

Region 8 NPDES Permit Quality Review
North Dakota
FINAL

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U.S. EPA Region 8
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I. PQR BACKGROUND

National Pollutant Discharge Elimination System (NPDES) Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations. Through this review mechanism, EPA promotes national consistency, and identifies successes in implementation of the NPDES program and identifies opportunities for improvement in the development of NPDES permits.

EPA's review team, consisting of two EPA Regional staff, one Headquarters staff, and one contractor conducted a review of the North Dakota NPDES permitting program which included an on-site visit to the Department of Health in Bismarck on June 24 – June 27, 2013.

The North Dakota PQR consisted of two components: core permit reviews and topic area reviews. The core permit reviews focused on core permit quality and included, for each permit reviewed, a review of the permit application, permit, fact sheet, and any correspondence, reports or documents that provide the basis for the development of the permit conditions.

The core permit review involved the evaluation of selected permits and supporting materials using basic NPDES program criteria. Reviewers completed the core review by examining selected permits and supporting documentation, assessing these materials using standard PQR tools, and talking with permit writers regarding the permit development process. EPA used the Central Tenets of the NPDES Permitting program as the primary basis of the core review of the North Dakota NPDES program. In addition, discussions between EPA and state staff addressed a range of topics including current program concerns, the permitting process, responsibilities, organization, staffing, and NPDES resources and energy development impacts.

National topic area permit reviews are conducted to evaluate similar issues or types of permits in all states. The national topics reviewed in the North Dakota NPDES program were: nutrients, pesticide general permit, pretreatment, and stormwater. Regional topic area reviews target regionally-specific permit types or particular aspects of permits. The regional topic areas selected by EPA Region 8 were: Oil and Gas – Energy Development, CAFOs, whole effluent toxicity (WET), and septage. A total of eight permits were selected for review, including six publicly owned treatment works (POTWs) and two non-POTWs. Permits were selected based on permit type and issuance date.

Permit #	Facility Name	Type	Issuance date
ND0020681	Devil's Lake City of	POTW	4/1/2013
ND0023370	Jamestown City Of	POTW	7/1/2011
ND0022861	Mandan City Of	POTW	10/1/2011
ND0024368	Minn Dak Farmers Cooperative	Non POTW	10/1/2012
ND0022896	Minot City Of	POTW	7/1/2012
ND0000248	Tesoro Mandan	Non POTW	4/1/2013
ND0020320	Wahpeton City Of	POTW	10/1/2011
ND0022349	Williston City Of	POTW	8/1/2012

II. STATE PROGRAM BACKGROUND

A. Program Structure

The North Dakota Department of Health (NDDoH), Division of Water Quality (“the Division”) manages four programs: the Waste Water Program, Ground Water Protection Program, Surface Water Protection Program, and Special Projects (e.g., water quality standards, Section 401 Water Quality Certifications, and interstate and international water issues). The Division administers the Waste Water Program which includes the North Dakota Pollution Discharge Elimination System (NDPDES), approved by EPA in 1975. EPA Region 8 administers the Biosolids program in North Dakota. [Attachment 1: North Dakota Department of Health Organizational Chart]

The main NDDoH office is located in Bismarck. Staff in the main office support the program, including enforcement and permits. NDDoH has field offices in Towner, Sawyer, Gwinner, and Fargo; although no NDPDES staff are in these offices, they are staffed with surface water monitoring and waste management staff, who may assist NDPDES staff with complaint investigations and emergency responses.

As of September 2013, the NDPDES program had 11 full time positions assigned (Table 1), including a new position added during the 2013 legislative session and a position granted in 2012 that was made permanent. During Federal Fiscal Year 2013, two of the 10 previously existing positions became open and none had been filled. The duties for all staff include permit writing, inspections, and enforcement. Permit writers receive training as well as internal mentoring to support their development. All new permit writers complete the web-based U.S. EPA NPDES Permit Writers’ Course and it is the Division’s intent that all permit writers attend the 5-day U.S. EPA NPDES Permit Writers’ Course when possible. In addition, the Division has developed protocol documents, addressing both administrative and technical issues, to assist new permit writers with the permit development process.

Table 1

Name	Position	Phone	E-mail
Karl Rockeman	Program Manager	701-328-5225	krockema@nd.gov
Dallas Grossman	Storm Water	701-328-5242	dgrossma@nd.gov
Amanda Cross	Storm Water	701-328-5244	across@nd.gov
Luci Snowden	Storm Water	701-328-5239	lsnowden@nd.gov
Brady Expe	AFO	701-328-5228	bespe@nd.gov
Jeremy Lang	AFO	701-328-5219	jang@nd.gov
vacant	CAFO	xxx-xxx-xxxx	xxx@nd.gov
Jeff Roerick	Pretreatment, Permits	701-328-5240	jroerick@nd.gov
Curt Steier	Data, QNCR, Permits	701-328-5260	csteier@nd.gov
Marty Haroldson	WET & Septics, Permits	701-328-5234	mharolds@nd.gov
Sarah Waldron	Septics, Pkg Plants	701-328-5237	sewaldron@nd.gov
vacant	Stormwater, Pretreatment, permits	xxx-xxx-xxxx	xxx@nd.gov

The NDPDES program is also supported by an administrative assistant, a legal assistant, and nine water quality and TMDL modelers who are part of the Surface Water Protection program. The Division also works with one staff member who supports water quality standards development, including the mixing zone and antidegradation policies. In addition, the Division of Municipal Facilities employs six inspectors that conduct joint drinking water/wastewater inspections at minor municipalities.

The Division has developed various systems to manage files and data. The Division uses an internal electronic file (E-File) management system. In addition, the Division tracks permitting and compliance activities in the NDPDES database, a Microsoft SQL server database designed specifically for the NDPDES program, which also integrates with the E-File system. The Division also tracks permit issuance and reissuance using the NDPDES database. In addition, the Division maintains a septic pumper database as well as the Laboratory Information Management System (LIMS). North Dakota completed the changeover to EPA's Integrated Compliance Information System (ICIS) in December 2012; prior to that, information in the internal database was uploaded to PCS. Currently, the Division uploads select data for municipal and non-municipal facilities (e.g., basic permit information, contact information, outfall identifiers, inspection dates, and DMR data) from the NDPDES database to ICIS in batches every week during months where quarterly noncompliance reports (QNCRs) are filed and every other week during the remaining months. NDPDES staff indicated that information for the CAFO, storm water, and pretreatment programs is not uploaded to ICIS; however, that information is maintained and tracked in the NDPDES database. New data flows from the NDPDES database to the ICIS database will be added as resources allow. The Division has been developing an electronic system to accept any electronic reports, such as eNOI and eDMR submittals, which is scheduled to become operational in 2014. Entering eNOIs for stormwater permittees is the immediate priority for developing the electronic reporting system.

The Division of Water Quality website houses general permits and associated forms and technical support documents (e.g., menu of Best Management Practices and Illicit Discharge Detection and Elimination manuals for MS4s). In addition, all programs administered by the Division along with appropriate staff contact information, is available on the website. The website also allows for online reporting of spills.

The Division does not have a standardized quality assurance/quality control (QA/QC) process. Staff are encouraged to work together on permit development for similar facilities. Draft permits are reviewed by the program manager, as time allows; the program manager's workload and other program priorities may prevent a final review from being conducted on draft permits. Permits are issued on a quarterly basis; typically there are at least five to eight permits issued each quarter. The Division attempts to cycle general permit issuance to allow for staggered permit issuance and a more balanced general permit development cycle.

Permit files are maintained in paper and electronic formats and are filed at the main office in Bismarck. Hard copy files are reviewed and periodically cleaned out and terminated files are archived off site, held by the State Historical Society of North Dakota. If there is a request for information from the permit record, Division staff will scan the information and provide it to

the requestor. Electronic files are accessible to Division staff through storage on a common network drive which is managed and accessible through the E-File system. The Division ensures there is server redundancy. Each permit writer determines what information is maintained in the permit file, but information generally includes the application, statement of basis and fact sheet, both draft and final versions of the permit, RP summary, copies of public comments and Division responses on the draft permit, and administrative letters.

B. Universe and Permit Issuance

According to information obtained from ICIS in June 2013, NDDoH administers individual permits for 26 major facilities (16 POTWs and 10 non-municipal) and 101 minor non-stormwater facilities (15 POTWs and 86 non-municipal). In addition to these individual permits, the Division administers 4 stormwater general permits for: Phase II municipal separate storm sewer systems (MS4s) covering 18 municipal permittees; construction stormwater, covering 2,404 permittees; industrial stormwater, covering 446 permittees; and a general permit specifically authorizing Stormwater Discharges from Mining, Extraction, or Paving Material Preparation Activities, (NDR320000) covering 190 permittees. The Division also has 5 non-stormwater NDPDES general permits that address discharges from categories of similar facilities, as follows: temporary dewatering and hydrostatic testing (NDG070000), waste stabilization ponds (NDG120000, NDG220000, and NDG320000) and domestic wastewater treatment facilities utilizing mechanical or package plants (NDG420000).

North Dakota Division of Water Quality annually provides up-to-date information on their permit universe in their End- of-Year Report. This information is provided in Table 2 below.

Table 2

Facilities at EOY 2012	Quantity
Major Facilities	26
Minor Facilities	394
Large CAFOs	79
Small/Medium AFOs	597
Stormwater Construction (Phase II)	833
Stormwater Construction (Phase I)	2256
Stormwater Industrial (General)	279
Stormwater Industrial (Mining and extraction)	190
Pretreatment facilities	17
Pretreatment Programs	5
Phase II MS4 programs	18
Hydrostatic Testing/Dewatering	80
Pesticide application site notifications	53

Significant discrepancies exist between NDPDES data system pulls and EPA ICIS data pulls, these discrepancies are due to variances in the ICIS data fields pulled during queries. Due to data inconsistencies, NDDoH maintains close contact with Region 8, which uses NDDoH data pulls to reconcile ICIS and state data queries.

Based on information obtained from ICIS in June 2013, approximately 123 permits out of a total of 127 individual permits are current (96.1% current), which exceeds the EPA goal of 90 percent of permits being current. The NDPDES culture is to maintain a low backlog rate.

Significant industries in North Dakota include agriculture production and processing, oil and gas exploration and production, coal mining, and power generation. NDDoH indicated that drinking water treatment plants are another prevalent discharger in the state. NDDoH indicated there are some smaller manufacturing facilities in the state; however, the facilities do not discharge directly to surface waters.

NDDoH sends letters nine months prior to permit expiration reminding permittees of permit expiration and seeking verification that permit renewal is sought. Permit writers call permittees to identify the next steps for permit reissuance and to outline the data and effluent sampling requirements necessary for completing the application process. Major permittees are required to complete EPA Forms 1 and 2A (municipal) or EPA Form 2C (non-municipal). Minor non-municipal permittees are required to submit EPA Forms 1 and 2C. New facilities discharging process wastewater are required to submit EPA Forms 1 and 2D. Minor municipal permittees and any permittees who are covered under the four domestic wastewater treatment general permits are required to submit North Dakota Short Form A (SFN 8317). Short Form A was updated in January 2013 and requires applicants to provide data for a limited number of parameters (e.g., BOD₅, TSS, ammonia (as nitrogen), and *E. coli*) and contains checkboxes to indicate if metals, cyanide, and phenols are contained in the discharge. However, Short Form A does not require submittal of topographic maps or process flow diagrams. Further, Short Form A does not clearly indicate to which facilities the form applies.

Previously, all facilities submitted an "Initial Reapplication of NPDES Permit" form as the sole application form. The form contained a check box requesting renewal of the permit and a statement attesting that wastewater treatment procedures have not changed since the permit was first obtained; it did not require effluent testing. The Initial Reapplication form is still used during the application process, but now it is used only as notification of an applicant's intent to renew the existing permit.

Upon receipt of the application, permit writers review it for administrative and technical completeness. NDPDES staff, based on knowledge and familiarity with the facility, may adjust which parameters need to be analyzed for Form 2C applications.

Notices of Intent (NOIs) to be covered under general permits are directed to the appropriate staff for initial review and are tracked in the NDPDES database. Complete NOIs allow for facilities to be automatically covered by the general permit within seven calendar days of receipt. NDDoH staff contact applicants to collect additional information if the NOI is incomplete. NOIs for the general permit covering domestic wastewater treatment facilities utilizing mechanical or package plants (NDG-420000) are submitted concurrent with design plans.

Major permits are assigned to permit writers on a long-term basis to ensure consistency; staff are responsible for permit writing and conducting compliance evaluation inspections at those

facilities. Often, staff who wrote the permit previously will also draft the renewal permit. Other permits are assigned to permit writers nine months prior to permit expiration based on staff experience, technical expertise, and availability. Newer staff are generally assigned less complex permits. Permit writers also collaborate on teams specializing in specific permitting focus areas, such as CAFOs, stormwater, pretreatment, and septic pumper discharges. [See Table 1]

Generally, the permit is finalized approximately 180 days from the date the application is received. NDPDES staff developed a protocol document to illustrate the timeline for permit development, which is distributed to permit writers upon receiving a permit assignment and is also created in the internal database to assist with permit development and tracking. Permit writers are encouraged to also use the NDPDES database to populate administrative items such as public notice documents ahead of time, to ensure permit development is timely.

Permit writers typically begin drafting the permits before the renewal applications are received. Initial steps in developing the draft permit involve checking the impairment status of the receiving stream, identifying applicable Total Maximum Daily Loads (TMDLs), and reviewing TMDL implementation procedures.

To develop permits, permit writers use the NDPDES database to select appropriate boilerplate language for the permit (definitions and permit conditions differ between municipal and non-municipal permits). Division staff use a template and several different boilerplate sections (e.g., standard conditions, definitions, WET, and pretreatment) that can be added as appropriate for each facility, based on facility type. Standard conditions are included in three sections of the permit: Monitoring, Recording, and Reporting Requirements; Compliance Responsibilities; and General Provisions. Permits also contain standard definitions and definitions specifically related to WET. Some standard conditions do not replicate the 40 CFR 122.41 standard conditions word for word.

For re-issued permits, the previous fact sheet generally serves as the template for the fact sheet accompanying the reissued permit. Standard boilerplate language is also continued from the previous permit, and includes any updates to be consistent with the current version of standard boilerplate. Permit writers may also include a “NDPDES Basis Reference Document” (using the most current version during each reissuance), that describes in general terms the regulatory basis for permit conditions (e.g., secondary treatment standards, ELGs, and WQS). The Basis Reference Document is not a facility-specific component of the fact sheet.

Permit writers use a spreadsheet to evaluate reasonable potential (RP). The RP spreadsheet incorporates data for stream flow and WET as well as pollutant-specific data. Permit writers also use spreadsheets to develop technology-based effluent limitations (TBELs) that are based on effluent limitations guidelines and standards (ELGs). Division staff have developed internal protocol documents to support permit writers in implementing administrative and technical procedures during permit development. The Division requires the permittee to provide information about the modeling conducted for the mixing zone analysis, which Division staff

then review. Permittees typically use the CORMIX model to support their request for a mixing zone.

For non-municipal facilities, permit writers develop technology-based effluent limitations (TBELs) by identifying applicable ELGs and calculating effluent limitations based on the allocations in the ELGs. Spreadsheets are created to calculate ELG-specific TBELs, incorporating formulas to determine appropriate factors described in the ELGs (e.g., petroleum refining). Permit writers will review the previous permit to verify the effluent limitations established are still appropriate for the facility. Permit writers may also apply best professional judgment (BPJ) by reviewing effluent limitations in permits for similar facilities and determining if they are appropriate for the facility.

