalty calculations reviewed (100%) documented any difference between the initial and the final penalty assessed.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
11a Penalty calculations reviewed that document gravity and economic benefit [GOAL]	100%		14	15	93.3%
12a Documentation of rationale for difference between initial penalty calculation and final penalty [GOAL]	100%		14	14	100%

State Response:

NCDEQ considers both gravity and economic benefit as legally required assessment factors in establishing civil penalty assessments for CAA cases. In addition, NCDEQ began to explicitly document such economic benefits for its CAA cases. Use of EPA’s BEN Model is typically used for any complex assessment where more than \$10,000 economic benefit may be realized as a result of noncompliance.

Clean Water Act Findings

CWA Element 1 – Data

Finding 1-1

Area for Attention

Summary:

NCDEQ did not meet both National Goals for the entry of key data into the national databases for major and non-major facilities.

Explanation:

Data Metric 1b5 evaluates the entry of NPDES permit limits into the national database. For the FY18 period of review, NCDEQ entered 78% of their permit limits for major and non-major facilities.

NCDEQ exceeded the National Goal and national averages for the entry of Data Metric 1b6, entering 98.78% of DMR data for major and non-major facilities.

EPA commends NCDEQ on their continued data entry of Single Event Violations (SEVs).

Because the State did not achieve the National Goal or national averages for Metric 1b5, this will be an Area for State Attention in Round 4.

State Response:

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
1b5 Completeness of data entry on major and non-major permit limits. [GOAL]	95%	90.6%	1104	1408	78%
1b6 Completeness of data entry on major and non-major discharge monitoring reports. [GOAL]	95%	93.3%	14198	15102	98.8%
7j1 Number of major and non-major facilities with single-event violations reported in the review year	-	-	83		

CWA Element 1 - Data

Finding 1-2

Area for Attention

Summary:

The accuracy of data between files reviewed and data reflected in the national data system needs improvement.

Explanation:

EPA’s initial file review indicated that for Metric 2b 12.2% (5/41) of the files reviewed reflected accurate data entry of minimum data requirements (MDR) for NPDES facilities into the Integrated Compliance Information System (ICIS).

EPA analyzed the results for this metric and found that discrepancies observed between ICIS and the State's files were isolated except for the systemic issue of inaccurate dates for NOV's.

For the majority of NOV's, the dates in the file differed from the ICIS dates by a few days. NCDEQ provided information that the State tracks two dates for NOV's in its database: "NOV drafted date" and "NOV sent date." The transmittal letter/NOV is date stamped, with this date entered as the "NOV drafted date." When the NOV is signed by the manager and mailed, the mailing date is entered as the "NOV sent date." The "NOV sent date" is the information that flows from the state database into the ICIS field "Achieved Date," resulting in a mismatch of file dates and ICIS dates. However, EPA notes that each NOV issued by NC is assigned a unique identifying number and this number is also entered into ICIS, thus establishing an accurate comparison between the enforcement actions found in the file and those entered in ICIS. When comparing NOV identification numbers, rather than dates, 73% (30/41) of the files reviewed reflected accurate information.

EPA suggests that NCDEQ adopt the more conventional procedure of using the date stamped on the transmittal letter/NOV as the "Achieved Date" in ICIS and NCDEQ is implementing a change to its procedures to correct this discrepancy. Therefore, data accuracy is an Area for Attention in Round 4.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
2b Files reviewed where data are accurately reflected in the national data system [GOAL]	100%	-	5	41	12.2%

State Response:

Recommendation:

CWA Element 2 - Inspections

Finding 2-1

Meets or Exceeds Expectations

Summary:

NCDEQ met or exceeded its FY18 CMS commitments for all areas except MS4 audits or inspections.

Explanation:

Element 2 includes metrics that measure planned inspections completed (Metrics 4a1 - 4a10) and inspection coverages (Metrics 5a1, 5b1, and 5b2) for NPDES majors and non-majors. The National Goal for these Metrics is for 100% of state specific CMS Plan commitments to be met. The FY18 inspection commitments listed in the table below are from the CWA §106 Workplan end of year (EOY) report. The Region also combined the NPDES minor individual and general permits inspections and universes into one commitment for FY18. Therefore, separate inspection coverages for Metrics 5b1 and 5b2 could not be ascertained from the FY18 CWA §106 Workplan EOY report.

Based on review of the NCDEQ CWA §106 Workplan EOY report, the State met or exceeded its CMS inspection commitments in FY18 with the exception of its MS4 commitments (Metric 4a7).