For municipal permits, NDDoH applies effluent limitations based on secondary treatment standards for TSS and BOD₅ with two significant exceptions. First, the average monthly effluent limitation for BOD₅ in permits for municipal facilities is 25 mg/L instead of 30 mg/L. NDPDES staff indicated this value is based on NDAC Chapter 33-16-01-14 (3)(c)(1), which allows for adjustment of the secondary treatment standards to reflect site-specific considerations. Second, permits for municipal facilities do not establish minimum percent removal requirements. North Dakota indicated their presumption is that if a facility is in compliance with its concentration-based effluent limitations for TSS and BOD₅, the facility would also be in compliance with the minimum percent removal requirement. Fact sheets for municipal permits indicate effluent limitations are based on secondary treatment standards and list the minimum percent removal requirements; however, they do not provide a rationale for the lack of minimum percent removal requirements. Some municipal permits require influent monitoring in addition to effluent monitoring.

Fact sheets do not discuss how pollutants of concern or their concentrations are identified. Permit writers use data from discharge monitoring reports (DMRs) to supplement application data in assessing reasonable potential (RP). Permit writers screen RP based on review of individual data points; if a single data point in either the DMR or the application is greater than 25 percent of the applicable water quality criterion, permit writers will conduct an additional RP review based on the procedures in EPA's 1991 Technical Support Document for Water Quality-based Toxics Control (TSD). Fact sheets contain a page summarizing the RP analysis and statements for select parameters regarding the determination of RP. If there are fewer than 10 data points, permit writers will use the default factors recommended in the TSD.

Ambient data assumptions are the same in assessing in calculating WQBELs as they are in evaluating RP. U.S. Geological Survey (USGS) data are used to identify critical stream flows. North Dakota's Water Quality Standards (WQS) allow 10 percent of the critical low-flow for dilution; if permittees request more than ten percent, justification is required. For example, two non-municipal facilities installed diffusers on their discharge pipe and have been allowed 30 percent of the critical low-flow for dilution. In addition, these facilities are required to notify NDDoH when they plan to discharge, the duration of the discharge, and provide NDDoH with pre-discharge sampling results of the effluent. Permit writers implement Waste Load Allocations (WLAs) in applicable TMDLs as appropriate. Where stream flow data are absent,

upstream values are assumed to be zero and permit writers establish effluent limitations at the end-of-pipe rather than using the TSD approach.

Permits consistently include trigger values for ammonia based on stream characteristics (i.e., pH and temperature) that are developed similarly to WQBELs. Permittees are required to notify NDDoH if a trigger value is exceeded, and NDDoH then requires the permittee to collect additional data for upstream pH, temperature, stream flow rate, and estimated effluent flow. NDDoH then uses that information to calculate the applicable ammonia discharge criterion, but limits the discharge of ammonia by restricting the flow allowed from the facility. The permits lack effluent limitations for ammonia, even when available effluent data demonstrate the discharge has RP for ammonia.

Monitoring requirements in reissued permits are generally continued from the previous permit. Monitoring requirements in new permits are established based on requirements contained in permits for similar facilities. Permit writers may establish more frequent monitoring requirements on an initial basis and transition to less frequent monitoring based on a review of the data. Reporting requirements are stated in the permit; major permittees submit DMRs on a monthly or quarterly basis. Reports specific to WET testing are submitted quarterly and reports containing metals sampling data are submitted annually. DMRs for general permittees are submitted semi-annually because many facilities typically discharge twice per year. DMR data are entered by the individual staff person to whom the permit is assigned.

Permits include narrative conditions to implement narrative water quality standards (e.g., “free from floating debris, oil, scum, and other floating materials...”) within the effluent limitations section and pretreatment conditions in the industrial waste management section of the permit.

Section 401 Water Quality Certifications are conducted by Division staff in the Special Projects program.

NDDoH provides the public notice of the draft permits on a quarterly basis. The public comment period lasts 30 days and comments received during that period are included in the administrative record. NDDoH’s responses to comments received are included as an attachment to the draft permit. NDDoH indicated hearings are rare and that one was held (Valley City WTP) as a preemptive action. NDDoH indicated there have been no objections or appeals on NPDES permits.

NDDoH’s administrative records are kept in both hard-copy and electronic format and includes two basic components: the permit development file and the DMR/inspections file. The permit development files contain the permit, statement of basis, permit, application, application reminder correspondence, public notice documents, comments received during the public comment period, and other documents supporting the development of the draft permit conditions. DMRs and inspection reports are maintained in chronological order in a separate file as part of the administrative record.

The state's Antidegradation Policy is contained in the Water Quality Standards, Rule 33-16-02. The implementation procedure is contained in Appendix IV of the Water Quality Standards. An antidegradation review is conducted when a regulated activity that results in a new or expanded discharge of pollutants to Category 1 waters (i.e., Class I and IA streams, Class I, II, and III lakes, wetlands functioning at their optimal level, and some Class II and III streams) would lower the ambient water quality by more than 15 percent, reduce the available assimilative capacity by more than 15 percent, or increase permitted pollutant loadings by more than 15 percent. NDDoH indicated the onus is on the permittee; the permittee is required to provide an evaluation of the water quality effects of the discharge. Decisions arising from antidegradation reviews are documented in the fact sheet.

NDDoH indicated anti-backsliding is rarely triggered in the permit reissuance process; typically, more stringent limitations from the previous permit are carried forward unless there is justification for a less stringent effluent limitation. NDDoH reported that where backsliding is allowed, fact sheets include a discussion of anti-backsliding and the justification for allowing a less stringent effluent limitation. However, this was contradicted in one case (Tesoro Mandan, ND0000248) in which reviewers found that the final effluent limit was less stringent than in the previous permit, and lacked discussion of anti-backsliding.

Effective January 2011, the NDDoH revised the state water quality standards. In these latest revisions the NDDoH eliminated the fecal coliform bacteria standard, retaining only the *E. coli* bacteria standard for the protection of recreational uses. This change in water quality standard was recommended by the US Environmental Protection Agency in 1986 as *E. coli* is believed to be a better indicator of recreational use risk (i.e. incidence of gastrointestinal disease). [Note: EPA subsequently updated the national water quality criteria recommendation for recreational waters in 2012.]

In keeping with the updated state water quality standard, NDDoH has modified several TMDL listings to replace fecal coliform with *E. coli*. Data in current TMDL reports are updated to provide information on surface water segments. These listings also provide information on the cause of impairment if due to *E. coli* bacteria, and an *E. coli* TMDL target is then given to reflect compliance with current water quality standards. Permits require the use of analytical methods authorized in 40 CFR Part 136. Permits do not include language specifically requiring the use of sufficiently sensitive analytical methods.

To date, no TMDLs have been relevant to NDPDES permits so permit writers have not yet been required to implement WLAs. However, permit writers review the North Dakota Integrated Report on water quality and may consult staff in the Surface Water Monitoring program to identify impaired water bodies and potentially applicable TMDLs. NDDoH permit writers evaluate pre-TMDL situations on a case-by-case basis. For example, in advance of a TMDL for an impaired stream, permit writers had included a monitoring requirement in a non-municipal permit to better assess the facility's potential to contribute the impairing parameter (*E. coli*) to the affected segment of the impaired stream.

C. State-Specific Challenges

NDDoH identified two particular challenges:

- The recent increase in energy development activities in the northwestern part of the state is a current priority, and natural gas production may become a priority in the future.
- Two full-time staff positions remain open in the NDPDES program. Further, the NDPDES pretreatment coordinator is deployed as a member of the National Guard for 6 months each year, leaving other staff to handle pretreatment responsibilities in addition to their existing permit writing, inspection, and enforcement activities.

D. Current State Initiatives

NDDoH has undertaken the following initiatives to improve program management:

- NDPDES staff are developing more standardized language, templates, and tools (e.g., protocol documents) to support permit development.
- NDDoH is continuing to develop an electronic data and report submittal system that will allow facilities to submit DMRs, Notices of Intent (NOIs), and other reports electronically. This would relieve permit writers of the need to manually enter DMR data, and would provide a uniform process for data review and management.
- In January of 2013 NDDoH issued a general permit regulating discharges from facilities that primarily treat domestic waste utilizing mechanical or package plants, and have no industrial contributions, the permit should reduce workload on individual permit writers for a large number of facilities.
- NDDoH is developing a general permit to regulate discharges from drinking water treatment plants given that it is a significant discharger in the state. The general permit should alleviate permit administration activities related to a common group of dischargers.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

Basic facility information is necessary to properly establish permit conditions. For example, information regarding facility type, location, processes and other factors is required by NPDES permit application regulations (40 CFR 122.21). This information is essential for developing technically sound, complete, clear, and enforceable permits. Similarly, fact sheets must include a description of the type of facility or activity subject to a draft permit.

The eight NDPDES permits and fact sheets reviewed during the core review included permit issuance, effective, and expiration dates; authorized signatures; and specific authorization-to-discharge information. The fact sheets reviewed included a basic description of the facility,

including location, and the treatment process, but they varied in their level of detail. Fact sheets for four of the municipal permits contained detailed descriptions of the wastewater treatment process. Fact sheets for the two non-municipal permits lacked details on plant operations and long-term average production rates. Permits and fact sheets identified the receiving waterbody by name and surface water classification, and the specific location of the outfall was included in all of the fact sheets and five of the eight permits. Further, two fact sheets contained a clear description of the location within the receiving waterbody where the discharge occurs (Tesoro Mandan, ND0000248 and Minn Dak Farmer's Cooperative, ND0024368) while fact sheets for two municipal facilities lacked any mention of the location of the discharge within the receiving water.

In general, the permits and fact sheets reviewed lacked process flow diagrams. Of the eight permits reviewed, one municipal (City of Jamestown, ND0023370) and one non-municipal (Tesoro Mandan, ND0000248) permit included process flow diagrams. All of the fact sheets reviewed included aerial photographs using Google Earth View to depict facility locations. Non-municipal permits listed the name of the facility and city on the permit cover page. While municipal permits listed only the city on the permit cover page. Fact sheets for municipal and non-municipal permits included the address of the facility and, in one case, additional location information using public land survey system coordinates was included.

2. Permit Application Requirements

Federal regulations at 40 CFR 122.21 and 122.22 specify application requirements for permittees seeking NPDES permits. Although federal forms are available, authorized states are also permitted to use their own forms provided they include all information required by the federal regulations. This portion of the review assesses whether appropriate, complete, and timely application information was received by the state and used in permit development.

NDDoH is proactive during the permit renewal application process; reminder letters are sent to permittees 9 months prior to permit expiration and permit writers follow up with calls to permittees to specify application and data submittal requirements.

All non-municipal permittees submit EPA Forms 1 and 2C. Major municipal permittees submit EPA Forms 1 and 2A. Minor municipal permittees and any permittees who are covered under the four domestic wastewater treatment general permits are required to use NDDoH's Short Form A (SFN 8317) as a permit application form. Short Form A requires applicants to provide data for a limited number of parameters (e.g., BOD₅, TSS, ammonia (as nitrogen), and *E. coli*) and contains checkboxes to indicate if metals, cyanide, and phenols are contained in the discharge. Short Form A does not require submittal of topographic maps or process flow diagrams. Further, Short Form A does not clearly indicate to which facilities the form applies. Applications for two of the facilities consisted only of NDPDES Short Form A. Three applications reviewed in the permit file lack signatures.

On a case-by-case basis (and particularly for non-municipal applications) NDDoH adjusts the data requirements for certain applications based on familiarity with the facility, prior data submittals, and knowledge of the facility operations. Generally, applications reviewed included

complete data submitted with EPA Forms 2A and 2C. One application (City of Minot, ND0022896) lacked a topographic map, flow diagram, and WET data. At least half of the applications reviewed were stamped with a receipt date less than 180 days prior to permit expiration.

B. Technology-based Effluent Limitations

NPDES regulations at 40 CFR 125.3(a) require that permitting authorities develop technology-based requirements where applicable. Permits, fact sheets and other supporting documentation for POTWs and non-POTWs were reviewed to assess whether technology based effluent limitations (TBELs) represent the minimum level of control that must be imposed in a permit.

1. TBELs for POTWs

POTWs must meet effluent limits based on secondary or equivalent-to-secondary standards (including limits for BOD₅, TSS, pH, and percent pollutant removal), and must contain numeric limits for all of these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR Part 133.

NDDoH permits establish effluent limitations for BOD₅ and TSS in appropriate units and forms. For the six POTW permits reviewed, North Dakota applied effluent limitations based on secondary treatment standards for TSS and BOD₅ (average weekly). However, the average monthly effluent limitation for BOD₅ was 25 mg/L, which is more stringent than secondary. This was based on NDAC Chapter 33-16-01-14 (3)(c)(1), which allows for adjustment of the secondary treatment standards to reflect site-specific considerations.

40 CFR 133.102(a) and (b) require that the 30-day average percent removal not be less than 85% for BOD₅ and TSS. The municipal permits reviewed did not establish minimum percent removal requirements, and the permit records did not explain this omission. Further, the Basis Reference Document attached to the fact sheets for two municipal permits (City of Wahpeton, ND0020320 and City of Devil's Lake, ND0020681) includes percent removal within the discussion of technology-based effluent limitations based on secondary treatment standards contained in 40 CFR Part 133 and incorporated by reference at NDAC Chapter 33-16-01-30. NDDoH staff indicated they generally do not establish minimum percent removal requirements in permits for municipal facilities that discharge intermittently (e.g., lagoon treatment systems). NDDoH stated that based on the permit writers' knowledge of the quality of the waste streams entering the POTW and a facility's compliance with concentration-based effluent limitations, the discharge is presumed to be in compliance with the minimum percent removal requirements established by secondary treatment standards.

Three of the six municipal permits reviewed establish influent monitoring requirements for BOD₅ and TSS.

NDDoH indicated that it is not possible for NDPDES permits to establish minimum percent removal requirements for certain POTWs that operate lagoon systems based on the intermittent nature of their discharges. NDDoH stated that comparing influent and effluent

samples at the time of a discharge does not accurately represent removal efficiency. Such limits represent exceptions to standard secondary treatment requirements, and were not clearly justified in the permit documentation. While this practice is consistent with EPA Region 8's policy to not include percent removal requirements for lagoons with retention times greater than 30 days, EPA HQ has reviewed Region 8's policy and found that it is inconsistent with Secondary Treatment Regulations. The secondary treatment regulations do not provide an exception to the percent removal requirement for lagoon systems. EPA notes that NDDoH does require continuously discharging POTWs to meet percent removal limits (no such permits were reviewed in this PQR).

2. TBELs for Non-POTW Dischargers

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal effluent limitations guidelines (ELGs) have been developed for a category of dischargers, the TBELs in a permit must be based on the application of these guidelines. If ELGs are not available, a permit must include requirements at least as stringent as BAT/BCT developed on a case-by-case basis using best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR 125.3(d).

Two non-POTW permits were reviewed during the core review: a petroleum refinery and a sugar beet processing plant (Tesoro Mandan, ND0000248 and Minn Dak Farmer's Cooperative, ND0024368, respectively). The TBELs for the petroleum refinery were based on the ELGs and reflect the correct units and form. Effluent limitations established in the permit for the sugar beet processing plant were based on secondary treatment standards and not ELGs, as discussed below.