State Response:

Recommendation:

CWA Element 2 - Inspections

Finding 2-2**Area for Attention**

Summary:

NCDEQ did not meet its FY18 CMS commitments for MS4 audits or inspections.

Explanation:

Based on review of the NCDEQ CWA §106 Workplan EOY report, the state did not meet its MS4 commitments (Metric 4a7). The State completed 35% (7/20) of its FY18 commitment for Phase I and Phase II MS4 audits or inspections.

During FY19, the NC Stormwater Program, working with EPA, streamlined compliance reviews, established standardized compliance and enforcement protocols and templates, and trained staff on performing and documenting MS4 audits and inspections. EPA's review of the State's FY20 CMS plan indicated that the MS4 audit and inspection commitments were met. It is recommended that the State continue implementation of its Phase II audit schedule to ensure that 100% of the permittees are audited or inspected within a five-year period. Because the Phase II audit schedule is a multi-year effort, this will be an Area for Attention.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
4a1 Number of pretreatment compliance inspections and audits at approved local pretreatment programs. [GOAL]	100% of commitments	-	72	68	106%
4a2 Number of inspections at EPA or state Significant Industrial Users that are discharging to non-authorized POTWs. [GOAL]	100% of commitments	-	-	-	n/a
4a4 Number of CSO inspections. [GOAL]	100% of commitments	-	-	-	n/a
4a5 Number of SSO inspections. [GOAL]	100% of commitments	-	129	16	806%
4a7 Number of Phase I and II MS4 audits or inspections. [GOAL]	100% of commitments	-	7	20	35%
4a8 Number of industrial stormwater inspections. [GOAL]	100% of commitments	-	377	327	115%
4a9 Number of Phase I and Phase II construction stormwater inspections. [GOAL]	100% of commitments	-	9100	800	1138%
4a10 Number of comprehensive inspections of large and medium concentrated animal feeding operations (CAFOs). [GOAL]	100% of commitments	-	16	9	178%
5a1 Inspection coverage of NPDES majors. [GOAL]	100%	-	146	107	136%
5b Inspections coverage of NPDES non-majors with individual or general permits. [GOAL]	100%	-	1233	728	169%

State Response:

During FY20, the NC Stormwater Program continued to adhere to the five-year MS4 audit schedule that was created the previous year. Due to the pandemic, a few of these audits were conducted virtually for the safety of municipal and state staff. In addition to conducting thorough and timely audits, the NC Stormwater Program has provided a wealth of training and resource materials for MS4 permittees on its website, deq.nc.gov/SW. Stormwater staff have presented to local government staff at numerous virtual meetings and webinars throughout the year. As our website shows, we have created our own virtual webinar series, with several sessions devoted to MS4 program success.

CWA Element 2 - Inspections

Finding 2-3

Meets or Exceeds Expectations

Summary:

NCDEQ's inspection reports generally were well written, complete, provided sufficient documentation to determine compliance, and were timely.

Explanation:

Metric 6a requires that inspection reports are complete and sufficient to determine compliance at a facility. Approximately 85% (39/46) of NCDEQ's inspection reports were found to be well written, complete, and sufficient. Field observations noting compliance issues were also included in inspection reports and/or cover letters, where appropriate.

It was noted that occasionally the inspector and/or manager signatures were missing and that deficiencies were not always linked to the permit condition or regulatory citation. It is suggested that NCDEQ ensure consistency among their programmatic inspection report templates.

Metric 6b indicated that 86.9% (40/46) of NCDEQ's inspection reports were completed in a timely manner. The National Goal for this metric is 100% of inspection reports completed in a timely manner. The State's Enforcement Management System timeframes for inspection report completion is within 30 days of the inspection date or within 30 days of receipt of lab results, if sampling is involved. The average number of days to complete the inspection reports was 14 days, with a range of 1-52 days.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
6a Inspection reports complete and sufficient to determine compliance at the facility. [GOAL]	100%	-	39	46	84.8%
6b Timeliness of inspection report completion [GOAL]	100%	-	40	46	86.9%

State Response:

CWA Element 3 - Violations

Finding 3-1

Meets or Exceeds Expectations

Summary:

NCDEQ's inspection reports consistently documented accurate compliance determinations.

Explanation:

Metric 7e indicated that 93.6% (44/47) of the inspection reports reviewed consistently documented an accurate compliance determination for each facility. The state has developed an inspection report checklist and cover letter that is used effectively for documenting inspection field observations and making clear and accurate compliance determinations.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
7e Accuracy of compliance determinations [GOAL]	100%	-	44	47	93.6%

State Response:

CWA Element 4 - Enforcement

Finding 4-1

Area for Improvement

Summary:

Enforcement Responses (ERs) do not consistently promote a Return to Compliance (RTC).

Explanation:

File metric 9a indicated that 21 of 37 files (56.8%) reviewed included ERs that returned or were expected to return a facility to compliance.

File metric 10b indicated that 18 of 37 files (48.6%) reviewed had an appropriate ER. The State efficiently notifies permittees of violations and assesses civil penalties for those violations. However, as observed during the review, sources were frequently cited multiple times for the same types of violations, but the NOV/CPAs issued did not contain required corrective actions or timeframes for a RTC. Of the 19 files reviewed without an appropriate ER, the State was working with one source to develop a Special Order on Consent that included a corrective action plan and timeline for return to compliance.

Data Metric 10a1 indicated that two of nine (22.2%) major facilities in SNC during FY18 received a timely formal ER. Of the remaining 7 facilities, 5 were in SNC for DMR nonreceipt. However, supplemental information from quarterly SNC calls between NCDEQ and the Region indicated that all 5 of the facilities were submitting DMRs, but the DMRs were not uploading to ICIS due to electronic data transfer issues with the State's database. At the remaining two facilities, ongoing construction was expected to resolve effluent violations at one facility and the other facility had requested technical assistance from the State.

Timely and appropriate ERs which promote a RTC was an Area for State Improvement in Round 3. In September 2019, NCDEQ's tiered enforcement guidance was updated to provide for an escalated enforcement response for facilities in chronic noncompliance or that fail to respond to or resolve cited violations. Given that this SRF Round 4 evaluation is based on FY18 data, before implementation of the revised guidance, EPA has not been able to evaluate the latest performance of NCDEQ. It is recommended that the State continue to implement and refine its procedures to

ensure that appropriate formal enforcement actions that promote a RTC are implemented. This remains an Area for State Improvement in Round 4.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
9a Percentage of enforcement responses that returned, or will return, a source in violation to compliance [GOAL]	100%	-	21	37	56.8%
10a1 Percentage of major NPDES facilities with formal enforcement action taken in a timely manner in response to SNC violations	98%	15.6%	2	9	22.2%
10b Enforcement responses reviewed that address violations in an appropriate manner [GOAL]	100%	-	18	37	48.6%

Recommendation:

Rec #	Due Date	Recommendation
1	03/31/2021	<p>By March 31, 2021, EPA will review a sample of FY20 enforcement responses to verify the effectiveness of NCDEQ’s implementation of its revised procedures for timely and appropriate enforcement that promotes a RTC. If appropriate improvement is observed upon completion of EPA’s review, this recommendation will be considered complete. If appropriate improvement is not observed, the following recommendation will become effective:</p> <p>By June 30, 2021, NCDEQ should reassess their practices and procedures to improve the timeliness and appropriateness of enforcement responses, including enforcement responses that include injunctive relief, compliance schedules, and other conditions of formal enforcement. Any revised procedures should be submitted to EPA for review. EPA will review these practices and procedures and monitor the state's implementation efforts through existing oversight calls and other periodic reviews. For verification purposes, one year following the implementation of any new procedures, EPA will review a sample of NC DEQ’s ERs. If appropriate improvement is observed upon completion of EPA's review, this recommendation will be considered complete.</p>

State Response:

CWA Element 5 - Penalties

Finding 5-1

Area for Improvement

Summary:

The CWA program does not document adequate rationale for the economic benefit component in penalty.

Explanation:

Metric 11a indicated that 1 of the 19 files (5.3%) reviewed contained either economic benefit (EB) calculations, documentation that it was considered, or an adequate rationale for not including EB.

NCDEQ’s penalty assessments are based on consideration of eight factors in accordance with North Carolina General Statute; these factors include both gravity and EB. In each penalty file reviewed, NCDEQ documented the gravity component of the penalty calculation. However, for

economic benefit, the phrase "unknown" or "not apparent" was often noted on the penalty calculation worksheet without any supporting rationale for why EB was not included or was not appropriate for the violations.