Fact sheets for these facilities included a general description of waste streams and wastewater treatment processes; however, they lacked description of facility operations. Both fact sheets lacked discussion of expected pollutants in the discharge.

The fact sheet for the petroleum refinery identified which ELGs are applicable to the discharge but lacked discussion of facility categorization and specific reference to whether effluent limitations are based on BCT, BPT, or BAT. The fact sheet did include an attachment showing calculations for the technology-based standards, including the size and process factors that determine the technology-based effluent limitations. The attachment compared the current loading limits and the proposed loading limits but did not explain why the proposed loading limits were greater than the current loading limits. Further, the final effluent limitations were less stringent than the effluent limitations in the previous permit. It appears the final effluent limitations were based on the maximum throughput of the facility rather than a reasonable estimate of a long-term average throughput, as required by 40 CFR Part 122.45(b)(2)(i); however, the fact sheet did not discuss the rationale for using the maximum throughput.

The fact sheet for the sugar beet processing plant did not identify ELGs that are applicable to the discharge (40 CFR 409.12). The initial onsite review suggested the technology-based

standards found in the ELGs for Sugar Beet Processing Operations were not considered in determining the appropriate effluent limitations. A subsequent discussion with the permit writer revealed the permit writer evaluated the production-based standards found in 40 CFR 409.12 but determined that effluent limitations for BOD₅ and TSS based on secondary treatment standards (including the state's AMEL of 25 mg/L for POTWs and establishing a maximum daily effluent limit of 45 mg/L) are more stringent than ELG-based effluent limitations. The fact sheet did not clearly describe the development and application of these alternate effluent limitations.

C. Water Quality-Based Effluent Limitations

The NPDES regulations at 40 CFR 122.44(d) require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state water quality standards, including narrative criteria for water quality. To establish such "water quality-based effluent limits" (WQBELs), the permitting authority must evaluate the proposed discharge and determine whether technology-based requirements are sufficiently stringent, and whether any pollutants or pollutant parameters could cause or contribute to an excursion above any applicable water quality standard.

The PQR for NDDoH assessed the processes employed by permit writers and water quality modelers to implement these requirements. Specifically, the PQR reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers and water quality modelers:

- determined the appropriate water quality standards applicable to receiving waters,
- evaluated and characterized the effluent and receiving water including identifying pollutants of concern,
- determined critical conditions,
- incorporated information on ambient pollutant concentrations,
- assessed any dilution considerations,
- determined whether limits were necessary for pollutants of concern, and, where necessary,
- calculated such limits or other permit conditions.

For impaired waters, the PQR also assessed whether and how permit writers consulted and developed limits consistent with the assumptions of applicable EPA-approved total maximum daily loads (TMDLs). The review revealed:

- The permit cover page identified the receiving stream and applicable classification.
- The fact sheets did not discuss the designated uses of the receiving waterbodies, but did include water quality classification codes based on state regulations.
- Fact sheets identified applicable numeric and narrative water quality standards through reference to their location in the North Dakota rules (NDAC Chapters 33-16-02.1 and 33-

16-02.1-08, respectively) and some included the Basis Reference Document as an attachment.

- Six of the eight fact sheets discussed the impairment status of a stream. Of those that discharge to an impaired stream, there were no TMDLs that had been developed.

Fact sheets consistently addressed each parameter that is either limited or monitored, however, they did not discuss the pollutants of concern thoroughly. For example, the fact sheet for one of the non-POTW permits (Tesoro Mandan, ND0000248) indicated the effluent limitations were based on the ELGs and water quality standards. The same fact sheet stated that NDDoH determined the discharge is unlikely to contain chemicals regulated to protect human health, except for arsenic and fluoride, and that based on NDDoH's analysis, there is no reasonable potential for arsenic and fluoride to exceed North Dakota's water quality standards. The fact sheet did not discuss why they were considered pollutants of concern.

Fact sheets did not provide a detailed description of the RP evaluation although they stated that the RP analysis was based on procedures contained in EPA's TSD. Further, one fact sheet (Tesoro Mandan, ND0000248) included general statements indicating that, based on the permit writer's review of the data, the parameter did not demonstrate RP. Similarly, while fact sheets for four municipal permits included general discussions regarding RP for ammonia and chronic WET only four of the eight reviewed (including both non-POTW permits) contained one-page attachments that summarized the RP analysis for selected parameters.

40 CFR 122.44(d)(1)(i) states, "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any [s]tate water quality standard, including [s]tate narrative criteria for water quality." Four permits indicate the discharge demonstrates RP for ammonia and include ammonia trigger values. The permit and fact sheet clearly identify the trigger values, which are not effluent limitations. When the trigger values are exceeded, the permittee must notify NDDoH and conduct additional in-stream monitoring that allows NDDoH to calculate a new water quality criterion for the discharge. The lack of effluent limitations creates issues regarding enforceability as well as ambiguities regarding the consequences of exceeding the trigger value, and required follow-up actions.

Permit files consistently lacked evidence of effluent limitation development. The Basis Reference Document contains generic language regarding WQS, BPJ, mixing zones, and RP; it is not tailored to specific permit effluent limitations and requirements.

One of the permits reviewed (Tesoro Mandan, ND0000248) contains effluent limitations that are less stringent than those in the previous permit; however, the fact sheet lacked discussion of anti-backsliding considerations. It was unclear if the permit writer addressed anti-backsliding during the development of that permit.

NDDoH fact sheets contained a general statement that they demonstrate that the existing and designated uses of the receiving water will be protected under the conditions of the proposed

permit. However, none of the permits reviewed underwent a formal antidegradation analysis. One of the fact sheets (City of Williston, ND0022349) is associated with a permit modification to address a facility expansion. The fact sheet for this facility lacked a discussion regarding antidegradation; therefore, it is unclear if NDDoH considered antidegradation during the permit development process.

D. Monitoring and Reporting

NPDES regulations at 40 CFR 122.41(j) require permittees to periodically evaluate compliance with the effluent limitations established in their permits and provide the results to the permitting authority. Monitoring and reporting conditions require the permittee to conduct routine or episodic self-monitoring of permitted discharges and where applicable, internal processes, and report the analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

Specifically, 40 CFR 122.44(i) requires NPDES permits to establish, at minimum, annual monitoring for all limited parameters sufficient to assure compliance with permit limitations, including specific requirements for the types of information to be provided and the methods for the collection and analysis of such samples. In addition, 40 CFR 122.48 requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data that are representative of the monitored activity. The regulations at 40 CFR 122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge.

The core permits reviewed established at least annual monitoring for all limited parameters and at frequencies appropriate to determine compliance with effluent limitations. All but one of the core permits and fact sheets contained generic monitoring location descriptions; one of the non-POTW permits (Minn Dak Farmer's Cooperative, ND0024368) specified that the monitoring locations for both effluent discharge points shall be at the discharge point of specific reservoirs. All core permits reviewed required WET monitoring. Seven of the eight permits required acute WET monitoring and the Minn Dak Farmer's Cooperative required chronic testing. Two permits required ambient stream monitoring for specific parameters. The permit for Minn Dak Farmer's Cooperative, ND0024368, required monitoring for *E. coli* bacteria in advance of a TMDL being developed for the water body.

Three POTW permits included influent monitoring for BOD₅ and TSS. However, given that the permits do not include minimum percent removal requirements for BOD₅ and TSS, it is unclear why this requirement is included, and the fact sheets do not provide an explanation.

All core permits indicated sample collection and analysis were to be in compliance with procedures in 40 CFR Part 136. One POTW permit (City of Williston, ND0022349) specified that method detection limits (MDLs) be less than the water quality criterion, where reasonable. One non-POTW permit (Minn Dak Farmer's Cooperative, ND0024368) specified MDLs for certain metals analyses. All permits required monitoring of permitted discharges be conducted using approved methods and that the results were to be submitted to NDDoH on a regular basis, generally monthly.

E. Standard and Special Conditions

Federal regulations at 40 CFR 122.41 require that all NPDES permits, including NPDES general permits, contain an enumerated list of “standard” permit conditions. Further, the regulations at 40 CFR 122.42 require that NPDES permits for certain categories of dischargers must contain additional standard conditions. Permitting authorities must include these conditions in NPDES permits and may not alter or omit any standard condition, unless such alteration or omission results in a requirement equivalent or more stringent than required by the federal regulations.

In addition to standard permit conditions, permits may also contain additional requirements that are unique to a particular permittee or discharger. These case-specific requirements are generally referred to as “special conditions.” Special conditions might include requirements such as: additional monitoring or special studies such as pollutant management plan or a mercury minimization plan; best management practices [see 40 CFR 122.44(k)], or permit compliance schedules [see 40 CFR 122.47]. Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

Some special conditions found in the core permits reviewed included acute and chronic WET testing and TRE requirements if toxicity is indicated. Municipal permits often included special conditions for reporting and notification for unauthorized sewage overflows. Permits for two facilities located in close proximity and that discharge to the same receiving stream required pre-discharge notification as well as development of a comprehensive water quality resource management plan.

In the core permits reviewed, some of the standard conditions appeared to include language that created a less stringent requirement than in 122.41. For instance, the 24-hour reporting requirement included extra wording that created a less stringent requirement: “*The permittee shall report any noncompliance which may seriously endanger health or the environment...*” In addition, permits lacked language addressing CWA penalties for standard conditions related to the duty to comply, signatory requirement, and monitoring and records (122.41(a)(2) and (3), 122.41(k)(2), and 122.41(j)(5), respectively). Core permits reviewed that did not establish a compliance schedule lacked the standard condition for compliance schedules (40 CFR 122.41(l)(5)). The core review found two additional instances where the permit language was not verbatim from the federal regulations. First, the proper operation and maintenance standard condition lacked language requiring adequate laboratory controls and appropriate quality assurance procedures (40 CFR 122.41(e). Second, the duty to reapply condition lacked mention of the “wish to continue an activity regulated by this permit after the expiration date of this permit” provision (40 CFR 122.41(b). All but one of the municipal permits included the additional standard condition regarding notification of introduction of new pollutants and industrial users (40 CFR 122.42(b)).

Standard conditions appeared to be generated using boilerplate language and in some of the permits reviewed, the date of the boilerplate is included (e.g., “2009.09.24” or “2012.12.06”). Some of the standard conditions were consolidated (e.g., the Duty to Provide Information

provision consolidated the duty to provide information with other information standard conditions).

F. Administrative Process

Under EPA regulations, the administrative process includes documenting the basis of all permit decisions (40 CFR 124.5 and 40 CFR 124.6); coordinating EPA and state review of the draft (or proposed) permit (40 CFR 123.44); providing public notice (40 CFR 124.10); conducting hearings if appropriate (40 CFR 124.11 and 40 CFR 124.12); responding to public comments (40 CFR 124.17); and modifying a permit (if necessary) after issuance (40 CFR 124.5). During the core permit review, EPA discussed each element with NDDoH and reviewed materials from the administrative process.

The permit records for the core permits reviewed contained public notice documents, indicating public notice procedures were appropriately implemented. NDDoH provides EPA with each draft permit for review and comment prior to public notice and provides EPA copies of the final permit and fact sheets approximately 2 weeks after the permit is finalized. Files reviewed generally contained, as an attachment, comments that were received during the public comment period accompanied by NDDoH's response to comments. In addition, two fact sheets reviewed included statements that no comments were received during the public comment period. NDDoH indicated that typically few comments are received during the public comment period. NDDoH also indicated that comments and responses are included in the fact sheet as a part of the process to finalize the permit. Where the draft permit was modified in response to a comment, NDDoH's responses detailed how the permit was revised. However, two of the permit records reviewed lacked evidence whether or not comments were received; therefore, it was unclear NDDoH had responded accordingly.

G. Administrative Record

The administrative record is the foundation that supports the NPDES permit. If EPA issues the permit, 40 CFR 124.9 identifies the required content of the administrative record for a draft permit and 40 CFR 124.18 identifies the requirements for a final permit. Authorized state programs should have equivalent documentation. The record should contain the necessary documentation to justify permit conditions. At a minimum, the administrative record for a permit should contain the permit application and supporting data; draft permit; fact sheet or statement of basis; all items cited in the statement of basis or fact sheet including calculations used to derive the permit limitations; meeting reports; correspondence between the applicant and regulatory personnel; all other items supporting the file; final response to comments; and, for new sources where EPA issues, the administrative record must also include any environmental assessment, environmental impact statement, or finding of no significant impact in accordance with NEPA.

Current regulations require that fact sheets include information regarding the type of facility or activity permitted, the type and quantity of pollutants discharged, the technical, statutory, and regulatory basis for permit conditions, the basis and calculations for effluent limits and conditions, the reasons for application of certain specific limits, rationales for variances or

alternatives, contact information, and procedures for issuing the final permit. Generally, the administrative record includes the permit application, the draft permit, any fact sheet or statement of basis, documents cited in the fact sheet or statement of basis, and other documents contained in the supporting file for the permit.

Fact sheets for the core permits reviewed included a general discussion explaining the basis for the requirements in permits. In addition, certain fact sheets had additional supporting justification attached, in a Basis Reference Document. Fact sheets addressed each parameter for which effluent limitations or monitoring requirements were established; however, they did not provide explanation for why they were considered pollutants of concern. Overall, fact sheets did not provide sufficient information to fully understand the basis of specific effluent limitations, lack of documentation is inconsistent with 40 CFR 124.8(b). For example, fact sheets did not explain why minimum percent removal requirements for BOD₅ and TSS were not established in the permit. In addition, and as discussed previously, a fact sheet for a non-municipal facility (Minn Dak Farmer's Cooperative, ND0024368) did not describe the process by which final effluent limitations were selected. The initial review of the permit record suggested that the permit writer did not consider ELGs, as required by 40 CFR 122.44(a)(1); however, a subsequent discussion with the permit writer revealed that a qualitative evaluation was conducted and BPJ-based effluent limitations were selected for the discharge.

The Basis Reference Document that was attached to some of the permits reviewed provided general information about the regulatory basis for effluent limitations but were not tailored to specific facilities, pointing to areas for improvement. For example, the documents provided general discussions but there were no specific references to the facility, the discharge, or the effluent limitations established in the permit. The discussion of TBELs (municipal and industrial sections) included references to secondary treatment standards including standards for minimum percent removal. However, the Basis Reference Document failed to explain why certain permits did not establish minimum percent removal requirements and why certain non-municipal permits included effluent limitations based on secondary treatment standards in place of ELGs that are applicable to the discharge or how those limits are sufficiently stringent.

For the permits reviewed, NDDoH maintains files electronically as hard copy. NDDoH maintains permit files that include supporting documentation including applications, DMRs, correspondence with the applicant, draft permit, fact sheet, comments and response to comments (when applicable), and final permit. However, the files did not contain documentation of the RP analyses and calculations of final effluent limitations. For example, it was not evident without additional discussion with the permit writer how effluent limitations for a non-municipal permit (Minn Dak Farmer's Cooperative, ND0024368) were evaluated. In addition, some municipal permit files reviewed lacked signed copies of permit applications; however, permit writers may maintain multiple permit files and certain information may have been filed differently among permit writers.

1. Documentation of Effluent Limitations

Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Documentation for TBELs should

include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for water quality-based effluent limitations as well as the procedures explaining the basis for establishing, or for not establishing, water quality-based effluent limitations should be clear and straight forward. The permit writer should adequately document changes from the previous permit, ensure draft and final limitations match (unless the basis for a change is documented), and include all supporting documentation in the permit file.

Overall, permit records for the core permits reviewed during the North Dakota PQR lacked details regarding the basis for effluent limitations and calculations. The fact sheets for the non-municipal permits did not include a detailed description of facility operations, expected waste streams, and wastewater treatment processes. The fact sheet for a refinery permit (Tesoro Mandan, ND0000248) included attachments depicting calculations of effluent limitations based on ELGs; however, it did not identify if the limitations were based on BPT, BCT, or BAT. Further, the fact sheet did not discuss the throughput value used; it appeared to be the maximum design throughput capacity rather than a reasonable estimate of a long-term average production rate. For the second non-municipal permit reviewed (Minn Dak Farmer's Cooperative, ND0024368), the fact sheet lacked discussion of the basis of the final effluent limitations and the permit record was unclear as to how final effluent limitations were developed. A discussion with the permit writer revealed that the effluent limitations were based on BPJ and application of secondary treatment standards rather than applicable ELGs (40 CFR 409.12) and the permit record was unclear as to how final effluent limitations were developed. Use of BPJ to establish permit limits when ELGs exist that limit the same parameters does not appear consistent with 40 CFR 122.44(a)(1). Documentation of decisions considered internally was not evident in the file. In numerous instances, effluent limitations were carried forward from the previous permit without explanation of the original basis of the effluent limitation. In summary, permit records would be improved with a discussion of the basis of the original effluent limitation, as required by 40 CFR 122.44(e) and 124.8(b)(4).

With regard to the documentation of WQBELs, the core permit fact sheets reviewed identified the receiving stream and characterized the impairment status of the water body. While fact sheets consistently included discussion of all limited parameters, they did not specifically identify why the parameters were considered pollutants of concern.

Typically, a summary output from the RP analysis is filed in the administrative record and a summary of the analysis and calculations is included as an attachment to the fact sheet. It is also typical not to include the full analyses and calculations with the fact sheet. In contrast, in the fact sheets reviewed, the basis for effluent limitations was generally a continuation of effluent limitations from the previous permit. Fact sheets generally did not expand on the original basis for the effluent limitation.

Fact sheets identified RP for ammonia for certain facilities; however, effluent trigger values rather than enforceable effluent limitations were established. Records lacked a detailed discussion of the basis for this determination that effluent trigger values were appropriate in

place of effluent limitations. The use of trigger values instead of enforceable effluent limitations for ammonia introduces lack of clarity for the permittees' obligations and it is difficult to understand how this might be implemented and enforced.

The fact sheets generally addressed antidegradation requirements except in one permit that lacked discussion of anti-backsliding when the final effluent limitations were less stringent than those established in the previous permit (Tesoro Mandan, ND0000248).

H. National Topic Areas

1. Nutrients

For more than a decade, nitrogen and phosphorus pollution has consistently ranked as one of the top causes of degradation of surface waters in the U.S. Since 1998, EPA has worked at reducing the levels and impacts of nutrient pollution. A key part in this effort has been the support EPA has provided to States to encourage the development, adoption, and implementation of numeric nutrient criteria as part of their water quality standards (see the EPA's *National Strategy for the Development of Regional Nutrient Criteria*).

In a 2011 memo to the EPA regions titled *Working in Partnerships with States to Address Nitrogen and Phosphorus Pollution through use of a Framework for State Nutrient Reductions*, the Agency announced a framework for managing nitrogen and phosphorus pollution that, in part, relies on the use of NPDES permits to reduce nutrient loading in targeted or priority watersheds.

Critical Findings and Program Strengths

North Dakota has already begun developing nutrient criteria and is embarking on a new effort to develop a statewide nutrient reduction strategy. The Nutrient Reduction Strategy is a starting point for a multi-year, multi-faceted effort to reduce nutrient pollution in North Dakota's surface waters.

The development of nutrient criteria by the State of North Dakota is driven by four fundamental considerations:

1. Protective of the state's water resources and their designated beneficial uses
2. Tailored to the unique physiographic characteristics, climate and water resources of this northern plains (prairie) state
3. Technically and scientifically defensible
4. Based on conceptual ecosystem models that reflect cause and effect relationships for resource impairment and the loss of beneficial uses

The development of North Dakota's Nutrient Reduction Strategy will help the state target and prioritize watersheds and best management practices (BMPs) to achieve cost effective water quality improvements. By using the best available technology and expertise of various stakeholders, the state will implement water quality monitoring programs that will track their progress towards nutrient reduction goals.

North Dakota is still developing its Nutrient Reduction Strategy and has only completed preliminary work on numeric criteria. As a preliminary step, the NDPDES program is working with the WQS program to consider and develop new narrative language for WQS for nutrients, sediments and wetlands.

As part of these ongoing efforts, the NDDoH maintains an open working relationship with the Minnesota Pollution Control Agency and has made efforts to include monitoring in permits where shared waters are a concern to both states. EPA Region 8 and Region 5 have been monitoring progress as they move forward together to address nutrient concerns.

No nutrient permits were reviewed for the PQR.

2. *Pesticides*

On October 31, 2011, the EPA issued a final NPDES *Pesticide General Permit (PGP) for Discharges from the Application of Pesticides*. This action was in response to a 2009 decision by the U.S. Sixth Circuit Court of Appeals (National Cotton Council of America v. EPA, 553 F.3d 927 (6th Circuit 2009)) in which the court vacated EPA's 2006 Final Rule on Aquatic Pesticides (71 Fed. Reg. 68483, November 27, 2006) and found that point source discharges of biological pesticides and chemical pesticides that leave a residue, into waters of the U.S. were pollutants under the CWA. The federal PGP applies where the EPA is the permitting authority. Approximately 40 authorized state NPDES authorities have issued state pesticide general permits as of November 2011.

On January 7, 2009, the Sixth Circuit vacated the EPA's 2006 NPDES Pesticides Rule under a plain language reading of the CWA. National Cotton Council of America v. EPA, 553 F.3d 927 (6th Circuit 2009). The Court held that the CWA unambiguously includes "biological pesticides" and "chemical pesticides" with residuals within its definition of "pollutant." In response to this decision, on April 9, 2009, EPA requested a two-year stay of the mandate to provide the Agency time to develop general permits, to assist NPDES-authorized states to develop their NPDES permits, and to provide outreach and education to the regulated community. On June 8, 2009, the Sixth Circuit granted EPA the two-year stay of the mandate. On March 28, 2011, the U.S. Court of Appeals for the Sixth Circuit granted EPA's request for an extension to allow more time for pesticide operators to obtain permits for pesticide discharges into U.S. waters. The court's decision extended the deadline for when permits would be required from April 9, 2011 to October 31, 2011.

As a result of the Court's decision to vacate the 2006 NPDES Pesticides Rule, NPDES permits are required for discharges of biological pesticides and of chemical pesticides that leave a residue, to waters of the United States. EPA proposed a draft pesticide general permit on June 4, 2010 to cover certain discharges resulting from pesticide applications. EPA Regional offices and state NPDES authorities may issue additional general permits or individual permits if needed.

NDDoH issued its PGP, NDG870000, on November 1, 2011, and the permit was effective on the same date. The permit authorizes the discharge to surface waters of the state from the handling, use or application of pesticides provided the activity is in accordance with state laws

and regulations, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the pesticide labeling. The permit does not apply to:

1. Discharges of a pesticide to waters of the state identified in the state's section 303d list of impaired waters needing Total Maximum Daily Loads as impaired for that pesticide or its degradates, unless a TMDL has been established for the receiving waters and establishes a waste load allocation for the discharge consistent with this permit.
2. Discharges which have limits assigned to them in another NPDES permit or a TMDL has been approved with a waste load allocation which may be different from the limits contained in this permit.
3. Wastewater discharges (such as sanitary wastewater, equipment or vehicle wash) to waters of the state.

The North Dakota PGP covers the following activities:

Mosquito and Other Flying Insect Control - management of all public health/nuisance pests which develop or are present during a portion of their life cycle in standing or flowing water, when applying pesticides in or over standing or flowing water. Public health/nuisance pests in this use category include but are not limited to mosquitoes and black flies.

Weed and Algae Control - management of weeds and algae in water and at the water's edge using pesticides, including but not limited to lakes, rivers, streams, wetlands, irrigation canals, and drainage systems.

Animal Control - management of invasive or other nuisance species in water and at the water's edge, including but not limited to lakes, rivers, streams wetlands, irrigation canals, and drainage systems. Animals in this use category include but are not limited to fish, lampreys, and mollusks.

Forest Canopy Pest Control - application of a pesticide over a forest canopy to control the population of a pest species (e.g., insect or pathogen) where a portion of the pesticide unavoidably will be applied over and deposited to water to target the pests effectively.

Critical Findings and Program Strengths

Persons subject to the PGP are not required to submit a Notice of Intent (NOI) and are automatically covered. However, the department must be provided a notice for pesticide applications to waters of the state for the control of aquatic pests as outlined in the permit, Part I.D. Specifically, to be covered by the PGP, North Dakota requires that applicants notify the department at least 20 days prior to the application of any pesticide (herbicide, insecticide, biocide, piscicide, algaecide) to surface waters of the state for control of aquatic pests as provided in the State Water Quality Standards (NDAC 33-16-02.1-11). In emergency cases, the department requires notification within 20 days after application.

The North Dakota PGP, NDG870000, was reviewed during the draft phase by R8 staff who determined that it met the minimum requirements as set forth in the EPA National PGP.

No notices of intent for the North Dakota PGP were reviewed for the PQR.

3. Pretreatment

The general pretreatment regulations (40 CFR Part 403) establish responsibilities of federal, state, and local government, industry and the public to implement pretreatment standards to control pollutants from industrial users which may cause pass through or interfere with POTW treatment processes or which may contaminate sewage sludge.

NDDoH was authorized to implement the Pretreatment program in 2005, as memorialized in an addendum to the initial 1975 authorization to administer the NPDES program.

The PQR evaluated the NDDoH Pretreatment program including the following areas:

- State Pretreatment Authorization and 2005 Memorandum of Agreement.
- State legal authority and status of implementing changes to the general Pretreatment regulations at 40 CFR part 403 adopted on October 14, 2005 (known as the streamlining rule).
- Implementation of Pretreatment boilerplate language into NPDES permits of approved and non-approved programs focusing on:
 - 40 CFR 122.42(b) (POTW requirements to notify Director of new pollutants or change in discharge);
 - 40 CFR 122.44(j) (Pretreatment Programs for POTWs);
 - 40 CFR 403.8 (Pretreatment Program Requirements: Development and Implementation by POTW);
 - 40 CFR 403.9 (POTW Pretreatment Program and/or Authorization to revise Pretreatment Standards: Submission for Approval);
 - 40 CFR 403.12(i) (Annual POTW Reports); and
 - 40 CFR 403.18 (Modification of POTW Pretreatment Program).
- Approval Authority implementation, including;
 - Program Oversight,
 - Number of Program Compliance Audits (PCAs, hereafter referred to as audits) and Program Compliance Inspections (PCIs, also referred to as inspections) conducted,
 - Number of significant industrial users (SIUs) in Approved Pretreatment Programs.
- Control Authority implementation for Categorical Industrial Users (CIUs) and SIUs in non-approved programs. (A control authority is a POTW with an approved pretreatment program.) This includes the number of CIUs discharging to POTWs that do not have pretreatment programs.

- Adherence to the Compliance Monitoring Strategy (CMS) for frequency of state reviews of approved POTW Pretreatment programs and inspection and sampling for CIUs/SIUs in non-approved Pretreatment programs.

Approval Authority Responsibilities

EPA promulgated the Pretreatment Streamlining Rule on October 15, 2005 (70 FR 60134) that revised several provisions of the General Pretreatment Regulations (40 CFR Part 403) designed to reduce the overall regulatory burden on both industrial users and Control Authorities without adversely affecting environmental protection. The Pretreatment Streamlining Rule contains both required and optional provisions; the Final Rule and Fact Sheets can be found at: <http://cfpub.epa.gov/npdes/pretreatment/streamlining.cfm>.

NDDoH established the Pretreatment Regulations in Chapter 33.16-01.1 of the State Rules. As of the date of this PQR, the North Dakota State Pretreatment Regulations had not been updated to align with the Streamlining Rule, which includes both required and optional provisions.

Because the state regulations had not been updated, local POTW control authorities are not able to update their legal authorities (municipal ordinance or rules and regulations) or to submit program modifications to the NDDoH for approval (40 CFR 403.18).

At a minimum states are required to update their Pretreatment legal authority in Chapter 33.16-01.1 of the State Rules to include the required streamlining provisions. However, EPA recommends that states incorporate all Pretreatment Streamlining Rule provisions--both required and optional--to allow the local Pretreatment programs to adopt them. The deficiencies in the NDDoH's State Pretreatment Regulations are provided in the attached State of North Dakota – Legal Authority Review and are summarized below:

- **Purpose and Objectives** of the State Pretreatment Rules are not included;
- **Definitions (§33-16-01.1-01)** – many definitions in the current Pretreatment regulations found in 40 CFR Part 403 are either absent in the State Rules or require modification;
- **Prohibited Discharges (§33-16-01.1-02)** – The affirmative defense clause is missing from this section and therefore does not align with the Federal Pretreatment Regulations;
- **Local Limits (§33-16-01.1-02)** – Language is missing or outdated regarding local law and development of Best Management Practices (BMPs), as well as establishing local limits local limits as Pretreatment Standards instead of Pretreatment Requirements;
- **Categorical Standards (§33-16-01.1-04)** – references to the Category Determination Request, Concentration and Mass Limits, Combined Wastestream Formula, and Removal Credits does not reflect the 2005 Pretreatment Streamlining Rule;
- **POTW Pretreatment Program Development and Approval** – Electronic Reporting requirements (40 CFR Part 403.8(g)) are absent;
- **POTW Pretreatment Program Requirements (Appendix A)** – Legal Authority and Procedures language is not in alignment with federal regulations;

- **Reporting Requirements (§33-16-01.1-12)** – various aspects are not in alignment with the 2005 Pretreatment Streamlining Rule, including:
 - Baseline Monitoring Report;
 - Compliance Schedules;
 - Compliance Reports – Categorical Pretreatment Standards;
 - Periodic Compliance Reports (State as both Approval Authority and Control Authority);
 - Monitoring and Analysis;
 - SIU Compliance Monitoring Reports;
 - Annual POTW Reports;
 - Compliance Schedule for POTWs developing and Approved Program;
 - Signatory Requirements for Industrial User (IU) and POTW Reports;
 - Fraud and False Statements Provisions;
 - NSCIU Annual Certification Requirements;
 - Electronic Reporting;
- **Other Pretreatment Provisions –**
 - The references for Fundamentally Different Factors and Net/Gross Calculation have not been updated to incorporate the 2005 Pretreatment Streamlining Rule;
 - The Bypass provisions is not in alignment with federal regulations.

To provide assistance to the NDDoH, EPA Region 8 provided suggested edits to the NDDoH State Pretreatment Regulations and are included as an attachment to the State Legal Review included with this PQR. The edits are intended to align the current State Rules to the Federal Pretreatment Regulations, and are provided in a “track-version” mode for NDDoH’s consideration.

EPA evaluated NDDoH’s implementation as an Approval Authority for the locally approved Pretreatment programs within the state. According to information gathered during the PQR, the NDDoH pretreatment coordinator’s position has been divided between serving as a permit writer and as pretreatment coordinator. The pretreatment coordinator is primarily responsible for implementing the NDDoH Pretreatment program in the roles of an Approval Authority and as a Control Authority for CIUs/SIUs in POTWs without approved Pretreatment programs. It appears that the NDDoH Pretreatment program is adequately staffed and funded, although coverage may be an issue when the current pretreatment coordinator is out of the office for extended periods for duty in the National Guard.

EPA evaluated NDDoH’s CY 2012 Pretreatment Annual Reports and the ICIS database, to summarize the following program components:

Approval Authority Implementation			
Number of approved POTW programs audited and inspected (note: NDDH does not differentiate between PCIs and PCAs)	2010	2011	2012
		5	5
Number of SIUs in POTWs with Approved Pretreatment Programs	35		
Control Authority Implementation			
Number of CIUs inspected in POTWs with Non-Approved Pretreatment Programs	2010	2011	2012
	?	?	0
Number of categorical industrial users (CIUs) discharging to POTWs that do not have approved pretreatment programs	15		

Pretreatment Permits PQR

EPA evaluated five NPDES permits and associated fact sheets issued by the NDDoH to POTWs with and without approved Pretreatment programs. The cities of Fargo and Mandan are POTWs with approved Pretreatment programs and the cities of Wahpeton, Williston, and Jamestown are POTWs without approved Pretreatment programs. (Note that Fargo is not included in the list of permits reviewed on page 6 and that the cities of Minot and Devil's Lake were not reviewed in the pretreatment PQR.)

Based on the PQR of these NPDES permits, EPA found:

- The boilerplate language in permits for POTWs with approved programs is adequate with the following exceptions:
 - Pretreatment boilerplate language does not meet requirements at 40 CFR 122.44(j)(2)(ii) which requires a POTW to “Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.”
 - The fact sheets for Mandan and Fargo do not provide dates when the Pretreatment programs were approved and if there have been any program modifications since the approval date.
 - Pretreatment program implementation boilerplate language does not reflect the Pretreatment Streamlining required provisions.
- The boilerplate language in permits for POTWs without approved programs is adequate with the following exceptions:

- Fact sheets do not designate and provide justification whether a Pretreatment program is required or not.
- Fact sheets do not provide an evaluation of the industrial contributions, SIUs, CIUs, etc. and does not include an RP analysis that evaluates pollutants for water quality-based limits.
- NDPDES permits lacked the required clause that the permit can be reopened to require development of a local Pretreatment program, if determined necessary.
- The Wahpeton fact sheet contains language that states: “The NDDoH’s Pretreatment Coordinator will be working with the city to evaluate whether the current Pretreatment controls are adequate. This may result in additional controls and/or the development of an approved Pretreatment program.” This appeared to be based on the review of Pretreatment data during the previous NDPDES permit reissuance.

In addition, the review found that Pretreatment Program records are not as well organized or as complete as NDDoH’s NDPDES records. A complete record would include annual reports, correspondence, PCA/PCI reports, and applicable enforcement records. The summary of the pretreatment records evaluation is included as an attachment to the PQR.

Approval Authority Implementation at POTWs with Approved Programs

The NDDoH serves as the Approval Authority for five POTWs with approved Pretreatment programs. According to information gathered during the PQR and in 2012 Pretreatment Annual Reports, approximately 35 SIUs are controlled through these approved Pretreatment programs. EPA evaluated the records for the POTWs with approved Pretreatment programs during the PQR.

The 2007 CWA NPDES Compliance Monitoring Strategy for the Core Program and Wet Weather Sources Memorandum (CMS) provides frequency goals for inspecting industrial users (IUs) in POTWs without approved pretreatment programs, performing Pretreatment Compliance Audits (PCAs or audits), and performing Program Compliance Inspections (PCIs or inspections). The memorandum establishes the Pretreatment audit frequency for POTWs with approved Pretreatment programs as one audit every five years including oversight IU inspections in at least two IUs discharging to the POTW. The CMS memorandum also establishes a PCI frequency as at least two PCIs every five years. Further, all PCIs and program audit reports are required to be submitted to EPA.

NDDoH performs PCIs for all five POTWs with approved Pretreatment programs every year, which exceeds the CMS goal. However, it does not appear that the NDDoH is performing more comprehensive program audits, in contrast to the goal of performing at least one audit every five years. The records generated for the PCIs appeared adequate. During the PQR, EPA provided training and discussion regarding PCI and audit procedures.

NDDoH evaluates annual reports submitted by the approved pretreatment program. EPA Region 8 is copied on all annual reports. As an Approval Authority for local pretreatment programs, it appeared that the NDDoH had the appropriate approval and public notice

procedures in place. However, it did not appear that a program modification has been submitted in the past five years; therefore, EPA did not evaluate a program modification during the PQR.

Control Authority for CIUs/SIUs in POTWs without Approved Programs

EPA evaluated the NDDoH direct implementation of the Pretreatment Regulations as the Control Authority for CIUs/SIUs in POTWs without Approved Pretreatment Programs. These control authority requirements are included in 40 CFR 403.10(f) of the General Pretreatment Regulations and in Section III Program Implementation Responsibilities documented in the 2005 MOA.

The PQR evaluated the following components of the state's Control Authority program:

- Legal Authority
- Industrial User Characterization and Inventory
- Control of CIUs/SIUs
- Inspections/Sampling
- Compliance Evaluation
- Enforcement

EPA examined records for 16 of the identified CIUs/SIUs (some of which were out of business or control was terminated) to evaluate NDDoH in its role as a control authority. EPA evaluated the baseline monitoring reports (BMR), control mechanism (Permit-by-Rule Letters), inspection reports, discharge monitoring reports, and applicable enforcement records.

Legal Authority

State Pretreatment Regulations provide NDDoH with the authority to control CIUs/SIUs in POTWs without approved Pretreatment programs and establish the NDDoH Control Authority requirements including right of entry, permitting applicability and conditions, procedures, reporting, notification, and enforcement. North Dakota's regulations did not appear to adequately align with the Federal Pretreatment language for control authorities found in 40 CFR Part 403.

Industrial User Characterization and Inventory

NDDoH appeared to provide adequate coverage for identifying and characterizing CIUs and SIUs in POTWs without approved Pretreatment programs. There are approximately 15 such industrial users throughout the State of North Dakota that are controlled by the NDDoH in its role as a control authority. This identification and control of CIS/SIUs benefits smaller POTWs in the state.

Based on a review of the facility inspection records for these CIUs/SIUs in POTWs without approved Pretreatment programs, the facility inspection reports appeared to provide minimal information and details characterizing the facility. Inspection reports lacked adequate detail on

the facility, its process, operating practices, chemical storage, wastewater generation, wastewater management practices, including treatment, recycling, and offsite management. In addition, the inspection reports did not contain digital photos to supplement the narrative information.

Control of CIUs/SIUs

According to information gathered during the PQR, NDDoH issues permit-by-rule letters to CIUs and SIUs as the control mechanism. The permit-by-rule letters establish enforceable permit conditions and provide adequate notification to the permittee regarding discharge limits and requirements for monitoring, notification, and reporting. Based on a review of 16 facility records, all but three had been issued letters that outlined the discharge limits and requirements for monitoring, notification, and reporting. Six facilities did not have a baseline monitoring report in the pretreatment records.

For example, Goodrich Corporation, located in Jamestown, North Dakota, was issued a 5-year permit-by-rule letter on June 28, 2011. It appeared that the NDDoH adequately characterized Goodrich to the appropriate categorical standard, (Metal Finishing – 40 CFR 433) and provided appropriate control including requirements for monitoring, notification, and reporting. This permit-by-rule letter is an example that could be used by NDDoH to issue permits to the other identified CIUs/SIUs in POTWs without approved programs.

Inspections/Sampling

40 CFR 403.8(f)(2)(v) of the General Pretreatment Regulations requires that the Control Authority "...inspect and sample the effluent from each Significant Industrial User at least once per year..." Based on the permit records reviewed, the NDDoH did not appear to conduct annual inspections, and has not inspected its facilities since 2011. It also appeared that NDDoH does not perform control authority monitoring for the permitted CIUs/SIUs. EPA understands that this is due to NDDoH's logistics issues with annual inspections and sampling because of distance and resources. It also appeared that the City of Wahpeton had a large contribution of industrial loading and may need to be evaluated to determine if it needs to develop a local pretreatment program.

Compliance Evaluation

Based on information gathered during the audit, the discharge monitoring reports (DMRs) appeared to be missing from the Pretreatment facility records. Some DMRs were in process in the Pretreatment Coordinator's office and some were not found. Pretreatment records did not appear to be organized and complete.

The DMRs were properly date stamped and evaluated for compliance by the Pretreatment Coordinator. The proposed electronic reporting rule may help the NDDoH because the Rule, once finalized, would require DMRs to be submitted electronically by CIUs and SIUs for whom the state is the control authority.

Enforcement

NDDoH appears to have an adequate enforcement response plan to address noncompliance. While there were no enforcement cases in the permit records reviewed by EPA, the Pretreatment Coordinator appears to have the appropriate procedures and support from other NPDES personnel to carry out either informal or formal enforcement actions.

Program Strengths:

- NDDoH appears to provide good coverage for the CIUs/SIUs in POTWs without approved Pretreatment programs. Approximately 15 CIUs/SIUs are controlled by the NDDoH, providing a significant benefit to the POTWs without approved Pretreatment programs.
- The NDDoH performs PCIs for all POTWs with approved Pretreatment programs every year, which exceeds the October 17, 2007 CWA NPDES Compliance Monitoring Strategy (CMS) goals.

4. Stormwater

The NPDES program requires stormwater discharges from certain municipal separate storm sewer systems (MS4s), industrial activities, and construction sites to be permitted. Generally, EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s, industrial activities, and construction activities. Additionally NDDoH maintains a general permit for stormwater under the dewatering/hydrostatic testing category.

Critical Findings and Program Strengths

NDDoH reviews stormwater applications at the time of inspection and utilizes all NDDoH field staff for identifying possible violations. Construction stormwater for energy development is a major concern and therefore NDDoH maintains two energy-related general permits, one for Mining, Extraction and Paving Material and one for Dewatering/Hydrostatic Testing. Outreach to cities and homebuilders is conducted by staff as new developments are noted.

The Notice of Intent for the construction general permit does not include information on who is eligible for coverage. Furthermore, permittees are considered covered when they apply. Stormwater Prevention Plans (SWPP) are not reviewed as they are received. Reviews for stormwater applications were backlogged approximately seven weeks at the time of this PQR.

The electronic application system with 2D bar codes being implemented for construction stormwater permits will help reduce backlog in processing those applications.

NDDoH has been progressive in issuing policies to address new concerns from oil and gas permitting in the Bakken formation. The discharge and monitoring guidance for oil and gas industrial dischargers will help reduce confusion and will streamline the process for dewatering well pad sites.

The municipal stormwater program needs to move forward to be consistent with the national expectation for permits that require reduction of pollutants to the Maximum Extent Practicable

(MEP). First, MEP should be removed from the permit language as it is not a compliance standard but a permit writing standard. Second, measurable goals should be better defined with the volumetric criteria provided for new construction provided as an explicit requirements and not a consideration or recommendation.

The Construction General Permit, upon reissuance, will need to include all the minimum technology based effluent limits from the Effluent Guidelines for the Construction and Development Point Source Category at 40 CFR Part 450.

NDDoH's five active stormwater permits are listed in Table 3 and described below.

Table 3

Type of Facility covered	General Permit Number	Quantity Covered
Construction Stormwater	NDR100000	3089
Industrial Stormwater	NDR050000	279
Mining, Extraction and Paving Material Stormwater	NDR320000	190
Dewatering/Hydrostatic Testing	NDG070000	80
Small MS4	NDR040000	18

NDPDES General Permit for Stormwater Discharges Associated with Construction Activity (NDR100000)

The North Dakota general permit for construction became effective October 12, 2009, and expires September 30, 2014, For purposes of the general permit the reference to construction activity includes both "large construction activity" and "small construction activity" (defined in 40 CFR 122.26(b)(14)(x) and (b)(15), respectively).

Stormwater discharges from support activities related to a construction site (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas) may be covered by this permit. Facilities that support multiple projects or are commercial in nature must be covered by a different permit.

NDPDES also lists several other areas and types of discharges which may not be regulated through this general permit which are listed in the statement of basis of the permit.

EPA staff reviewed the Construction Stormwater General Permit:

The current permit does not include all of the requirements from the Effluent Guidelines for the Construction and Development Point Source Category at 40 CFR Part 450. These regulations were revised and finalized in 2014 and the requirements therein will need to be included in the reissuance of the permit. Of specific note, the permit does not have procedures or control measures designed to provide stream buffers.

Given the difficulty in re-establishing vegetative cover in semi-arid and arid areas, the Department of Health could consider other mechanisms to enhance vegetative re-growth

including topsoil retention, soil analysis and amendment, and retention of mature vegetative borrow for re-use upon excavation.

As written, the construction stormwater permit requires operators to develop a SWPPP that is consistent with the wasteload allocations in TMDLs. This may be too difficult or burdensome for construction site operators to determine or validate. Since TMDL wasteload allocations for stormwater are prescriptive in the permit and are not very frequent to date, the Department of Health could provide specific requirements from these TMDL allocations directly in the permit. Examples of these could include increased inspection frequency, reductions in the allowable acreage to be exposed at a given time, and stormwater control measures designed to a specific percent removal efficiency for sediment of a given particle size.

The permit includes corrective action reporting as part of the inspection process, but the permit clarity and enforceability could be enhanced by including more prescriptive deadlines for fixing failed control measures and corrective action reporting.

The electronic application process being used by the Department of Health appears logical and straightforward. The use of Acrobat PDF files with unique barcodes to expedite application review is innovative. Division review of SWPPPs for construction sites disturbing 50 or more acres or for sites discharging 2,000 feet of a 303(d) listed waterbody will help to target sites with the most significant potential to impact water quality and is a very resource efficient approach. Division review of construction site SWPPPs greater than 50 acres could be coordinated with the small MS4s where the disturbance is occurring to help those MS4 operators gain additional experience and to clarify the Division's expectations for construction site compliance.

A separate permit for construction dewatering and daily inspection of dewatering activities is a very effective approach for an often overlooked component of construction stormwater impacts.

The Department of Health incorporated state-specific approaches to direct resources to areas of concern well through clear permit requirements for common plans of development and by allowing for oil and gas large construction to be permitted for a given well field as a whole.

The permit currently references EPA's Menu of Best Management Practices. Any efforts to create a statewide stormwater manual with design and maintenance specifications for construction site BMPs would provide clarity for construction site operators on expectations for compliance and would facilitate more rapid and concise construction stormwater inspections.

General Permit for Stormwater Discharges from Industrial Activities (NDR050000)

The North Dakota general permit for Industrial Activities became effective April 1, 2010, and expires March 31, 2015.

This permit utilizes Best Available Technology Economically Achievable (BAT); Best Professional Judgment (BPJ); and Best Management Practices (BMPs). It applies to discharges composed

(either in whole or in part) of stormwater associated with industrial activity as defined in Title 40 of the Code of Federal Regulations (CFR), Part 122.26(b)(14) except for the following:

- a. Operations involved in mining or extracting activities, including processes to prepare materials for use, Standard Industrial classification (SIC) Codes 10 through 14;
- b. Portable or temporary concrete or asphalt batch plants, SIC Codes 1611 and 2951.
- c. Stormwater discharges from construction activity as defined in 40 CFR 122.26(b)(14)(x).

Stormwater Discharges from Mining, Extraction or Paving Material Preparation Activities (NDR320000)

The North Dakota general permit for mining became effective July 1, 2009, and expires June 30, 2014.

The permit applies to discharges composed (either in whole or in part) of stormwater associated with industrial activity as defined in 40 CFR 122.26(b)(14) from any of the following:

- a. Operations involved in mining or extracting activities, including processes to prepare materials for use, SIC Codes between 12 and 14;
- b. Facilities operated to obtain or prepare materials for highway construction activities including concrete or asphalt batch plants, SIC Codes 1611, 2951 and some 327;
- c. Equipment storage and maintenance yards supporting the industrial categories identified above.

Stormwater Discharges from Dewatering/Hydrostatic Testing (NDG070000)

The North Dakota general permit for Dewatering/Hydrostatic Testing became effective April 1, 2010, and expires March 31, 2015.

Under this general permit, authorization to discharge relatively uncontaminated waters from temporary dewatering activities into the waters of the state may be granted. Such activities are hydrostatic testing of pipes, tanks or other similar vessels; disinfection of potable water lines; construction dewatering; and the treatment of gasoline or diesel contaminated ground water. The water discharged from any of these activities must not contribute non-conventional or toxic pollutant loadings to waters of the state.

Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) (NDR040000)

The North Dakota general permit for MS4s became effective July 1, 2009, and expires March 31, 2014 and is in the process of being reissued.

The North Dakota MS4 permit authorizes stormwater discharges from Small Municipal Separate Storm Sewer Systems (defined in 40 CFR 122.26 (b)(16)). The permit may also authorize stormwater discharges from fleet maintenance, wastewater treatment plants and other waste handling facilities which are operated by the municipality. This MS4 permit includes options for meeting permit requirements such as wet detention ponds, dry detention ponds, infiltration, flow through treatment devices and redevelopment/retrofits.

Coverage under the North Dakota MS4 permit does not authorize discharges by entities operating independently of an MS4 even those within or connected to the MS4 (e.g., a university campus). Authorization to discharge under this permit applies only to the storm sewer system (or portions of a system) operated by the permittee and described in the application. Further, this permit does not authorize new or expanded discharges unless conditions required by the NDDoH are met.

EPA staff reviewed the MS4 General Permit:

The MS4 permit references the need to comply with the permit to the Maximum Extent Practicable (MEP). Upon reissuing the permit, this language should be eliminated as MEP is not a compliance standard. It is a standard used by the permit writer to develop conditions. Discussion of the MEP standard, if referenced, should be in the permit fact sheet.

The MS4 permit does not specifically define areas that are covered. This may leave questions as to whether urban areas, county boundaries, unincorporated areas are covered by the permit. This could be clarified in the permit reissuance.

Requirements for watershed and transportation planning could be very helpful in both the permit areas and in new growth or rapidly growing areas. These would help guide future development consistent with smart growth principles to avoid costly stormwater retrofits in the future.

Where there is a specific wasteload allocation for MS4 discharges, these could be specifically included in the permit for a given MS4 or group of MS4s. The permittee is required under the permit terms to independently evaluate whether TMDLs include a wasteload allocation for their discharges and this could be a confusing process.

Part V.G.1.d. defines that public education may be coordinated with other stormwater education programs and defines several outlets for such coordination (e.g., soil and water conservation districts, non-profits, watershed groups, university extensions). This is an excellent idea and allows for targeted and efficient use of resources.

The NDDoH utilizes timeframes for follow-up and documentation of illicit discharges that are very concise and specific.

Procedures for MS4 construction site enforcement, enforcement escalation, and a minimum inspection frequency should be included in the permit. Enforcement procedures could be expressly submitted to the Department of Health for review as part of the annual reports. A minimum inspection frequency, especially for "high priority sites" either in close proximity to waterbodies or with significant exposed areas (e.g., greater than 20 acres), would help target local resources to defined areas of concern.

A statewide criteria manual for post-construction site control measures would be very helpful for municipal program operators to ascertain proper design and maintenance.

The volumetric criteria provided for new construction provided in Appendix A is an excellent outgrowth on the initial 2003 Small MS4 general permit. This should be expanded upon in the permit reissuance to clarify that it is an explicit requirement and not a consideration or recommendation.

- Filing and maintenance procedures need to be better defined for post-construction stormwater management. Specifically, MS4s should be required to maintain as-built specifications, with vegetative and soil management requirements where applicable, for all new post-construction features prior to providing a certificate of occupancy.
- Industrial stormwater requirements are specific to Phase 1 MS4s. However, it would be beneficial to have a few minimal requirements such as maintaining an inventory of industrial sites and providing general information to those sites. Such efforts could be very minimal for MS4s if coordinated through other efforts such as fire department safety inspections.
- MS4s could be required to have a more specific inventory of municipal facilities with an associated minimum inspection frequency for a defined set of “high priority” municipalities designated based on pollutant generating potential and location next to storm sewers and waterbodies.
- Monitoring could be beneficial to include and efforts could be incorporated through watershed groups or the Department of Health’s stream monitoring program. In lieu of wet weather monitoring, simple evaluations of wet weather discharges, evaluations of streambank stability, or assessment of macroinvertebrate communities could be useful.

EPA found that the ND CGP addresses the applicable effluent limits (i.e., erosion and sediment control requirements in Appendix 1) within the requirements to develop a Stormwater Pollution Prevention Plan (SWPPP). It is important that the permit have a clear distinction between the effluent limits in the permit, which the State is responsible for developing, and the discharger’s SWPPP, which is a documentation tool used to demonstrate how the permittee plans to comply with the permit’s effluent limits. As currently written, it is not clear if the guidelines in Appendix 1 are all required, or if they are only required to be implemented “to the extent practicable”, as described in the SWPPP section of the permit (Part II.C). In the next permit issuance, EPA recommends that the minimum effluent limits are clarified and are distinguishable from the SWPPP requirements.

Upon the reissuance of the CGP, which expires on September 30, 2014, NDDoH will need to incorporate all of the non-numeric requirements from the Construction and Development Effluent Limitations Guideline and New Source Performance Standards rule (C&D rule).

IV. REGIONAL TOPIC AREA FINDINGS

A. Whole Effluent Toxicity

Whole Effluent Toxicity (WET) is a term used to describe the aggregate toxic effect of an aqueous sample (i.e., whole effluent wastewater discharge) as measured by an organism's

response (e.g., lethality, impaired growth or reproduction) upon exposure to the effluent sample. WET tests replicate the effect of an effluent without requiring the identification of the specific pollutants. WET testing is a vital component of the water quality standards implementation through the NPDES permitting process and supports meeting the goals of the Clean Water Act (Sections 301(b)(1) and 402), "...maintain the chemical, physical and biological integrity of the nation's waters."

WET tests are designed to predict the impact and toxicity of effluents discharges from point sources. WET limits developed by permitting authorities are included in NPDES permits to ensure that the state or tribal water quality criteria for aquatic life protection (WET) are met. Discharge monitoring requirements (40 CFR 122.44(d)(1)(ii)) are included in NPDES permits to generate WET data used to determine whether reasonable potential for WET has been demonstrated, including for both acute and chronic effects. If reasonable potential has been demonstrated then a WET limit must be included in the permit (122.44(d)(1)(iv) and (v)). Test results are also used in determining compliance with NPDES WET permit limits.

To determine the need for WET limits, NPDES reviews whether the facility is a major or minor discharger, and reviews industrial and other inputs to the waste stream. North Dakota utilizes an RP spreadsheet to determine the need for WET limits on various facilities. The RP spreadsheet is based on the Technical Support Document recommendation and calculations.

Critical Findings

All core permits reviewed required WET monitoring; seven of the eight permits reviewed required acute WET testing and one required chronic testing. Common special conditions in the core permits reviewed included acute and chronic WET testing language and included Toxicity Identification Evaluation/Toxicity Reduction Elimination (TIE/TRE) requirements if toxicity was measured that would result in an excursion of state water quality standards.

Fact sheets and other permit records did not provide adequate descriptions about the permit writer's decision making process for WET determinations. For example, it was unclear if determinations were based solely on the RP spreadsheet and the basis for chronic vs. acute decisions was not clearly documented. It was unclear how WET RP was determined, how species modifications were approved, and how testing reductions were determined and approved.

Records did not indicate what WET data and factors were used and it was unclear how decisions were made to reduce testing frequencies. Placement of permittees on reduced monitoring appeared to be based on DMR data alone and permit records lacked reference to lab reports and summaries of WET analysis data.

At the time of this PQR, the state had not updated its WET RP document by the date (2012) specified and agreed upon in its Program Partnership Agreement (PPA).

Program Strengths

The NDDoH adopted 40 CFR 122.41 for WET by reference into its regulations. The NDDoH WET contact works closely with the South Dakota WET contact and together they have been developing RP procedures that both states will utilize once complete.

B. Oil and Gas Extraction - Energy Development

EPA promulgated the Oil and Gas Extraction (O&G) effluent guidelines and standards (40 CFR Part 435) in 1979, and amended the regulation in 1993, 1996, and 2001. The regulation covers wastewater discharges from field exploration, drilling, production, well treatment and well completion activities. These activities take place on land, in coastal areas and offshore. The O&G effluent guidelines and standards are incorporated into NPDES permits.

Critical Findings

North Dakota continues to experience increased activity in the area of energy production, particularly in the northwestern portions of the state, and thus NDDoH has been increasing its focus on oil-related environmental issues. This has been requiring considerable effort by Environmental Health Section (EHS) staff to work with companies that are proposing electrical generation and oil and gas production projects and to review permit applications.

The NDDoH has been managing NDPDES oil and gas permitting by implementing 40 CFR Part 435 of the Federal Regulations and issuing individual or general permit coverage as applicable. The NDPDES program works closely with the North Dakota Oil & Gas Division to ensure that changes in the industry are monitored and regulations affecting the program are being properly administered.

During FY2013 approximately 1,902 General Environmental and Oil Field Incidents were reported in the state to the North Dakota Industrial Commission, Oil and Gas Division. There were 263 General Environmental Incidents and 1,639 Oil Field Incidents. In comparison, last year there were approximately 1,405 General and Oil Field incidents reported. Of these, 231 were General Environmental Incidents and 1,174 were Oil Field incidents.

No oil and gas permits were reviewed during this PQR.

Program Strength:

The NDDoH maintains a high level of involvement in all areas affected by the O&G industry in North Dakota. NDDoH maintains a good working relationship with the North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division. Field staff from various departments provide updates to NDDoH on any incidents or concerns noted during field site visits.

C. Septage

Federal regulations applicable to domestic septage are contained in 40 CFR Part 503. EPA regulations define domestic septage as "either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that

receives only domestic sewage.” Septage that does not meet this federal definition must be handled and disposed of in accordance with EPA’s solid waste disposal regulations at 40 CFR Part 257.

Septage is a highly variable organic waste that often contains large amounts of grease, grit, hair, and debris and is characterized by an objectionable odor and appearance, a resistance to settling and dewatering, and the potential to foam. These characteristics make septage difficult to handle and treat. The major reason for providing adequate treatment and disposal systems is to protect public health and the environment, as septage may harbor disease causing viruses, bacteria, and parasites.

Critical Findings and Program Strengths

The State of North Dakota implements federal septage regulations via North Dakota State Rules, Chapter NDCC 61-28. Due to the increase in Oil and Gas exploration, NDDoH has seen increases in the number of crew camps (“man-camps”) with inadequate infrastructure to handle wastewater needs. The NDDoH has also noted increases in septage, illegal dumping and non-permitted septage haulers.

The septage program is managed within the NDPDES program. Septage pumper permits expire each year on December 31, with renewal required by March 1st of the following year. The state manages an active list of permitted septic pumpers on their website and has been working to improve septic pumper rules. These septic pumper rules were updated and approved January 1, 2014.

No septage permits were reviewed for the PQR.

D. Confined Animal Feeding Operations

EPA promulgated revised regulations for CAFOs on February 12, 2003. The 2003 regulations expanded the number of operations covered and included requirements to address the land application of manure from CAFOs. The rule became effective on April 14, 2003 and authorized NPDES states were required to modify their programs by February 2005 and develop state technical standards. Subsequently, revised regulations that address the Second Circuit court’s 2005 decision in *Waterkeeper Alliance et al. v. EPA*, 399 F.3d 486, were signed on October 31, 2008 and published in the Federal Register on November 20, 2008. These regulations became effective on December 22, 2008.

The Rules and Regulations for the Control of Pollution from Certain Livestock Enterprises in North Dakota were first issued in 1972 by the State Health Department and updated in 1989 and 2005. (State Rules pertaining to large CAFO operations are found in North Dakota Century Code, NDCC 33-16-01, and medium and small CAFO operations in NDCC 33-16-03.1).

Critical Findings and Program Strengths

North Dakota has not updated its CAFO rules to be in compliance with the 2008 regulatory changes or submitted a final regulatory package to EPA for approval. Such a package would

include: 1) final state CAFO regulations; 2) a revised state program description; and 3) an Attorney General statement outlining the authorities of the state program (40 CFR 123.62).

No CAFO permits were reviewed as part of this PQR.

V. ACTION ITEMS

This section provides a summary of the main findings of the review and provides proposed action items to improve North Dakota NPDES permit programs. This list of proposed action items will serve as the basis for ongoing discussions between EPA Region 8 and North Dakota as well as between Region 8 and EPA HQ. These discussions should focus on eliminating program deficiencies to improve performance by enabling good quality, defensible permits issued in a timely fashion.

The proposed action items are divided into three categories to identify the priority that should be placed on each Item and facilitate discussions between Regions and states.

- **Critical Findings** (Category One) - Most Significant: Proposed action items will address a current deficiency or noncompliance with respect to a federal regulation.
- **Recommended Actions** (Category Two) - Recommended: Proposed action items will address a current deficiency with respect to EPA guidance or policy.
- **Suggested Practices** (Category Three) - Suggested: Proposed action items are listed as recommendations to increase the effectiveness of the state's or Region's NPDES permit program.

The critical findings and recommended actions proposed should be used to augment the existing list of "follow up actions" currently established as an indicator performance measure and tracked under EPA's Strategic Plan Water Quality Goals or may serve as a roadmap for modifications to EPA Region 8's program management.

A. Basic Facility Information and Permit Application

The fact sheets for the core municipal permits reviewed generally provided a thorough description of the wastewater treatment process; however, fact sheets for non-municipal permits lacked details regarding plant operations and long-term average production rates. Generally, applications reviewed included complete data submitted with EPA Forms 2A and 2C. Some permit applications available in the permit records reviewed lacked signatures and dates. NDDoH uses a short form application for certain applicants that contains fewer data and submittal requirements (e.g., requests data for a subset of EPA Form 2A parameters and does not require submittal of topographic maps and process flow diagrams). Proposed action items to help NDDoH strengthen its NPDES permit program include the following:

- Ensure that permit applications are complete including proper signatures, attachments, and adequate data consistent with 40 CFR Part 122, Appendix D, that they are submitted on-time, and that they are included in the administrative record. (Category 1).
- Review North Dakota Short Form A to consider revisions clarifying which applicants may submit Short Form A and requiring submittal of additional information, including data analyses, facility location map and process flow diagram, to comply with NPDES regulations at 40 CFR 122.21. (Category 1).
- Include greater detail in permit applications regarding facility operations and treatment processes, in particular for non-municipal facilities. Greater detail enables straightforward facility categorization and identification of applicable ELGs. (Category 2).

B. Technology-based Effluent Limitations

For the core permits reviewed, the concentration-based TBELs for municipal facilities are consistent with or more stringent than secondary treatment standards. However, permits reviewed for municipal facilities lacked minimum percent removal requirements and fact sheets and permit records lacked explanation for the omission. Fact sheets for non-municipal facilities included a general description of waste streams produced and wastewater treatment processes; however, they lacked discussion of facility operations and historical production rates. Fact sheets reviewed for non-municipal facilities lacked a thorough discussion of applicable ELGs and the basis for final effluent limitations. Therefore, it was difficult to evaluate facility categorization and effluent limitation development with regard to ELGs. Proposed action items to help NDDoH strengthen its NPDES permit program include the following:

- Provide description of facility operations, clearly describe facility treatment processes, and discuss the applicability of federal technology standards to the discharge and basis for final effluent limitations. (Category 1).
- Include information on the basis and/or rationale for all technology-based and water-quality based effluent limitations as required. Including state or regional variances or NDDoH policies. (Category 1).
- Ensure the permit record demonstrates how the permit writer considered applicable ELGs. NDDoH should also consider developing boilerplate language for fact sheets to address the applicability of ELGs to industrial facilities. (Category 3).

C. Water Quality-Based Effluent Limitations

Fact sheets consistently addressed each parameter that is either limited or monitored; however, fact sheets did not discuss pollutants of concern thoroughly, nor did they provide a detailed description of the RP evaluation. The core permits reviewed lacked effluent limitations for ammonia, even when available effluent data demonstrated the discharge had RP for ammonia. The lack of effluent limitations created enforceability issues as well as ambiguities on the consequences of exceeding the trigger value. One of the permits reviewed contained effluent limitations that were less stringent than the previous permit; however, the fact sheet lacked discussion of anti-backsliding considerations. Proposed action items to help NDDoH strengthen its NPDES permit program include the following:

- Ensure that effluent limitations are established for all parameters for which RP exists, specifically for ammonia limitations. (Category 1)
- Ensure that the fact sheet and other permit documents provide rationale for, and articulate, anti-backsliding requirements, especially in cases where an effluent limitation is less stringent than the limitation contained in the previous permit. (Category 1)
- Consider developing boilerplate language describing how pollutants of concern are identified and clarifying that this evaluation is to be conducted for each permit renewal. (Category 2).

D. Monitoring and Reporting

The monitoring and reporting provisions reviewed in the core permits appeared to be consistent with federal requirements; however, permits lacked clear identification of monitoring locations. Proposed action items to help NDDoH strengthen its NPDES permit program include the following:

- Clearly identify the location for effluent and influent monitoring in all permits. (Category 2).

E. Standard and Special Conditions

Some of the standard conditions included language that appeared to create less stringent requirements than required by the CWA. For example, core permits reviewed lacked language addressing CWA penalties for standard conditions related to the duty to comply, signatory requirement, and monitoring and records (122.41(a)(2) and (3), 122.41(k)(2), and 122.41(j)(5), respectively). Proposed action items to help NDDoH strengthen its NPDES permit program include the following:

- Work with the Region to ensure standard conditions reflect the correct requirements. (Category 1).

F. Administrative Process (including public notice)

The permit records for the core permits reviewed contained appropriate public notice documents that indicated public notice procedures were implemented. Similarly, fact sheets reviewed generally contained, as an attachment, comments that were received during the public comment period accompanied by NDDoH's response. However, on certain permits it was unclear if NDDoH received comments and if NDDoH provided responses. NDDoH does not have a standardized QA/QC process, causing this aspect of the permit files to be inconsistently managed by permit writers. Proposed action items to help NDDoH strengthen its NPDES permit program include the following:

- Consider including clear evidence in fact sheets and the permit record indicating whether or not NDDoH received comments on the permit. (Category 2).
- Continue developing tools and protocols to bolster internal quality assurance/control processes to ensure both permit quality and procedural consistency. (Category 2).

G. Documentation (including fact sheet)

Overall, fact sheets did not provide sufficient information to fully understand the basis of specific effluent limitations. For the core permits reviewed, documentation of the basis for TBELs generally lacked detail (e.g., lack of minimum percent removal requirements and ELG applicability). Further, permit files did not contain extensive documentation regarding RP evaluation and effluent limitation development. Proposed action items to help NDDoH strengthen its NPDES permit program include:

- Ensure that permit documentation clearly indicates the basis and/or rationale for all TBELs and WQBELs. (Category 1).
- Ensure that the permit record, including the fact sheet, document how ELG-based effluent limitations are developed. Information that would strengthen the fact sheet and permit record include a detailed facility description, categorization as it relates to the ELG, identification and illustration of any factors that are involved in calculating production-based effluent limitations, and an illustration of the calculation of final ELG-based effluent limitations. Further, the fact sheet *should* describe the permit writer's evaluation when WQBELs are more appropriate than TBELs for a specific discharge. (Category 1).
- Provide a rationale for the lack of minimum percent removal requirements for BOD₅ at municipal facilities. (Category 2).
- Ensure permit files include complete documentation of RP analyses and effluent limitation calculations. (Category 2).

H. National Topic Areas

Proposed actions items for core topic areas are provided below.

1. *Nutrients*

North Dakota has initiated a Nutrient Stakeholder workgroup to address nutrient concerns in the state. The NDPDES program is involved in the workgroup and is working with their Water Quality Standards staff to ensure that the outcome and actions support the goals of the CWA. NDPDES is also working with the variety of parties who have an interest in the management of nutrient pollutants.

- No specific action items were recommended by EPA Region 8; however, R8 would appreciate updates on the progress of the stakeholder meetings, as well as updates on how the region can support the NDPDES program in making progress on nutrient management (Category 3).

2. *Pesticides*

The NDDoH issued its PGP, NDG870000, on November 1, 2011, and it took effect on the same date. The permit authorizes the discharge to surface waters of the state from the handling, use, or application of pesticides provided the activity is in accordance with state laws and regulations, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), and pesticide labeling requirements.

- No Action Items

3. *Pretreatment*

For POTWs without approved pretreatment programs, NDDoH appears to provide good coverage for CIUs/SIUs. Approximately 15 CIUs/SIUs are controlled by the NDDoH, providing a significant benefit to POTWs without approved pretreatment programs.

For POTWs with approved Pretreatment programs, NDDoH performs PCIs programs every year, which exceeds the October 17, 2007 CWA NPDES Compliance Monitoring Strategy (CMS) goals.

For general program management:

- At a minimum, update NDDOH's Pretreatment legal authority in Chapter 33.16-01.1 of the State Rules to include the required provisions in the EPA Pretreatment Streamlining Rule. Additionally, EPA recommends the NDDoH incorporate all provisions – both required and optional - to allow the local Pretreatment programs to adopt them. The deficiencies in the NDDoH's State Pretreatment Regulations are provided in the attached State of North Dakota – Legal Authority Review. (Category 1).
- Evaluate NDDoH pretreatment program staffing to ensure appropriate coverage when the current Pretreatment Coordinator is out of the office for extended periods for duty in the National Guard. (Category 2)

For POTWs without Approved Pretreatment Programs:

- Update the Fact Sheets for POTWs without approved Pretreatment programs to designate and justify whether a Pretreatment program is required or not. (Category 2).
- Ensure that NDPDES permits for POTWs without approved program contain a reopener clause that the permit can be reopened to require development of a local Pretreatment program, if determined necessary. (Category 1).
- Meet the inspection and sampling frequency of 1/year, as required by 403.8(f)(2)(v) of the Pretreatment regulations. (Category 1).
- Ensure the Pretreatment records are in good order and complete, including Pretreatment annual reports, correspondence, PCA/PCI reports, and applicable enforcement records. (Category 1).
- Determine whether there are CIUs/SIUs that have not been identified for POTWs without approved Pretreatment programs by having the Pretreatment Coordinator collaborate with NDPDES inspectors. Use data submitted in Part F of the EPA NPDES permit application which requires permittees to provide information regarding industrial contributions that may impact the POTW by causing pass-through and interference, including the number of SIUs and CIUs. (Category 2).
- Develop inspection reports that provide adequate detail on the facility, its process, operating practices, chemical storage, wastewater generation, and wastewater management practices (including treatment, recycling, and offsite management). Include in inspection reports digital photos of these areas relevant to Pretreatment to supplement narrative information. (Category 2).
- Issue permits to the other identified CIUs/SIUs in POTWs without approved programs. The permit-by-letter control mechanism establishes enforceable permit conditions and provides adequate notification to the permittee regarding discharge limits, and requirements for monitoring, notification, and reporting. (Category 2).

- Evaluate collaboration with the local POTWs to share the inspection and sampling duties of CIUs/SIUs and meet the required inspection and monitoring frequencies of 1/year, as required in the Pretreatment regulations. (Category 2).
- Evaluate the City of Wahpeton to determine if it needs an approved Pretreatment program. This will help the NDDoH resources by requiring the City of Wahpeton to provide local control of the Bobcat, Com Del Innovations, and Heartland Precision LLC facilities. EPA is available to help the NDDoH for this evaluation. (Category 2).

For POTWs with Approved Pretreatment Programs:

- Update the Pretreatment boilerplate language to implement the NPDES requirement at 40 CFR 122.44(j)(2)(ii), which requires a POTW to “Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.” Include a time frame of 12 months after permit issuance or reissuance to submit the written technical evaluation. (Category 1).
- Perform pretreatment program audits for POTWs with approved Pretreatment programs. Perform a Pretreatment program audit at one POTW each year in place of a PCI. (Category 1).
- Submit all program audit, PCIs, and facility inspection reports to EPA, per Section IV.a of the 2005 MOA. (Category 1).
- Update the fact sheets for Mandan and Fargo to provide a date when the Pretreatment program was approved and if there have been any program modifications since then. (Category 2).

4. Stormwater

The NDDoH maintains four general permits under the Stormwater Program and has provided outreach to the general public to ensure compliance with the program. However, the Notice of Intent for the Construction General Permit does not include information on who is eligible for coverage. Permittees are considered covered when they apply.

- Applicants would benefit from the inclusion of a notice on the permit application form of eligibility for coverage along with a certification that the applicant is aware of eligibility requirements for permit coverage. (Category 3).

Findings from the Construction Stormwater General Permit:

- The current permit does not include all of the requirements from the Effluent Guidelines for the Construction and Development Point Source Category at 40 CFR Part 450. These regulations were revised and finalized in 2014 and the requirements therein will need to be included in the reissuance of the permit. Of specific note, the permit does not have procedures or control measures designed to provide stream buffers. (Category 1)

Findings from the MS4 General Permit:

- The MS4 permit references the need to comply with the permit to the Maximum Extent Practicable (MEP). Upon reissuing the permit, this language should be eliminated as MEP is not a compliance standard. It is a standard used by the permit writer to develop conditions. Discussion of the MEP standard, if referenced, should be in the permit fact sheet. (Category 2)
- The MS4 permit does not specifically define areas that are covered. This may leave questions as to whether urban areas, county boundaries, unincorporated areas are covered by the permit. This could be clarified in the permit reissuance. (Category 2)

I. Regional Topic Areas

Proposed action items for special focus areas are provided below.

1. *Whole Effluent Toxicity*

- Clearly describe and document permitting decisions in fact sheets and administrative records of permits. (Category 1)
- Ensure proper implementation of both chronic and acute testing where dilution factors indicate chronic conditions. (Category 2)
- Provide more information in fact sheets on how WET RP is determined, how species modifications are approved, and how testing reductions are calculated and approved. (Category 2)
- Finalize the North Dakota WET RP Policy and provide it to Region 8 for review. (Category 2)
- When permittees are placed on reduced monitoring, include reference to lab report and summary of WET analysis data, not DMR data alone, in permit records. (Category 3)

2. *Oil and Gas – Energy Development*

- No action items

3. *Septage*

The state manages an active list of permitted septic pumpers on its website and is currently working to improve septic pumper rules. These changes are expected to be complete by 2014.

- EPA requests that the NDPDES program provide EPA R8 with Septage Program needs so the region can support progress in this area. (Category 3)

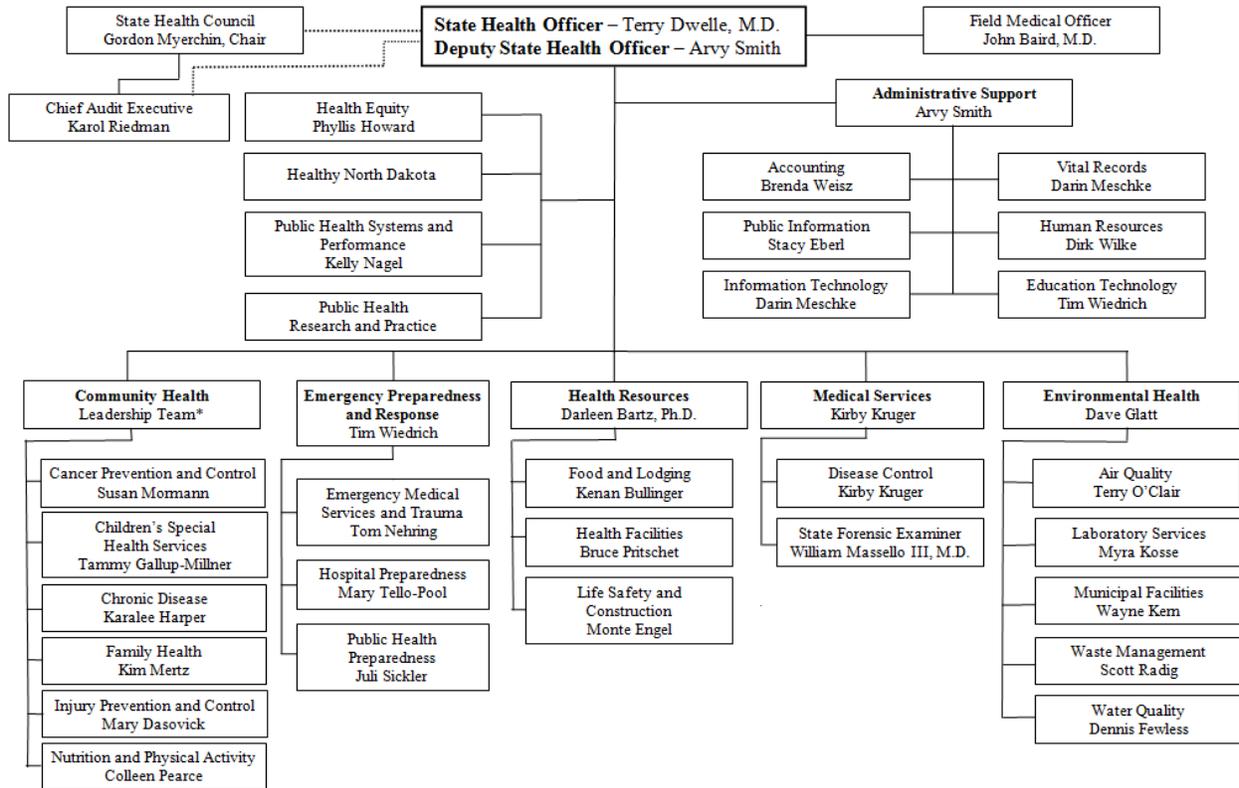
4. *Confined Animal Feeding Operations (CAFOs)*

Revised regulations that address the Second Circuit court's 2005 decision in *Waterkeeper Alliance et al. v. EPA*, 399 F.3d 486, were signed on October 31, 2008 and were published in the Federal Register on November 20, 2008, effective December 22, 2008. The 2008 final rule revises the 2003 regulations.

- Update the state CAFO rules to be in compliance with the 2008 regulatory changes by submitting a final authorizing package for EPA approval that includes: 1) final state CAFO regulations; 2) a revised state program description; and 3) an Attorney General statement outlining the authorities of the state program (40 CFR 123.62). North Dakota's CAFO program revision will become effective for purposes of the CWA, upon EPA's approval. (Category 1).
- Use the CAFO regulatory crosswalk that EPA shared with NDDoH to assist in adoption of the 2008 CAFO rule, and submit it along with the final regulatory package. (Category 2).

Attachment 1: North Dakota Department of Health Organizational Chart.

North Dakota Department of Health
Organizational Chart
August 2013



Attachment 2: Pretreatment Documents

EPA evaluation of the NDDoH Control Authority Pretreatment Records

EPA Evaluation of the NDDoH Pretreatment Records in its Role as a Control Authority – June 2013

(Note: records evaluated from 2008 to 2013)

Industrial User	City	BMR	Permit By Rule Letter	Inspection report	DMR)
Industrial Plating - note not in business	Wahpeton	(2)	No termination letter	08/30/08	06/08
Bobcat Company	Gwinner	(2)	(2)	08/30/08 09/29/10	2/year, missing 01/12 DMR ⁽³⁾
Wishek Steel and Manufacturing	Wishek	07/28/10	02/22/11	09/26/11 ⁽¹⁾	01/09, 01/10 ⁽³⁾
Sheyenne Tooling	Cooperstown	(2)	(2)	08/29/06, 09/24/10	Quarterly since 2009, 01/31/12, 04/30/12, ⁽³⁾
Heartland Precision LLC	Wahpeton	09/27/12	09/07/12	(2)	07/31/12 ⁽³⁾
RO Banks MFG – permit terminated 2006					
Sabin Metals West Corp	Williston	09/09/04	01/03/07	09/19/07	⁽³⁾
Malach MFG	Valley City	09/09/10	(2)	12/15/09	⁽³⁾
Com Del Innovation	Wahpeton	04/05/10	07/14/10	09/03/10	08/05/10, 01/13 ⁽³⁾
ABU Trailers	Dwight	12/12/07	12/21/07	(2)	01/11, 08/11, 01/12, 07/12 ⁽³⁾
Minot WTP – expired	Minot	(2)	No termination letter	(2)	10/07, 04/08, 10/08, 04/09
Oshkosh Corporation	Oakes	(2)	Termination of permit	09/29/10	2008- 2011 DMRs

Industrial User	City	BMR	Permit By Rule Letter	Inspection report	DMR)
			coverage – 06/20/11		
Bobcat	Wahpeton	11/05/09	02/02/10	09/30/10	2010, 2011, 06/12, 01/13 ⁽³⁾
Goodrich	Jamestown	⁽²⁾	Permit issued 06/28/11 to 06/30/16	⁽²⁾	07/12 ⁽³⁾

BMR = Baseline Monitoring Report

DMR = Discharge Monitoring Report

- (1) – The Wishek inspection report is not signed and does not appear to be complete.
- (2) –document was not in file or was not found
- (3) – Appears that the Pretreatment records are missing DMRs

State of North Dakota – Legal Authority Review

State of North Dakota – Legal Authority Review

NAME OF POTW:	State of North Dakota Department of Environmental Quality
NPDES #	
DATE OF REVIEW:	
Municipal Ordinance Citation	Chapter 33.16-01.1 – Pretreatment Regulations
Comments:	The references to 403 in the State Rules were incorporated in 2002. The Pretreatment Streamlining rules updated these references in 2005. Where noted, the State of ND is required to updated its references.

**OK = No revision necessary
Revision Required**

REC = Recommend Revision

REQ =

	Part 403 Cite	OK	Absent or needs mod	POTW Legal Authority Section	REC Mod	REQ Mod	Comments / Notes
Purpose/Objective	403.1		X			X	
Definitions							
Act, Clean Water Act	403.3(b)		X			X	
Approval Authority	403.3(c)	X		33.16-01.1-01(1)			
Authorized Representative of the IU	403.12(l)		X			X	
BMPs	403.3(e)		X			X	
Categorical Standards – Parts 405-471, 40 CFR chapter I, subchapter N.	403.6, EPA Model Ordinance		X		X		
Categorical Industrial User	EPA Model Ordinance		Mod	33.16-01.1-01(3)	X		
Composite Sample	403 App E						

Control Authority	403.3(f)	X		33.16-01.1-01(4)			
Grab Sample	403 App E						
Indirect Discharge (b),(c),(d)	403.3(i)	X		33.16-01.1-01(6)			
Industrial User (or equivalent)	403.3(j)	X		33.16-01.1-01(7)			
Interference	403.3(k)	X		33.16-01.1-01(8)			
National Pretreatment Standard, Pretreatment Standard or Standard (b),(c)	403.3(l)	X		33.16-01.1-01(13)			
New Source	403.3(m)	X		33.16-01.1-01(9)			
Pass Through	403.3(p)		mod	33.16-01.1-01(10)		X	
POTW	403.3(q)	X		33.16-01.1-01(14)			
Pretreatment	403.3(s)		mod	33.16-01.1-01(11)		X	Dilution and CWF provisions added to definition
Pretreatment Requirement	403.3(t)	X		33.16-01.1-01(12)			
Significant Industrial User	403.3(v)		mod	33.16-01.1-01(17)		X	Non-Significant CIU requirements added
Significant Noncompliance	403.8(f)(2)(vii)		Mod	Appendix A – Required POTWs Pretreatment Program Elements, Procedures (7)		X	
Slug Load or Slug Discharge	403.8(f)(2)(vi)	X		Appendix A – Required POTWs Pretreatment Program Elements, Procedures (5)			
Prohibited Discharges							
General Prohibitions							

Interference	403.5(a)	X		33.16-01.1-02(1)			
Pass Through	403.5(a)	X		33.16-01.1-02(1)			
Affirmative Defense	403.5(a)(2)		X			X	
Specific Prohibitions							
Fire/Explosion Hazard (60° C or 140° F flashpoint)	403.5(b)(1)	X		33.16-01.1-02(2)(a)			
pH/Corrosion	403.5(b)(2)	X		33.16-01.1-02(2)(b)			
Solid or Viscous/Obstruction	403.5(b)(3)	X		33.16-01.1-02(2)(c)			
Flow Rate/Concentration (BOD, etc.)	403.5(b)(4)	X		33.16-01.1-02(2)(d)			
Heat; exceeds 40° C (104°F)	403.5(b)(5)	X		33.16-01.1-02(2)(e)			
Petroleum /Nonbiodegradable Cutting /Mineral Oils	403.5(b)(6)	X		33.16-01.1-02(2)(f)			
Toxic Gases / Vapor / Fumes	403.5(b)(7)	X		33.16-01.1-02(2)(g)			
Trucked/Hauled Waste	403.5(b)(8)	X		33.16-01.1-02(2)(h)			
Local Limits							
Local Law	403.4		X			X	
Local Limits Development	403.5(c) & (d)	X		33.16-01.1-03			
Development of BMPs as local limits and Pretreatment Standards	403.5(c)(4)		X			X	
Require compliance with applicable Pretreatment Standards and Requirements by IUs	403.8(f)(1)(ii)		Mod	33.16-01.1-04(1)		X	
Categorical Standards							
Applicability	403.6	X		33.16-01.1-04			
Category Determination Request	403.6(a)		X	33.16-01.1-04(3)		X	Incorporated by reference, need to update to incorporate 2005 Federal Rule updates

Deadline for Compliance with Categorical Standards	403.6(b)	X		33.16-01.1-04(4)			
Concentration and Mass Limits	403.6(c)		Mod	33.16-01.1-04(5)		X	Incorporated by reference, need to update to incorporate 2005 Federal Rule updates
Dilution Prohibited as substitute for Treatment	403.6(d)	X		33.16-01.1-04(6)			Inserted into Pretreatment Definition 33.16-01.1-01(11)
Combined Wastestream Formula	403.6(e)		Mod	33.16-01.1-04(7)		X	Incorporated by reference, need to update to incorporate 2005 Federal Rule updates Inserted into Pretreatment Definition 33.16-01.1-01(11)
Removal Credits	403.7		Mod	33.16-01.1-14		X	Incorporated by reference, need to update to incorporate 2005 Federal Rule updates
POTW Pretreatment Program Development and Approval							
POTW required to develop a Pretreatment Program	403.8(a)	X		33.16-01.1-05(1)(a)			
Incorporation of Approved Programs or Modifications in NPDES Permits	403.8(c)	X		33.16-01.1-05(2)			
Contents of POTW Approval Submission	403.9(b)	X		Appendix B			
Conditional POTW Approval	403.9(c)	X		33.16-01.1-06(2)			
Removal Allowance Submission	403.9(d)	X		33.16-01.1-08(1)			
Approval Authority Action	403.9(e)	X		33.16-01.1-07			

Approval Authority Procedures	403.11 (c-f)	X		33.16-01.1-08			
Public Notice	403.11 (b)	X		33.16-01.1-09			
Opportunity for Hearing	403.11 (b)	X		33.16-01.1-10			
Electronic Reporting	403.8(g)		X			X	Inserted in Appendix A
POTW Pretreatment Program Requirements							
Legal Authority	403.8(f)(1)		Mod	Appendix A		X	Added Pretreatment Streamlining Provisions for: <ul style="list-style-type: none"> • General Permits • Pollutants not present • BMPs • Control of slug discharges
Procedures	403.8(f)(2)		Mod	Appendix A		X	Added Pretreatment Streamlining Provisions for: <ul style="list-style-type: none"> • NSCIU • Pollutants not present • SNC Criteria
Funding	403.8(f)(3)	X		Appendix A			
Local Limits	403.8(f)(4)	X		Appendix A			
Enforcement Response Plan	403.8(f)(5)	X		Appendix A			
List of SIUs	403.8(f)(6)	X		Appendix A			
Reporting Requirements							
Baseline Monitoring Reports	403.12 (b)		Mod	33-16-01.1-12(1)(a)		X	The baseline monitoring report shall be submitted on the

						<p>appropriate baseline monitoring reporting form, which can be obtained from the department</p> <p>Need to Add the following:</p> <ul style="list-style-type: none"> • BMPs • Pollutants not Present • Middle Tier CIU Provisions • Equivalent Mass or Concentration limits requirements <p>Recommend the Department incorporate 403.12(b) into state Rules or reference</p>
Compliance Schedules-Categorical Pretreatment Standards	403.12 (c)		Mod	33-16-01.1-12(2)	X	Missing compliance schedule increments of progress
Compliance Report – Categorical Pretreatment Standards <ul style="list-style-type: none"> • Existing Sources – 90 days • New Sources – upon commencement of Discharge 	403.12 (d)		Mod	33-16-01.1-12(3)	X	Each ninety-day compliance report shall be submitted on a ninety-day compliance reporting

						<p>form, which can be obtained from the department.</p> <p>Need to Add language requiring long term production rate regarding equivalent mass or concentration limits</p>
<p>Periodic Compliance Reports –IU (State as control authority)</p>	<p>403.12 (e)</p>		<p>Mod</p>	<p>33-16-01.1-12(4)</p>	<p>X</p>	<p>Periodic compliance reports submitted to the department shall be submitted on a periodic compliance reporting form, which will be supplied to the user by the department. Add the following:</p> <ul style="list-style-type: none"> • BMPs • Pollutants not Present • Middle Tier CIU Provisions • Equivalent Mass or Concentration limits requirements <p>Recommend the State incorporate</p>

							403.12(e) and 403.12(g) by updated reference.
Periodic Compliance Reports – IUs in approved POTWs (State as Approval Authority)	4-3.12(e)		Mod	33-16-01.1-12(4)		X	403.12(e) and 403.12(g) incorporated by reference (2002): <ul style="list-style-type: none"> • Need to update incorporation by reference, or Add the following: <ul style="list-style-type: none"> • BMPs • Pollutants not Present • Middle Tier CIU Provisions • Equivalent Mass or Concentration limits requirements
Notice of Potential Problems, including Slug Loading	403.12(f)	X		33-16-01.1-12(5)			
Monitoring and Analysis	403.12(g)		Mod	33-16-01.1-12(4)(a)		X	403.12(g) incorporated by reference, need to update to incorporate 2005 Federal Rule updates
SIU Compliance Reporting Reports	403.12(h)		Mod	33-16-01.1-12(9)		X	Added BMP provisions
Annual POTW Reports	403.12(i)		Mod	33-16-01.1-13(1)		X	Add Annual Reporting provisions for Middle Tier CIUs and Non-

							Significant CIUs
Notification of Changed Discharge	403.12 (j)	X		33-16-01.1-12(7)			
Compliance Schedule for POTWs developing an Approved Program	403.12 (k)		Mod	33-16-01.1-13(2)		X	
Signatory Requirements for IU Reports	403.12 (l)		Mod	33-16-01.1-11(2)		X	References 33-16-01-05 of the ND NPDES rules, applies to NPDES application form and related documents, does not apply to IU Pretreatment Reporting Either: <ul style="list-style-type: none"> incorporate 403.12(l) by reference or establish signatory requirement for IUs
Signatory Requirements for POTW Reports	403.12(m)		Mod	33-16-01.1-11(2)		X	References 33-16-01-05 of the ND NPDES rules, this reference is not sufficient for POTW Pretreatment Reporting Either: <ul style="list-style-type: none"> incorporate 403.12(m) by

							reference or <ul style="list-style-type: none"> establish signatory requirement for IUs
Fraud and False Statements Provisions	403.12 (n)		X			X	Reporting provision inserted into 33-16-01.1-11
Record Keeping Requirements	403.12 (o)	X		33-16-01.1-11(5,6)			
Hazardous Waste Reporting Requirements	403.12 (p)	X		33-16-01.1-12(6)			
NSCIU Annual Certification Requirements	403.12 (q)		X			X	Reporting provision inserted into 33-16-01.1-12
Electronic Reporting	403.12 (r)		X			X	Reporting provision inserted into 33-16-01.1-12
Other Pretreatment Provisions							
Variances from categorical pretreatment standards for fundamentally different factors	403.13		Mod	33-16-01.1-15		X	403.13 incorporated by reference, need to update to incorporate 2005 Federal Rule updates
Confidentiality	403.14	X		33-16-01.1-11(4)			
Net/Gross calculation	403.15		X	33-16-01.1-16			403.15 incorporated by reference, need to update to incorporate 2005 Federal Rule updates
Upset Provision	403.16	X		33-16-01.1-17			
Bypass	403.17		Mod	33-16-01.1-18		X	Added: <ul style="list-style-type: none"> definitions control authority approval criteria

Modification of POTW pretreatment programs	403.18	X		33-16-01.1-19			403.18 incorporated by reference
Right of Entry	403.8(f)(1)(v)	X		33-16-01.1-20			

State of North Dakota Pretreatment Regulations – Chapter 13-16-01.1 EPA Region 8 Edits

Original document attached with submission to State to maintain formatting for PQR report and pretreatment section comments section.