Failure to include EB in penalties is a continuing issue from Round 3. To address EPA’s finding, NCDEQ updated its Civil Penalty Assessment Guidance (CPAG) and developed an Excel-based calculation tool and user’s guide. The CPAG requires a determination of whether economic benefit exists and, if so, requires cost estimates for delayed and avoided benefit. NCDEQ’s implementation of the penalty calculation tool began in late 2019. Given that this SRF Round 4 evaluation is based on FY18 data, EPA has not been able to evaluate the latest performance of NCDEQ. Therefore, this element will remain an Area for State Improvement in SRF Round 4.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
11a Penalty calculations reviewed that document and include gravity and economic benefit [GOAL]	100%	-	1	19	5%

Recommendation:

Rec #	Due Date	Recommendation
1	03/31/2021	<p>By March 31, 2021, EPA will review a sample of FY20 penalty calculations to verify the effectiveness of NCDEQ’s implementation of its revised procedures to document economic benefit. If appropriate improvement is observed upon completion of EPA’s review, this recommendation will be considered complete. If appropriate improvement is not observed, the following recommendation will become effective:</p> <p>By June 30, 2021, NCDEQ should reassess its procedures for appropriate documentation of economic benefit in penalty calculations. Any revised procedures should be submitted to EPA for review. EPA will review these practices and procedures and monitor the state's implementation efforts through existing oversight calls and other periodic reviews. For verification purposes, one year following the implementation of any new procedures, EPA will review a sample of NC DEQ’s penalty calculations. If appropriate improvement is</p>

		observed upon completion of EPA's review, this recommendation will be considered complete.
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State Response:

CWA Element 5 - Penalties

Finding 5-2

Area for State Attention

Summary:

NCDEQ generally documented any differences between the initial penalty calculation and the final assessed penalty as well as the collection of penalties.

Explanation:

Metric 12a looks at the documentation of the rationale for any difference between initial penalty calculation and the final assessed penalty calculation. Four of the nineteen penalty files reviewed during the file review contained an initial penalty calculation that differed from the final assessed penalty amount. Per Metric 12a, 3 of the 4 files (75%) included adequate documentation of differences between the initial penalty calculations and final assessed penalties.

Metric 12b indicated that 14 of 19 files (73.7%) reviewed during the file review included adequate documentation of penalty collection by NCDEQ.

This is considered an Area for State Attention because documentation of the difference and rationale between the initial penalty and final assessed penalty as well as collection of penalties did not appear to be a widespread problem, and the state can self-correct the issue.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State %
12a Documentation of rationale for difference between initial penalty calculation and final penalty [GOAL]	100%	-	3	4	75%
12b Penalties collected [GOAL]	100%	-	14	19	73.7%

State Response:

Resource Conservation and Recovery Act Findings

RCRA Element 1 - Data

Finding 1-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ's RCRA Minimum Data Requirements for compliance monitoring and enforcement activities were complete in RCRAInfo and ECHO.

Explanation:

Metric 2b measures the data accuracy and completeness in RCRAInfo with information in the facility files. 32 files were selected and reviewed to determine completeness of the minimum data requirements. 90.6% of the selected files were accurately represented in the national RCRA Info and ECHO databases.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
2b Accurate entry of mandatory data [GOAL]	100%	100%	29	32	90.6%

State Response:

RCRA Element 2 - Inspections

Finding 2-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ met national goals for both TSDF and LQG inspections.

Explanation:

Metric 5a and 5b measure the percentage of the treatment, storage, and disposal facility (TSDF) and the percentage of large quantity generator (LQG) universes per the most recent final Biennial Report (BR), that had a Compliance Evaluation Inspection (CEI) during the two-year and one-year periods of review, respectively. NC DEQ met the national goal and exceeded the national average for two-year inspection coverage of TSDFs and the met the national goal and exceeded the national average for annual LQG inspections.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
5a Two-year inspection coverage of operating TSDFs [GOAL]	100%	85%	19	21	90.5%
5b Annual inspection of LQGs using BR universe [GOAL]	20%	15.6%	231	741	31.2%

State Response:

RCRA Element 2 - Inspections

Finding 2-2

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ's hazardous waste program inspection reports reviewed were complete, provided appropriate documentation to determine compliance at the facility and the timeliness of inspection report completion was well under the 150-day timeline outlined the Hazardous Waste Civil Enforcement Response Policy (ERP).

Explanation:

Metric 6a measures the percentage of on-site inspection reports reviewed that are complete and provide sufficient documentation to determine compliance. All thirty-two (32) onsite inspection reports reviewed were complete and provided sufficient documentation to determine compliance.

Metric 6b measures the percentage of inspection reports reviewed that are completed in a timely manner per the national standard. Metric 6b indicated 87.5% (28 of 32) of NC DEQ's onsite inspection reports reviewed were completed in a timely manner per the national standard.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
6a Inspection reports complete and sufficient to determine compliance [GOAL]	100%		32	32	100%
6b Timeliness of inspection report completion [GOAL]	100%		28	32	87.5%

State Response:

RCRA Element 3 - Violations

Finding 3-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ made accurate hazardous waste compliance determinations. In addition, significant noncompliance (SNC) determinations were timely and appropriate.

Explanation:

Metric 7a measures whether accurate compliance determinations were made based on a file review of inspection reports and other compliance monitoring activity (i.e., record reviews). The file review indicated that all thirty-two (32) of the files reviewed (100%) had accurate compliance determinations. Each of the files reviewed had accurate and complete descriptions of the violations

observed during the inspection and had adequate documentation to support NC DEQ's compliance determinations.

Metric 8b measures the percentage of SNC determinations made within 150 days of the first day of inspection (Day Zero). The file review indicated that NC DEQ met the national goal of 100% and also exceeded the national average for this metric.

Metric 8c measures the percentage of files reviewed in which significant noncompliance (SNC) status was appropriately determined during the review period. The file review indicated that 100% (25 of 25) of the files reviewed had appropriate SNC determinations.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
7a Accurate compliance determinations [GOAL]	100%		32	32	100%
8b Timeliness of SNC determinations [GOAL]	100%	76.5%	14	14	100%
8c Appropriate SNC determinations [GOAL]	100%		25	25	100%

State Response:

RCRA Element 4 - Enforcement

Finding 4-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ consistently issues enforcement responses that have returned or will return a facility in significant noncompliance (SNC) or secondary violation (SV) to compliance.

Explanation:

Metric 9a measures the percentage of enforcement responses that have returned or will return sites in SNC or SV to compliance. A total of thirty-two (32) files were reviewed that included informal or formal enforcement actions. 87.5% (28 of 32) of the enforcement responses returned the facilities to compliance or were on a compliance schedule to return the facilities back into compliance with the hazardous waste requirements.

Metric 10a measures the percentage of SNC violations addressed with a formal action or referral during the year reviewed and within 360 days of Day Zero. The data metric analysis (DMA) indicated that 83% of the FY 2018 cases (5 of 6) met the Hazardous Waste Enforcement Response Policy (ERP) timeline of 360 days. NC DEQ exceeded the national goal (80%) for this metric.

Metric 10b measures the percentage of files with enforcement responses that are appropriate to the violations. A total of thirty-two files were reviewed with concluded enforcement responses. 100% (32 of 32) of the files reviewed contained enforcement responses that were appropriate to the violations.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
10a Timely enforcement taken to address SNC [GOAL]	100%	87.7%	5	6	83.3%
10b Appropriate enforcement taken to address violations [GOAL]	100%		32	32	100%
9a Enforcement that returns sites to compliance [GOAL]	100%		28	32	87.5%

State Response:

RCRA Element 5 - Penalties

Finding 5-1

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ considered gravity and economic benefit when calculating penalties and documented the differences between initial and final penalty assessments.

Explanation:

Metric 11a measures the percentage of penalty calculations reviewed that document, where appropriate, gravity and economic benefit. Metric 11a indicated that NC DEQ considered gravity and economic benefit in 100% (6 of 6) of the penalty calculations reviewed. Where appropriate, NC DEQ uses the BEN model to calculate economic benefit.

Metric 12a measures the percentage of penalties reviewed that document the rationale for the final value assessed when it is lower than the initial calculated value. Metric 12a indicated NC DEQ documented the difference between the initial and final penalty assessed in 100% (5 of 5) of the penalty calculations reviewed.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
11a Gravity and economic benefit [GOAL]	100%		6	6	100%
12a Documentation of rationale for difference between initial penalty calculation and final penalty [GOAL]	100%		5	5	100%

State Response:

RCRA Element 5 - Penalties

Finding 5-2

Meets or Exceeds Expectations

Recurring Issue:

No

Summary:

NC DEQ included documentation in the files that all final assessed penalties were collected.

Explanation:

Metric 12b measures the percentage of enforcement files reviewed that document the collection of a penalty. There was documentation verifying that NC DEQ had collected penalties assessed in 100% (6 of 6) of the final enforcement actions reviewed.

Relevant metrics:

Metric ID Number and Description	Natl Goal	Natl Avg	State N	State D	State Total
12b Penalty collection [GOAL]	100%		6	6	100%

State Response:
