MEMORANDUM

DATE: February 22, 2008

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FROM: for Linda Boornazian Elaine Brenner
Director, Water Permits Division
Office of Wastewater Management

SUBJECT: 2007 National Pollutant Discharge Elimination System (NPDES) Program Review Summary for Region 7

EPA's Office of Wastewater Management, Water Permits Division is pleased to provide you with the findings of the 2007 National Pollutant Discharge Elimination System (NPDES) Program Review Summary, conducted for EPA Region 7.

The enclosed report summarizes the discussions held during the Office EPA Office of Water NPDES Program Review, and the Permit Quality Review (PQR) conducted for the Region in preparation for the Regional Review. Reviews conducted as part of this effort cover topics across the NPDES program as they apply specifically to Region 7. We have included recommendations for both the Region and its States, based on discussions conducted at the Region 7 Office of Water Program Review and findings of Headquarters permit reviews. This effort also helps determine if additional Headquarters guidance or support is necessary.

We believe this review was useful for better understanding the Region 7 NPDES program and identifying strengths and opportunities for EPA Headquarters and Region 7 and its States.

If you have any questions regarding this effort, please call me at (202) 564-9545 or Sharmin Syed at (202) 564-3052.

REGIONAL NPDES PROGRAM REVIEW

EPA REGION 7

February 21, 2008

Water Permits Division
U.S. Environmental Protection Agency
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Washington, D.C. 20460

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1.0 INTRODUCTION

This report presents findings of an EPA Office of Water Regional National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality review (PQR) conducted for EPA Region 7 in April 2007.

On a rotating basis, the Office of Wastewater Management, Water Permits Division (WPD) at EPA Headquarters reviews Regional NPDES programs. During these reviews, WPD staff review topics related to NPDES program implementation including permit backlog, Priority Permits, Action Items, and withdrawal petitions. A large component of each review is the Permit Quality Review which assesses whether a State adequately implements the requirements of the NPDES Program as reflected in the permit and other supporting documents (e.g., fact sheet, calculations).

Through this review mechanism, EPA Headquarters (HQ) promotes national consistency, identifies successes in implementation of the base NPDES program, as well as opportunities for improvement in the development of NPDES permits. The findings of the review may be used by EPA Headquarters to identify areas for training or guidance, and by Region 7 to help identify or assist States in determining any needed action items to improve their NPDES programs.

EPA Region 7 oversees the NPDES Program for four States: Iowa, Kansas, Missouri, and Nebraska. All four States are authorized to administer the NPDES Program (except for facilities located on tribal lands). The States issue permits for approximately 8,700 facilities while EPA Region 7 issues permits for sixteen wastewater treatment facilities and eight CAFO facilities on tribal lands.

The Permit Quality Reviews were performed during the first and second quarters of 2007 in preparation for the Region 7 Regional Review. WPD staff collected NPDES program information and permits from Regional and State staff, and a detailed PQR was performed for two States (Missouri and Iowa) the week of March 18, 2007. WPD staff and managers traveled to Region 7 for the formal Office of Water (OW) Water Regional Program Review on April 24-25, 2007.

Prior to the EPA HQ review, Region 7 conducted State reviews in Iowa and Missouri in 2005 and 2006, respectively. The Region's reviews assessed implementation of the States' NPDES permit programs and assisted in identifying areas for improvement noted in this report. The EPA HQ review results were generally consistent with and expanded upon the Regions' review results.

This report is organized as follows:

- Section 2 – Region 7 Regional Review Overview
- Section 3 – Permit Quality Review Summaries
- Section 4 – Summary of Findings and Proposed Actions

2.0 REGION 7 REGIONAL REVIEW OVERVIEW

The NPDES Regional Program Review explored several NPDES program accomplishments and issues, which are discussed briefly below.

2.1 SELECT ACCOMPLISHMENTS

Based on the work conducted in preparation for the Regional Program Review, EPA Region 7 deserves specific recognition for accomplishing the following:

- A reduction in the number of major expired permits;
- Pretreatment program: 99.9 percent goal met in FY06 (percent of significant industrial users (SIU) in POTWs with Pretreatment Programs that have control mechanisms in place); National average 98 percent;
- Concentrated animal feeding operations (CAFO) permit coverage: Missouri has 100 percent permit coverage and Kansas has 95 percent permit coverage;
- Kansas and Nebraska have good programs in place for CAFO nutrient management program (NMP) review;
- Region 7 recently finished training all four States on whole effluent toxicity (WET).

2.2 WATER QUALITY STANDARDS AND PERMITTING

The impacts of standards and criteria changes have had a big impact on permit issuance and backlog. Region 7 States have recently classified many miles of streams as fishable and swimmable, designated uses that are protected by default. The States are holding up many permits as they conduct Use Attainability Analysis (UAA) to consider whether upgrades are needed for ammonia and bacteria limits. Disinfection also has become a key issue of concern: St. Louis Metropolitan Sewer District (MSD) and a group of big river dischargers have struggled to avoid the costs of disinfection by seeking long compliance schedules, disinfection waivers, mixing zones for bacteria, or downgrades of designated uses.

The switch from fecal bacterial standards to *E.coli* based standards has been difficult for the States as the standards changed well ahead of their ability to monitor. Most States are still using fecal permit limits based on a translator multiplier. Region 7 is finding that increased bacterial monitoring, paired with the six hour holding requirement, is creating huge hidden costs as operators now must drive long distances to laboratories many times each year. Region 7 estimates that in Iowa alone, this may be a hidden cost exceeding $2 million per year.

The goal of the protection and propagation of fish, shellfish, wildlife and recreation has put much more emphasis on the use of lagoons as a treatment option. As a bottom line, facilities have found that lagoons serve as an easily maintained, low tech treatment method for small communities that typically have low income and expertise. Unfortunately, lagoons are often located on very small streams and, in the early spring when tankage is still cold, cannot fully meet criteria for full body contact or chronic ammonia criteria. Upgrades to mechanical plants would be prohibitively expensive and, in Region 7's experience, neglect of small mechanical plants creates worse problems. Region 7 recently held an all day meeting with States to discuss options.

2.2.1 Designated Uses/ UAAs

Region 7 has challenged some of its State partners on the sufficiency of their use attainability analyses (UAAs). Region 7 maintains that UAAs must provide complete information and be technically defensible, although these judgments are somewhat subjective. They also believe that the amount and type of information required in aquatic life UAAs pose a greater challenge than what is required in recreational UAAs, as they require more quantitative effort and data-gathering. Finally, the Region also believes that the highest attainable (with point-source controls and best management practices) use must be determined; requiring upstream/downstream characterization, effluent discharge data and applicable permit information.

After December 31, 2007, Iowa is required by statute to complete UAAs on waterbodies, prior to issuing or renewing any NPDES permits. Iowa is also revisiting its aquatic life criteria to work towards including provisions for chronic sublethal endpoints.

Missouri is required to address EPA's October 2006 determination that new and revised standards are necessary for 99 waterbodies. An initial reaction of the State's Clean Water Commission was to adjust the State's UAA Protocol. Region 7 has required that the Protocol operate within boundaries established by the CWA and EPA regulations (131.10(g)).

UAA Protocols are typically provided by the State agencies to the public for comment prior to finalization, through the IDNR website. IDNR received over 2,100 comments on waterbody use designations. Although Protocols do not have the weight of rule, they do communicate to the public the method and criteria the State intends to use to designate waterbody uses. Region 7 has been working with States to address any issues that arise when decisions are made that appear to violate the State's Protocol.

2.2.2 Antidegradation

Development, application and implementation of antidegradation requirements were cited as high priority by two active environmental groups in a meeting with Region 7 in late December 2006. Two Region 7 States (Missouri and Iowa) are dealing with significant antidegradation concerns.

In Missouri, EPA HQ must determine by October 30, 2008, pursuant to CWA Section 303(c)(4)(B), whether Missouri needs new or revised water quality standards identifying antidegradation implementation procedures (IPs) in order to meet the requirements of the CWA. The original deadline for this determination was April 30, 2007, as specified in the terms of a settlement agreement between EPA and the Missouri Coalition for the Environment. EPA obtained an extension to this deadline until September 30, 2008. EPA HQ does not have to make such a determination, however, if Missouri submits new or revised water quality standards identifying antidegradation IPs by this date. The deadline extension should allow Missouri to complete its rulemaking process, resulting in implementation procedures that should become effective prior to the date of EPA HQ's required determination.

Iowa lacks useable antidegradation implementation procedures. They are devoting limited resources to developing approvable water quality criteria and UAAs. Iowa and Region 7 are hearing protests from environmental groups on a number of permits issued without antidegradation reviews. The Iowa Environmental Council has repeatedly urged Region 7 to object to proposed Iowa NPDES permits, citing a lack of antidegradation review. Conversations with representatives of these groups recently revealed that a withdrawal petition may be filed to address the situation.

2.2.3 Other Water Quality Issues

Site-specific/eco-regional criteria approaches are under consideration in Missouri. Region 7 maintains that the studies used to develop alternative criteria must be technically defensible which, again, can be a subjective determination. Region 7 believes that the selection of background/reference conditions is critical. The research necessary to justify alternative criteria may require considerable time, resources and study. Region 7 believes that the issue can be addressed by the State in at least two ways: 1) site-specific/eco-regional criteria, or 2) a subcategory of aquatic life use.

The use of mixing zones in recreational use waters also presents potential problems. Allowing mixing zones for bacteria in recreational use waters arguably negates some of the positive effects of the recreational use designation. Region 7 has been alerted by environmental groups that many facilities in Missouri intend to seek “disinfection waivers,” which will likely be justified by dilution in the receiving waterbody.

With regard to nitrogen and phosphorus pollution (formerly nutrients), **t**hree EPA Region 7 States submitted numeric nutrient criteria development plans. The plans in Missouri and Iowa are “mutually agreeable.” Nebraska did not pursue “mutual agreeability”, but their plan contains milestone schedules for criteria development. Nebraska has submitted criteria for lakes and reservoirs; these criteria are under review. Kansas chose to forego numeric criteria development, focusing on a nutrient reduction strategy, which targets a 30% reduction in nutrient loading to waters leaving the State of Kansas.

Finally, timely approvals of Water Quality Standards are challenging Region 7. Disapprovals may require EPA to exercise its mandatory duty to promulgate. The Region contends that this action significantly extends the time required to act on rule packages, which can adversely affect the States' permit issuance process.

2.3 WET WEATHER

2.3.1 CSOs/SSOs Program

Region 7 has worked to assure that Phase II Combined Sewer Overflow (CSO) requirements are implemented through permits or enforceable orders. Region 7 took on the responsibility of reviewing LTCPs as an effort to assist the states in moving more CSO communities toward meeting the goals of an approved LTCP with an enforceable schedule resulting in compliance with the technology and water quality based requirements of the CWA. The Region recently objected to a permit for Kansas City, Kansas (KCK) due to inadequate CSO requirements and held high-level negotiations with the St. Louis Metropolitan Sewer District (MSD). In general, smaller municipalities have shown a lack of focus, and most cities have asked for very long schedules for upgrades.

Region 7 objected to a permit for Johnson County Kansas (JOCO) based on the lack of secondary limits for Sanitary Sewer Overflow (SSO) discharges from peak excess flow treatment facilities that have existed since the 1950's. While the facilities provide some primary treatment, they do not fully meet secondary treatment requirements. JOCO's position is that the discharges only occur during peak events, so the most lenient definitions of secondary treatment should apply. Region 7 is working with the State to either have the State issue an enforcement order or have EPA issue a 308 letter providing the requirements for the County to conduct an assessment of their system. Region 7 is anticipating that its objection will remain in place and that the State will not issue a permit until the assessment is completed and additional information is evaluated.

In Iowa, the IDNR has included a list of known SSO discharge points in permits, but without clear legal language. This may have allowed permits as a shield. Region 7 is working with IDNR to put a definition for SSOs in the permit, as well as to include a clear prohibition, and a duty to report discharges.

Findings of the CSO/SSO portion of the Review indicate the following:

- CSOs
    - Number of CSOs: Iowa – 10, Kansas – 3; Missouri – 9; Nebraska- 2;
    - Region 7 missed the 45 percent goal of the Water Safe for Swimming (SS) GPRA measure in FY05
    - Region 7 missed the 55 percent goal of the SS measure in FY06
    - Region 7 also missed the 65 percent goal of the SS measure in FY07;
    - EPA Headquarters has helped Region 7 in reviewing four long term control plans (LTCPs**)** in FY07;

- Unlike other Regions, Region 7 took responsibility to review and approve LTCPs.

- SSOs
  - Region 7 needs to work with States to ensure SSOs are reported and drinking water facilities are notified.

Headquarters discussed with Region 7 the challenges and obstacles to reviewing LTCPs and how they are working with their States to improve performance. Region 7 also worked to identify any areas where Headquarters can provide assistance or training.

2.3.2 Stormwater Program

A detailed permit review of the stormwater program was completed as part of the Permit Quality Review (PQR).

Industrial Stormwater: Iowa issues two industrial stormwater general permits, Kansas issues one general permit, Missouri issues 17 industrial stormwater general permits, and Nebraska is currently operating under an expired industrial stormwater general permit. Concerns for these Region 7 permits include permit language in Iowa and Kansas, inconsistencies among the Missouri general permits, and the delayed reissuance of the Nebraska general permit.

Municipal Separate Storm Sewer Systems (MS4): Iowa covers small MS4s under individual permits, Kansas and Missouri small MS4s are covered under a general permit for each state, and Nebraska covers small MS4s under several permits issued to clusters of permittees. Although findings varied by state, EPA's review found that Iowa should require that discharges be controlled to meet water quality goals, Kansas should provide details of "representative monitoring" in the permit and consider requiring tracking activities or controls, and Missouri and Nebraska should strengthen language regarding complying with the six minimum measures.

Industrial Stormwater and MS4s are discussed further in Section 3.3.2 of this report.

2.4 CAFOs – Nutrient Management Program (NMP) and New Regulation

The States of Missouri and Kansas have approximately 500 concentrated animal feeding operation (CAFOs) each. Iowa and Nebraska have 1,859 and 1,000, CAFOs respectively.

Region 7 States have a relatively large number of CAFOs, and these States often have agricultural programs that may overlap with the NPDES permitting program. Missouri and Kansas have 100 percent CAFO permit coverage, and Iowa and Nebraska have 6 percent and 29 percent, respectively. It is important that the States address CAFOs in a manner consistent with the federal NPDES requirements. EPA's review found that in Iowa, the Alternative Technology permits do not address eight of the nine NMP minimum practices defined in 122.42(e)(1). A review of the Kansas NPDES CAFO permit for feedlots found that it generally met applicable requirements, but it did not explicitly require all of the nine minimum measures. In particular, proper mortality management, diverting clean water and proper chemical handling were not adequately addressed, and there is no requirement for continued permit coverage until the operation is properly closed. Kansas and Nebraska were found to have good programs in place for CAFO NMP review.

More detailed review information for CAFOs are provided in Section 3.3.3 of this report.

2.5 ETHANOL PLANTS – IMPACT ON WATER QUALITY

The growth of the Ethanol Industry has had a number of effects in Region 7. Right now, there are about 50 ethanol plants up and running, and many of those are expanding. Fifteen more are under construction, and many more are planned. The newer plants are much larger than the old ones, so production is increasing quickly. The United States Department of Agriculture (USDA) estimates that in 2007, national ethanol production will be 7 billion gallons, consuming 4 billion bushels of corn, which is nearly one third of total corn production. The USDA predicts that ethanol production will reach 12 billion gallons in 2016.

On the most basic level, there have been some start-up issues with getting appropriate permits in place for air and water pollution. For instance, from the water side, new facilities need construction permits, stormwater permits, and discharge permits for the wastewater discharge. States have struggled to keep up with new permits.

In some places, especially arid areas, there is concern with the quality of wastewater discharges. Ethanol plants often treat groundwater by reverse osmosis and must discharge water with concentrated dissolved solids; this "salty" water can violate water quality standards if not diluted in a larger stream.

Water quantity can also be an issue. An ethanol plant uses four to six gallons of water to produce one gallon of ethanol. The Institute for Agriculture and Trade Policy recently released a paper suggesting that the projected growth in the industry could strain local water resources in the Corn Belt. The paper stressed the need for water conservation, recycling, and proper siting. There have been a number of news articles based on local concerns with the amount of water consumption from new plants, and industry is taking some steps towards water conservation.

The consumption of feedstock for ethanol production also has environmental effects. USDA reports estimate the 2007 corn acreage to reach 86 million acres, an increase of 7.4 million acres from 2005. Region 7 are concerned that marginal CRP land will go back into crop production and more farmers will begin corn-only crop rotations. CRP enrollment seems to be steady at about 36 million acres, but the future is uncertain. Land use changes could degrade water quality in these agricultural watersheds based on erosion and increased use of Atrazine and fertilizer. It should be noted that USDA estimates long term corn production are based on greatly increased yields per acre, which would indicate higher intensity of agricultural inputs.

On the economic side, prices for feed corn for livestock and poultry have increased from $2.25 to nearly $4.00 per bushel, which has affected the meat industry. In China, this trend is much more pronounced. The Chinese government is considering limiting ethanol production because the corn is needed for human consumption. Corn prices have been driven up 500% since 2005 in spite of record yields.

Biodiesel and cellulosic ethanol production facilities are also being built in Region 7, and have the potential to become other issues of concern, although they are somewhat less detrimental to water quality and quantity. Improper disposal of glycerin wastes from biodiesel production has caused several fish kills. Also, cellulosic ethanol production will use the same amount of water per gallon of ethanol as does corn-based ethanol.

2.6 PERMIT ISSUANCE STATUS

Region 7 provided the following permit issuance data for the Regional Review. The data reported by Region 7 were current as of March 1, 2007.

	Total Facilities*	Expired Permits	% Current
Iowa	1,920	974	49.3
Kansas	1,253	114	90.9
Missouri	5,059	852	83.2
Nebraska	590	203	65.6
Region 7 combined	8,882	2,143	75.7

*Total facilities include major and minor facilities covered by individual and non-storm water general permits.

Region 7 also reported that all permits issued on tribal lands are now current. Iowa's individual permit issuance has been affected by its need to complete Use Attainability Analyses for a substantial number of its water bodies. As a result, percent issuance has declined over the past several years as the State awaits approval of revised water quality standards. Nebraska has steadily improved its permit issuance trend, improving from a low of 51.4 percent to 65.3 percent since September 2004.

The number of major individual permits in Region 7 expired more than ten years has increased from three in September 30, 2004 to six in September 2007. The number of minor individual permits expired more than two years increased from 494 in September 30, 2004 to 536 in March 2007. Nebraska recorded a substantial decline in the number of permits expired more than two years, going from 206 to 136. However, this was offset by Iowa, where the number increased from 42 to 156 minor individual permits at the time of the Regional Review in April 2007.

2.7 PRIORITY PERMITS

Priority permits are permits that have been expired for more than two years and are of high environmental significance based on established criteria. The Regional review identified the following information regarding priority permits:

- In FY06, Region 7 States issued 78 percent of their priority permits, missing the goal of 95 percent;
- FY07 Performance –
    - Region 7 States issued 92 of 98 permits, or 94% of their commitment for FY07. In absolute numbers of issuances, however, Region 7 ranked second among the Regions by issuing 92 permits. Only Region 5 exceeded their permit issuances (103 priority permits);
    - All five EPA priority permits were issued.

2.8 WATERSHED-BASED PERMITS

The regional review identified 12 watershed-based permits. Kansas is the only Region 7 State that is issuing NPDES permits using a rotating basin approach.

2.9 TRADING

Region 7 States are located in the middle of the Mississippi River Basin. The opportunities and interest in trading are present in these States, as exemplified by carbon trading among Iowa farmers. Region 7 is the only Region that has no water quality trades. EPA HQ is encouraging Region 7 to coordinate with the other Regions in the Basin, especially Region 4, 5 and 6, on a basin-wide trading strategy, and is willing to help in promoting trading in Region 7. EPA HQ is also willing to discuss whether trading can be used as a tool to reduce nutrient loadings or as a tool to help manage the water quality impacts of ethanol production.

Region 7 has not seen many trading opportunities at this point. For the most part, Region 7 does not have facilities located closely enough to compete for point source allocations. A notable exception to this is the discharge from Kansas City, Kansas's Kaw Point facility just above the discharge from the Westside facility in Kansas City, Missouri. EPA held meetings with Kansas and Missouri to settle on an approach to modeling mixing, and invited both cities to discuss an equitable means of sharing a waste load allocation. The cities are considering their options.

When nutrient criteria are approved, EPA HQ and Region 7 expect trading to become much more important. An important part of "cap and trade" is the cap, and when nutrient criteria provide caps, it is very likely that point sources will seek relief through trading options. Region 5's workshop on nutrients and trading was informative for the Region in assessing the directions that nitrogen and phosphorus technology and policy will take in the future.

2.10 PRETREATMENT

In order to better implement the pretreatment program, better coordination is needed between Region 7 and EPA HQ, including Region 7's participation on monthly conference calls. Region 7 has committed to increased participation in conference calls with EPA Headquarters and has identified a back-up person for these calls. The Region 7 states do not routinely participate in the State Pretreatment Coordinators conference calls. Region 7 will encourage their participation in these conference calls.

3.0 PERMIT QUALITY REVIEW

Background/Approach

Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits against NPDES program regulations and requirements to determine whether the permits are being developed in a manner consistent with requirements established in the Clean Water Act (CWA) applicable program requirements and water quality standards.

EPA's PQR consisted of two components, a core review and a topic specific review. The core review focuses on core permit quality and includes a review of the permit application, limits, monitoring requirement development, special conditions, standard conditions, correspondence and other documentation, and administrative process conducted, as well as other factors. Core reviews are scheduled so that the findings will support the Regional Water Program Reviews, which are conducted every 3 to 4 years.

Topic-specific reviews targeted components or types of permits. The scope of a topic-specific review is determined in consultation with States on a case-by-case basis. Region 7 topic-specific reviews focused on the following areas: mercury methods/limits; discharges to impaired waters; TMDL implementation; use of *E.coli* and enterococcus requirements; antidegradation and use of mixing zones; implementation of section 316(a) and (b); stormwater permitting; implementation of CAFO requirements; implementation of long term control plans (LTCPs) for CSOs; SSOs; and implementation of whole effluent toxicity (WET).

EPA has conducted NPDES PQRs since the mid-1980s, and has revisited the review process periodically since to promote permit quality and ensure a reasonable degree of national consistency with regard to core program requirements. Such reviews also serve to ensure that NPDES permits keep pace with developments in the NPDES program. Information developed during PQRs informs broader Regional Water Program Reviews being conducted by EPA Headquarters.

Regional Water Program Reviews assist in assessing the consistency and effectiveness of the Regional and State programs. The reviews may also include an analysis of the entire permitting workflow, progress on action items, progress on memorandum of understanding (MOU) commitments or other legal arrangements, and progress on Government Performance Results Act (GPRA)/Program Assessment Rating Tool (PART) measures.

Objectives and Scope for the Region 7 PQR

The Region 7 PQR consisted of the following: a comprehensive core permit review of a sample of NPDES permits in Iowa and Missouri and a topic specific review of a sample of permits from all four States to assess specific areas of concern. Information from the Region 7 PQR will help guide discussions about process efficiency. The results of the PQR will also provide information on the integrity of the NPDES Permit Program and be used to promote national consistency, in accordance with EPA's Permitting for Environmental Results (PER) initiative. Recommended action items are identified in Section 4 of this report.

Details of the Region 7 PQR process and review results are provided below

3.1 CORE PERMIT REVIEWS

In early 2007, EPA screened eight NPDES permits and their associated fact sheets for the Region 7 States. The screening review was conducted to determine if the permits contained sufficient information to evaluate key permit quality issues, or if onsite reviews of the permit record were necessary. Screening the permits also helped identify whether the permits had significant deficiencies. Permits and fact sheets for the screening review were downloaded directly from State and/or EPA websites.

The screening review indicated that most of the permits and fact sheets provided insufficient information upon which to base an in-depth assessment. Additional information or context was needed to evaluate specific permit issues. Based on the screening review results and available resources, EPA decided to conduct comprehensive core reviews with on-site visits in Iowa and Missouri. The review team consisted of EPA Headquarters, Regional, and Contractor staff.

The core permit review process involves evaluating select permits and support materials against basic NPDES program criteria. Reviewers complete the core review by examining selected permits and supporting documentation, assessing these materials using basic PQR tools, and talking with permit writers regarding technical questions related to the permit development process. The following tools were primarily used for review, and are attached in Appendix A, and B, respectively: 1) Central Tenets of Permitting (developed during the 2000/2001 PQR) and 2) Checklist for Municipal and Industrial Permits (developed during the 2000/2001 PQR). In addition, discussions with Region 7 and State staff addressed a range of topics including program status, permitting processes, relative responsibilities, organization, and staffing.

The majority of the permits were chosen randomly from a list of permits issued after December 31, 2004 to ensure a review of recently issued permits. The remaining permits were selected based on discussions with the States and Region 7, with an effort to include primarily major facilities, with an equal distribution of industrial and municipal permits. Eight permits from Iowa and nine permits from Missouri were selected for the core reviews.

3.1.1 Iowa Background

Iowa Department of Natural Resources (IDNR) operates a central office and six field offices. All NPDES permits are issued from the central office, including general permits. The field offices conduct compliance and inspection activities, and address any complaints. IDNR is responsible for administering approximately 1,550 individual permits (approximately 135 major facilities), as well as five general permits.

Permitting process

IDNR uses a database to manage permitting information and automatically populate certain template pages to produce a draft permit. Additional documents are attached to the draft permit to develop the complete permit (e.g., standard conditions, special conditions, Combined Sewer Overflow (CSO) provisions, provisions addressing CWA sections 316(a) and (b)).

IDNR permit writers submit requests for wasteload allocation (WLA) development for certain parameters, including pollutants of concern. Separate IDNR staff then develop the WLA, conducting modeling as needed, and calculating water quality-based effluent limits (WQBEL).

IDNR uses a template to prepare fact sheets (also referred to as permit rationales) for municipal facility permits, but not for industrial facilities due to variation among facilities. To determine if a facility discharges to an impaired water, IDNR permit writers use a list of impaired waters posted on the IDNR website and a spreadsheet of approved total maximum daily loads (TMDLs). TMDLs are developed by separate IDNR staff (a different Bureau). The TMDL staff work with WLA staff to coordinate activities.

Revised WQS and Use Attainability Analyses

IDNR revised and expanded its WQS in March 2006. Previously, the State had an estimated 14,000 miles of streams that were unclassified, and where only narrative WQS applied. Under the revised WQS, all unclassified waters are assumed to be fishable/swimmable and are assigned a specific designation.

Discussions with IDNR staff indicate that for all newly classified waters that receive a discharge from a permitted facility, IDNR will collect data and conduct a use attainability analysis (UAA) to determine the appropriate uses and level of protection for the specific stream. Any use designation that needs to be changed goes through the rulemaking process. UAA and use designation changes must be approved by EPA, as any new use designation is a change to WQS. This process has slowed or virtually stopped the issuance of NPDES permits on affected waters, which is likely to significantly increase the permit backlog in Iowa. The Iowa permit backlog is compounded by the fact that a large number of permit renewals are due to occur this year.

At the time of the review, EPA had not yet approved all of the State's new WQS. As a result, the State regulations differed from the federally-approved State regulations. This delayed the issuance of permits where the revised standards have not been approved.

Iowa recently adopted Aquatic Life Criteria, in accordance with Clean Water Act Section 304(a), approved on February 11, 2008, which encompasses new use designations. In addition, Iowa is also in the process of revising their whole effluent toxicity water quality standards to include provisions for chronic sublethal endpoints.

Permit scanning and web-based applications

IDNR recently scanned all Iowa NPDES permits into an electronic format and is in the process making them accessible via the IDNR website. The State also is working to develop web-based permit application forms, which are now only available in hard copy and sent to permittees to initiate permit renewal. Notices of Intents (NOIs) are managed in a separate database.

Total dissolved solids/chloride

IDNR has entered into a settlement agreement addressing total dissolved solids (TDS) and chloride. Under this agreement, all dischargers must be screened for these pollutants. In addition, EPA must review every permit with a discharge that exceeds the TDS and/or chloride threshold or discharges to a waterbody with a threatened or endangered species present. Under the settlement agreement, the IDNR will develop chloride criteria (acute and chronic) by December 31, 2007. If IDNR failed to develop chloride criteria by this date, EPA will make a determination by April 30, 2008. As of February 2008, criteria had not been developed by IDNR, and EPA was working on the determination. EPA reviewed 270 permits last year (2006); seven of these permits required TDS limits based on water quality.

3.1.2 Iowa Core Review Findings

The core review examined eight Iowa NPDES permits. Most issues were based on a lack of clear documentation. Examples of issues include the following:

- Iowa's UAA process for classified waters (as discussed above) may significantly increase permit backlog in the State. Such an increase is likely because, for newly classified waters, IDNR will have to collect use data and conduct a UAA prior to making a decision on changing the receiving water's designated use. Both the UAA and any use change sill require EPA approval. Additional delays in permit issuance are of particular concern given that, as of December 2006, IDNR's rate of timely individual permit reissuance was 60.5 and 71.2 percent for major and minor permits, respectively, which is below EPA's goal of 90 percent for timely reissuance.
- One permit appears to authorize several bypass outfalls, although they are not identified or discussed in the fact sheet. No limits or conditions are explicitly imposed on these outfalls. The permit includes standard conditions that address bypass in a manner consistent with federal regulations. IDNR had been listing known SSO overflows in permits and were treating overflows as a form of bypass. After discussions, IDNR changed the standards conditions of permits to forbid SSO discharges. SSO overflow locations are still listed in the permit, but discharge is a violation of the permit.

- For several permits, the permit file did not include a permit application or effluent data. Since pollutants of concern and reasonable potential analyses should be based on all valid, reliable and representative data, it was difficult to assess whether decisions regarding pollutants of concern and reasonable potential analyses were based on appropriate data.
- The reasonable potential procedure was not documented (e.g., what pollutants are examined for their reasonable potential to cause or contribute to excursions above WQS).
- Some limits in final permits were different than limits in the permit rationale.
- Multiple WLAs were often present in the administrative record. IDNR staff explained that WLAs are calculated on request and may be requested for different operational scenarios to reflect issues being negotiated, and to reflect changes over time.
- Some discharge points and monitoring locations were stated in very general terms, which could lead to implementation issues.
- In some cases, there was little or no explicit discussion of the categorization process, or the determination of a new versus existing source.
- Not all permits document whether the status of the receiving water was considered when developing permit limits.
- The assumptions or values used for mixing zones were generally included in permit rationales. However, the basis for allowing mixing zones, the State approach, and why a facility qualifies for a mixing zone is not clear.
- Antibacksliding and antidegradation were not discussed for each relevant permit. Such a discussion helps the public understand changes and the basis for such changes.

IDNR is taking steps to improve several aspects of its permitting process. Such efforts include:

- New templates are expected to address several issues identified during reviews.
- Development of an antidegradation implementation policy.
- Modifications to publicly owned treatment plant (POTW) permit applications to address inconsistencies with EPA Form 2A requirements.

3.1.3 Missouri Background

Missouri Department of Natural Resources (MDNR) operates a central office and five regional offices within the State. The central office issues major permits, complex permits, addresses key issues such as mixing zone policy and other policy and procedural questions, and provides technical support and training. The central office also addresses all pretreatment issues. Regional offices issue minor permits and conduct monitoring and compliance assessment functions. MDNR is responsible for about 150 major individual permits and about 3,000 minor individual permits. In March, EPA Region 7 reported there were 23 non-Storm water general permits issued by MDNR. However, based on a more recent analysis of general permits, conducted as part of a national assessment to update EPA's Permit Management Oversight System (PMOS), there are 25 general permits in Missouri covering approximately 2,000 facilities. Thus, MDNR is responsible for about 5,000 non-Storm water permittees.

Permitting process

MDNR uses a Water Quality Information System (WQIS) database to organize and manage permitting information, including compiling discharge monitoring data (DMR) data. The State also has a database to track permit application processing (CATS), which tracks technical reviews, public notice, and approval of NPDES permits.

Missouri Water Quality Standards (WQS)

MDNR has numerous unclassified streams. For these unclassified streams, narrative WQS may be applied, or the State will often use criteria for the first classified downstream waterbody to determine water quality-based permit requirements. Missouri also has many waters that were recently assigned recreational (primary contact) uses. In most cases, this has not posed any significant issues, although in certain cases individuals or groups have argued that the designation of primary contact uses may not be appropriate.

MDNR Policies

MDNR is in the process of making changes to its policies and procedures and State staff indicated they would welcome EPA feedback on these efforts. Examples of these efforts include the following:

- Developing permitting guidance.
- Developing templates for NPDES permit fact sheets and statements of basis. Currently, the State does not develop fact sheets for all major permits. Rather, the State has used its Water Quality Review Sheet (WQRS) to provide some documentation regarding permits. The State recognizes that the current fact sheets are not adequate and had hoped to implement the new fact sheets/statements of basis by April 1, 2007. WQRS will be included in the new fact sheets. MDNR will continue to use the WQRS for new sources/modifications. EPA HQ will determine if the new fact sheets comply with NPDES requirements. As of December 2007, MDNR was preparing fact sheets for permits, and making strong efforts to improve documentation.
- Developing a new ammonia policy/procedure. As of December 2007, an ammonia policy had been developed and was being implemented, according to Region 7.
- Developing an antidegradation policy (100 percent assimilative capacity is currently given). State regulations provide that this policy must be implemented when completed. This issue has become more complex as the State WQS have been revised. The draft document is complete and available on the MDNR website.
- Working to integrate technology into the permitting process and plans to further automate workflow.

3.1.4 Missouri Core Review Findings

The core review was based on an examination of nine Missouri NPDES permits. Some potentially significant issues were identified. Examples of issues include the following:

- MDNR has not always developed fact sheets for all major permits, and often use WQRS in place of fact sheets. WQRS do not meet federal requirements for fact sheets (although recent iterations contain more information). MDNR has developed a detailed template for fact sheets and statements of basis. Based on conversations with Region 7 personnel, the new fact sheets and statements of basis are being implemented by the State.
- In one case, there was no requirement to address a LTCP for CSOs.
- In one case, it is not clear if effluent limitation guideline (ELG) requirements have been properly applied (Missouri Chemical; MO0000311). This resulted in the exclusion of monitoring for 70 priority pollutants. MDNR will be modifying the permit to include the limits mistakenly removed from the permit.
- POTW permits include appropriate "percent removal" limitations for TSS and BOD; however, influent monitoring for these pollutant parameters is not required in all cases. State is now requiring influent monitoring in all permits with % removal requirements.
- One POTW permit appears to authorize discharges of primary treated wastewater during periods of high flow with effluent limitations that do not reflect secondary treatment requirements of 40 CFR 133 (KC Blue; MO0024911).
- Permits do not include proper and complete documentation and implementation of WET (i.e., correct derivation of limits; use of chronic limits, including sublethal endpoints, where there is a history of degradation).
- Two permits include final effluent limitations for ammonia which will become effective three years following adoption of the permit; however, the permits do not include interim dates and requirements pursuant to 40 CFR 122.47. Region 7 has been working with the state to insure that all schedules of compliance in reissued permits meet the minimum federal requirements.
- Standards conditions are referenced in the permit but not provided in the administrative record. MDNR staff indicated that standard conditions are on the MDNR website (reviewers were not able to access the site). Note that Region 7 has previously identified a potential issue regarding the State's standard condition addressing bypass.

A more common issue was found to be the limited documentation and explanation for certain permit requirements and decisions. This limited information made assessing the requirements and decisions challenging. Examples of limited documentation and/or discrepancies include the following:

- Pollutants reported as detected in the permit application (or other source) with water quality criteria should undergo a reasonable potential evaluation. However, some detected pollutants in permit applications did not appear to have a reasonable potential evaluation. The procedures and decisions for this process should be documented either through a checklist or other methods. Permits generally need better documentation of:

- Antibacksliding. Currently, an explanation of why removal of limits and monitoring do not constitute antibacksliding is not directly addressed by permit documents.
- Whether a discharge is to an impaired water and whether the discharge causes or contributes to such impairment, and why.
- Antidegradation (e.g., class or water, requirements (if any) that apply, how requirements were fulfilled). Currently not consistently addressed by permit documents.
- Use of equivalent to secondary treatment.
- Reasonably specific descriptions of discharge and monitoring points.
- In one case, the permit contained interim water quality-based limits for ammonia applicable for the first three years of the permit. There is no documentation to establish how the interim limits were calculated or why the final limits are delayed. (Simmons; MO0036773).
- Annual WET monitoring may not be representative in adequately assessing reasonable potential.
- Permit language not always clear in identifying whether or not WET limits are required.

3.2 TOPIC SPECIFIC REVIEWS

Similar to the selection process from the core review, the majority of the permits were chosen randomly for the topic specific reviews from a list of permits issued after December 31, 2004, developed by EPA HQ to ensure a review of recently issued permits. The remaining permits were selected based on discussions with the States and Region 7, with an effort to include facilities appropriate for each of the topics.

3.2.1 Mercury Methods

Background and Scope

NPDES regulations require the use of analytical test methods approved under 40 CFR 136. Two mercury analytical detection methods are currently listed under 40 CFR 136—Method 1631E and Method 245. Method 1631E, promulgated in November 2002, has a minimum method detection limit of 0.0005 ug/L and supports the measurement of mercury at the lowest water quality criteria levels as specified in State WQS. Method 245, promulgated prior to the development of Method 1631E, has a minimum method detection limit of 0.2 ug/L.

The use of a specific method is not required; however, the low level permit limits being set in accordance with many State mercury WQS indicate the need to determine the most appropriate analytical method in order to provide representative information for the development of permit requirements.

This portion of the review looked at the analytical methods and/or detection limits that were specified in permits issued after promulgation of the more sensitive Method 1631E, and whether the permits provide consideration of the quantitation levels (minimum levels) in 40 CFR 136. EPA recently developed guidance on the implementation of this methodology.

EPA examined two permits in each Region 7 State to determine whether justification for the limits, monitoring conditions, and appropriate analytical methods are provided in the permit or fact sheet.

Mercury Methods Findings

Iowa: Two permits identified in Permit Compliance System (PCS) to contain mercury limits were reviewed. However, these permits were issued prior to the publication of method 1631 (i.e., 2000 and 2001) and, as a result, were not helpful in determining whether the new analytical method is being implemented and documented in the permit record.

IDNR staff noted that in the past, if a limit was set was below the analytical detection limit, as was the case with one of the permits reviewed (Iowa City; IA0070866), the State has sought to apply the more stringent limit. However, it was not clear whether the State applied the more stringent detection limit for this permit.

Iowa's NPDES permit applications allow the use of any 40 CFR 136 method, similar to the federal permit application form. In addition, the State adopts 40 CFR 136 requirements by reference annually, and requires its analytical laboratories to be certified.

Discussions with IDNR staff indicate that Iowa has issued few permits that include mercury limits. As a result, the State has not had the opportunity to adequately address this issue. State staff indicated that they would need to determine how to best address this issue, but observed that currently mercury limits do not present a substantial issue in the State.

Missouri: Two permits identified in PCS that contain mercury limits were reviewed. One of these permits, City of St. Charles (MO0058351) was issued after promulgation of Method 1631, and listed a limit of 20 ug/L, which is higher than detection limits permitted in both the methods listed in 40 CFR 136. The other permit, Doe Run Resources (MO0100226), also issued after the promulgation of Method 1631, has no indication of mercury testing or monitoring in the permit or fact sheet, although it is listed as having a mercury parameter in PCS.

Discussions with State staff indicate that MDNR requires monitoring for pollutants that have limits in a permit, but the State does not routinely specify the analytical method to be used. The State requires the use of approved methods in all permits.

Kansas: Two permits identified in PCS that contain mercury limits were reviewed. Permit KS008816 requires monitoring for mercury as part of chronic WET testing (0.2 ug/L, cold vapor method). Although a mercury effluent limit that would justify the use of Method 245 was established in the permit, the actual analytical detection limit for the method was not listed in the permit or fact sheet. The permit also requires a priority pollutant scan, which includes mercury. Permit KS0003204 requires, as part of chronic WET testing, monitoring for mercury (0.2 ug/L, cold vapor method), but does not address a specific analytical detection limit or list the actual method used.

Nebraska: Two permits identified in PCS that contain mercury limits were reviewed. Both permits (NE0032891 and NE0034304) require monitoring for mercury, and specify in standard conditions that sampling must follow Nebraska Department of Environmental Quality (NDEQ) requirements and 40 CFR 136. However, no analytical detection limits or methods were specified for either permit or fact sheet.

3.2.2 Impaired Waters

Background and Scope

For impaired waters, EPA examined five permits, two from Missouri and one each from Iowa, Nebraska and Kansas. The focus of this inquiry was to assess whether each State considers any impairment of a receiving waterbody, and how it is addressed.

Impaired Waters Findings

Iowa: The Iowa permit reviewed for Impaired Waters was the Sioux City wastewater treatment plant (WWTP). The permit rationale states that the Missouri River (the receiving water) is impaired for arsenic and bacteria based on the State's 2004 CWA Section 303(d) list. The rationale indicates that the impaired river segment is 75 miles downstream. Although this facility discharges bacteria, a pollutant of concern, the permit rationale indicates that because the impaired segment is 75 miles away, the facility does not contribute to the impairment. It further asserts that compliance with permit limits will protect existing uses.

Missouri: MDNR staff indicated that the State has an existing policy addressing impaired waters. MDNR staff stated that, in general, if a permitted discharger is viewed as contributing to a water quality impairment, then the State will typically require monitoring to determine whether the discharger needs additional or different permit limits. MDNR staff said that they would normally renew, not hold, such a permit, and make any adjustments going forward. The State does conduct some in-stream monitoring. MDNR staff stated that they are currently working from the 1998 list of impaired waters under a consent order, which establishes a schedule to develop TMDLs based on the 1998 303(d) list. They expect to finish work under the consent order by 2009.

Missouri's recent draft fact sheet template (and Statement of Basis, Version 1) provides a space for identifying when a receiving water (or first classified waterbody) is on the State's 303(d) list. It also provides space for identifying whether the permitted facility is considered a source of the pollutant of concern, or is considered to contribute to the impairment. However, it does not ask for an explanation or discussion of why a discharge does or does not contribute to an impairment.

Bayer Crop Science (MO0002526) discharges to the Missouri River and West Central Tributaries Basin (HUC code 10300101-30-00), which is part of the Lower Missouri Crooked watershed listed on the Section 303(d) list. The State's 1998 303(d) list indicates the Missouri River is impaired for habitat loss due to channelization. The 2002 State 303(d) list indicates that parts of the Missouri River are impaired for chlordane and PCBs. It is not clear whether the discharge causes or contributes to any impairment; the permit record does not indicate action to address any impairment.

The other permit reviewed for Missouri, Hercules Incorporated/Missouri Chemicals/Dyno (MO0000311), did not indicate that the receiving water was impaired.

Kansas: The Kansas permit reviewed was Iola WWTP (KS0032123), which discharges into the Neosho River. The reach of the Neosho River (USGS HUC 11070204) is listed as impaired for copper and lead. According to EPA's Surf Your Watershed site, a TMDL has been developed for copper at Chanute, which is approximately 20 miles downstream of Iola but in the same HUC. (A second TMDL for copper has been established at Parkerville, approximately 100 miles upstream and in an upstream HUC.) The TMDL was finalized in 2005 and included an estimated copper loading from Iola WWTP. The TMDL concluded that no reduction was necessary for WLA sources (including Iola and other POTWs). It also included a WLA for Iola that was greater than its assumed current loading.

There is no definitive documentation that Iola discharges (or does not discharge) copper or lead. The TMDL used assumed rates of copper loading for wastewater facilities. The permit requires annual monitoring for both pollutants as part of a broader monitoring program, but there are no effluent limits for these pollutants. Aside from monitoring for copper and lead, there does not appear to be any further action required of the facility.

Nebraska: The Wymore wastewater treatment facility (WWTF) (NE0021130) discharges into the Big Blue River (segment BB1-10000 of the Big Blue River Basin), for which no TMDLs had been completed prior to the issuance of the permit (October 1, 2006). According to Region 7 staff, the 303(d) listing of this stream segment is for bacteria, with no mixing zone allowances permitted. The end-pipe values for this permit are equivalent to the water quality criteria for bacteria limits, with no mixing zone allowances in accordance with the 303(d) requirements for this receiving water.

WLAs were not required for this permit. However, Region 7 staff indicated that in cases where permittees discharge into an impaired water that does allow for mixing zones, WLAs are provided to them by the State or Region.

3.2.3 TMDLs

Background and Scope

For the TMDL review, EPA examined four permits, one from each Region 7 State. The focus of this inquiry was to verify that final TMDL requirements applicable to point sources are being implemented in NPDES permits.

TMDLs Findings

Iowa: IDNR uses a spreadsheet of current TMDLs to ensure that permit writers have sufficient information to place TMDL-based WLAs into NPDES permits. This spreadsheet provides the waterbody name, identification number, permit number, facility name, approval date, pollutant, and wasteload allocation. A permit writer can use the spreadsheet to determine whether a final TMDL applies to a specific permit, and to derive the applicable WLA.

The Iowa permit reviewed was National By-Products (IA0000914). According to EPA's Surf Your Watershed, the Mississippi River (USGS HUC 07080101) is impaired for PCBs, nutrients, and fecal coliform. The fact sheet (dated 2006) notes that the Mississippi River was listed as a 303(d) waterbody in Iowa for arsenic in 2004. It does not appear that a TMDL has been developed for any of these pollutants. Neither the facility nor the receiving water appears on the State's TMDL list.

Missouri: MDNR uses a GIS/Arcview system to compile approved TMDLs, which is available to permit writers electronically. MDNR also provides WLAs from completed TMDLs to permit writers for inclusion in relevant permits. If a TMDL is completed and contains a WLA for an existing permit, the State typically will re-open the permit if the permit is 2-3 years from expiration. Otherwise, the State will wait until permit renewal to incorporate the WLA. While TMDLs are being developed, NPDES permits will generally be renewed and monitoring may be included to provide data on pollutants of concern.

MDNR is in the process of establishing a procedure on the existing system for tracking TMDLs and any permits affected. When this procedure is available, it will prompt permit writers to look at a relevant TMDL with WLA data. Currently, the permit writers can see existing impairments on Arcview.

The Missouri permit reviewed was Chimney Point (MO0123030). According to EPA's Surf Your Watershed, the Lake of the Ozarks (USGS HUC 10290109) is impaired for fish trauma, gas supersaturation, and low dissolved oxygen. It does not appear that a TMDL has been developed for any of these pollutants, since the impacted area of the lake is not considered to have any impact on the facility.

Kansas: The Kansas permit reviewed was Iola WWTP (KS0032123). A TMDL was finalized in 2005 and included an estimated copper loading from Iola, although there is no definitive documentation that Iola discharges (or does not discharge) copper or lead. The TMDL concluded that no reduction was necessary for WLA sources (including Iola and other POTWs). It also included a WLA for Iola that was greater than its assumed current loading.

Nebraska: The Nebraska permit reviewed was Fort Calhoun (NE0000418). According to EPA's Surf Your Watershed, the Missouri River (USGS HUC 10230006) is impaired for PCBs, dieldrin, fecal coliform, and arsenic. It does not appear that a TMDL has been developed for any of these pollutants.

3.2.4 Use of *E.coli* Pathogen Standard

Background and Scope

EPA has determined that *Escherichia coli* (*E.coli)* is the most reliable indicator of fecal bacterial contamination of surface waters. The EPA-recommended recreational WQS for *E.coli* is based on two criteria: 1) a geometric mean of 126 organisms/100 ml based on several samples collected during dry weather conditions or 2) a single sample maximum based on designated use (e.g., 235 organisms/100 ml for designated beach) (EPA 1986). EPA has not published an approved test method for *E.coli* in wastewater.

Iowa: Iowa recently transitioned from specifying limits in permits for fecal coliform to establishing limits for *E.coli*. Permits issued or drafted since mid- to late- December 2006 contain *E.coli* limits which are based on WLA, and permit limit derivation procedures specified in Supporting Document for Water Quality Management Plans, Chapter IV, June 16, 2004, prepared by: Water Resources Section, Water Quality Bureau, Environmental Services Division, Iowa Dept. of Natural Resources, Page 29. Such *E.coli* limits were, until recently, translated into fecal limits.

Missouri: Missouri's WQS include standards for fecal coliform and for *E.coli*. (10 CSR 20-7.031(4)(C)). Either criterion can be used until December 31, 2008, at which time only the *E.coli* criterion shall apply.

Discussions with MDNR staff indicate that the State is developing a methodology for implementing *E.coli* standards (i.e., determining how to move from the fecal standard to *E.coli*).

Starting December 31, 2008, *E.coli* standards will apply for water bodies designated for whole body contact recreation and secondary contact recreation. MDNR and Region 7 should collaborate to ensure that the new standards are implemented in permits issued after the implementation of the *E.coli* requirements.

According to a Missouri State Clean Water Advisory Group presentation (dated 12/12/06) concerning implementation of *E.coli* standards, the State *E.coli* standard specifies a geometric mean of not more than 126 colonies per 100 mL. Starting December 31, 2008, *E.coli* standards will apply for water bodies designated for whole body contact recreation and secondary contact recreation. MDNR and Region 7 should collaborate to ensure that the new standards are implemented in permits issued after the implementation of the *E.coli* requirements.

The presentation also considers disinfection and waivers from disinfection. The State expects to have *E.coli*-based effluent limitations implemented over the next two years (i.e., 2007-2008).

Kansas: Kansas includes limitations for *E.coli* in their permits, however the State does not include a translation process for *E.coli* in permits or fact sheets. Email correspondence indicates that the State has discussed the translation process with Region 7 during their last program review in the Spring of 2007.

Nebraska: Nebraska has *E.coli* water quality standards that apply to waters designated for primary recreation. The *E.coli* standards appear to apply seasonally (during the recreation period of May 1 through September 30).

Select permits were reviewed to assess implementation of *E.coli* standards, some of which were issued by EPA Region 7.

***E.coli* Pathogen Findings**

Iowa: Three Iowa permits were reviewed. The Sac and Fox Tribe WWTP (IA 0073750) permit, issued by Region 7, includes a seasonal *E.coli* single sample maximum limit (298 cfu/100mL), with compliance determined by monitoring for fecal coliform (single sample maximum of 200 cfu/100 mL).

The City of Sioux City WWTP permit (IA0043095) includes interim and final limits for fecal coliform. The final limits appear to be based on the State's *E.coli* standards as converted to equivalent fecal coliform limits. The interim limit (effective 10/25/06-8/14/2011) for daily maximum fecal is 56,548 #/100 ML. This is based on the use of a mixing zone applied to a river with a large flow (i.e., substantial dilution), and the fact that revised WQS became effective just after the permit was issued. The final daily maximum limit for this permit is 370, which is consistent with the conversion from the *E.coli* standard and is explained in the permit and fact sheet.

The third Iowa permit reviewed was City of Quasqueton_WTP (IA 0057011). In this permit, the WLA/permit limits are based on the newly adopted WQS (March 22, 2006, awaiting EPA approval). The proposed WQS for *E.coli* in a Class (A1) waterbody is Geometric Mean of 126/100 ml and Sample Maximum of 235/100 ml from March 15th through November 15th. The process for *E.coli* limitation development is the same as described above for Sioux City. The permit appears to specify *E.coli* analytical methods.

Missouri: One permit from Missouri was reviewed: City of Southwest City WWTF, Southwest City, Missouri (MO0036765). Outfall 001 has final seasonal *E.coli* limits of 235/100 mL daily max, 126/100 mL monthly average (effective last 18 months of permit). This outfall also has final seasonal fecal coliform limits, with no interim limits included for *E.coli* or fecal coliform. Samples must be taken once/month, but limitations and monitoring requirements are only applicable during the recreational season from April 1 – October 31. The one-page Fact Sheet says that basis for the limitations are in the WQRS, but the WQRS was not provided for review. No method for evaluating *E.coli* was addressed. MDNR indicates this is the only permit that currently has *E.coli* limits.

Kansas: Two permits from Kansas were reviewed. The K Road Complex, in the Prairie Band Potawatomie Nation (KS0096202), issued by Region 7, is an activated sludge wastewater treatment facility. Outfall 001 has seasonal *E.coli* limitations (the limit November through March is 1600 cfu/100 mL) and the limit from April through October is a single sample maximum of 409 cfu/100 mL and geometric mean of 126 cfu/100 mL. The sampling frequency is specified as one sample per month. The permit references 40 CFR 136 for applicable methods, but there is no explicit discussion of a method for *E.coli* provided in permit.

The second Kansas permit reviewed was Harrah's Prairie Band Casino Complex, in Jackson County, Kansas (KS0093777), also issued by Region 7. The facility is an activated sludge wastewater treatment plant. The permit includes seasonal single sample maximum limits for *E.coli*. It provides for compliance through meeting fecal coliform limits as follows: "A test method has not been approved by EPA for *E.coli* in wastewater. Until the permittee receives written notice from EPA to determine compliance based on *E.coli*, the permittee shall determine compliance with the bacteria limits in this permit by monitoring for fecal coliform. The permittee is limited to a single sample maximum of 372 cfu/100 mL fecal coliform bacteria April – October and 4,800 cfu.100 mL fecal coliform bacteria November – March."

Nebraska: Based on criteria used for permit selection for *E.coli* permits, no permits were identified for review in Nebraska.

3.2.5 Antidegradation and Mixing Zones

Background and Scope

Provisions for antidegradation were reviewed for general consistency with each State's and Federal NPDES program requirements (e.g., 40 CFR 131.12). In addition, during discussions with IDNR and MDNR staff, each State's approach to antidegradation was briefly reviewed. Similarly, State mixing zone provisions were examined in background materials, considered in permits, and discussed with State staff in cases were there were questions or potential issues. Permits from Iowa and Missouri were reviewed.

Findings on Application of Antidegradation and Mixing Zones

Both Iowa and Missouri are working to develop and implement effective antidegradation procedures. Missouri currently allows for the use of 100 percent assimilative capacity. State regulations provide that the Missouri antidegradation policy must be implemented when completed. This issue has become more complex as the State WQS have been revised.

Implementing antidegradation requirements has posed a challenge for IDNR. Antidegradation does not appear to be discussed for each relevant Iowa permit. IDNR has been pressured to more fully consider antidegradation requirements, and this responsibility has fallen on individual permit writers. This has been challenging due in part to the complexity of the antidegradation requirements, and because IDNR does not currently have an implementation policy for antidegradation. Some permits (e.g., discharges to high quality waters/resource waters) are being delayed because it is not well understood how to conduct appropriate reviews.

With respect to mixing zones, Iowa generally includes the assumptions used in determining mixing zones in permit rationales. However, the basis for allowing mixing zones, the State approach, and why a facility qualifies for a mixing zone is not clear in the documentation. Missouri permits do not discuss mixing zones except with respect to WET testing. It is not clear if complete mixing is assumed in the derivation of permit limitations.

3.3 OTHER NPDES TOPIC SPECIFIC REVIEWS

The PQR also included select permit reviews focused on specific NPDES permit programs components as discussed below.

3.3.1 316(a) & (b) Thermal Discharge and Cooling Water Intake Structure Requirements

Background and Scope

Section 316(a) of the Clean Water Act authorizes thermal discharge variances. Section 316(b) requires facilities that employ cooling water intake structures (CWISs) to minimize adverse environmental impacts associated with the withdrawal of cooling water. The primary goal of the review was to identify if and how the permitting authority incorporated section 316 provisions into permit requirements. For section 316(a), this involved a review of any variances from WQSs for temperature. For section 316(b), the review determined how requirements for cooling water intake structures were being implemented in permits for Phase II facilities (large electric generators).[a, b]

[a] Although the section 316(b) Phase II rule has been suspended by EPA due to the Second Circuit Court's decision (Riverkeeper v. EPA, 475 F3d 83 (2d Cir. 2007)), permitting authorities should continue to include 316(b) permit conditions based on best professional judgment (BPJ).

[b] Based on discussions with Regional staff, it was determined that there are no facilities subject to 316(b) Phase I (new facilities) or Phase III (new offshore oil and gas extraction facilities) in the region.

The universe of potential NPDES permits for review was determined using EPA's Permit Compliance System (PCS) database. A query of PCS produced a list of 118 NPDES permits in Region 7 under SIC codes 4911 and 4931. Both are steam electric generator categories, which are industry sectors that typically use large volumes of cooling water and are often subject to both 316(a) and (b). EPA selected seven permits from all four States in the Region (two in Missouri, two in Nebraska, one in Kansas, one in Iowa, and one in Illinois on the border with Iowa and jointly permitted by the two States). Region 7 provided copies of the permit and fact sheet and associated record materials (as available).

316(a) and (b) Findings

Six of the seven permits reviewed contained thermal limitations. However, most of the permit documentation provided did not specify whether the thermal limits were the result of a section 316(a) variance request. Those permits that did specify a 316(a) variance did not indicate whether the variance was reevaluated for the current permit term.

With respect to 316(b) requirements, the permits reviewed showed a range of thoroughness in implementing 316(b). Some included a compliance schedule to meet Phase II requirements, but no permits appropriately document the development of 316(b) conditions developed on a BPJ basis.

Iowa:
316(a): The Burlington permit discusses a complex thermal management spreadsheet that governs facility operations, but there was no discussion of a 316(a) thermal variance in the documentation provided. The permit for Quad Cities did not address 316(a) issues.

316(b): The Burlington permit requires the facility to submit information on a schedule in accordance with the Phase II rule, and contains a BPJ condition to maintain its current intake technologies in good working in order in the current permit term. The permit for Quad Cities contained ongoing impingement monitoring requirements, but otherwise did not contain BPJ-based permit conditions for Cooling Water Intake Structures (CWIS).

Missouri:
316(a): The James River facility discharges to a lake and has a set of tiered temperature limits. The permit does not document a 316(a) thermal variance, and the basis for the thermal effluent limits is not clear. Only a draft permit for Hawthorne was provided for review, and it was not clear if section 316(a) thermal variance conditions had been developed for this facility.

316(b): Neither the James River nor the Hawthorne permits addressed CWIS requirements or Phase II requirements in the documentation provided. EPA Region 7 objected to the draft permit for Hawthorne and requested that 316(b) conditions be added.

Kansas:
316(a): Wolf Creek is located on a lake (where recirculation of cooling water may affect implementation of thermal limits), but the permit does not contain any documentation of a section 316(a) thermal variance.

316(b): The permits for Wolf Creek require the facility to submit information on a schedule in accordance with the Phase II rule, but do not discuss any BPJ-based permit conditions.

Nebraska:
316(a): The permit for Fort Calhoun documented a revised thermal model that was used to increase the maximum discharge temperature, but it was not clear if a 316(a) variance was granted and whether the thermal effluent limits were based on this information. The permit for Gerald Gentleman referred to a section 316(a) variance and discussed a 1994 316(a) demonstration that led to the development of a variance from WQS. However, it was not clear if the justification for the variance had been reviewed in the past 5 years.

316(b): The Fort Calhoun and Gerald Gentleman permits require the facility to submit information on a schedule in accordance with the Phase II rule, but do not discuss any BPJ-based permit conditions.

3.3.2 Stormwater

The review of Region 7 stormwater permits addressed industrial permits and small municipal separate storm sewer systems (MS4) permits. Each category is discussed below.

3.3.2.1 Industrial Stormwater Permits

Background and Scope

The discussion below is based on a review of existing Region 7 State industrial stormwater general permits.

Iowa issues two industrial stormwater general permits: one for asphalt plants, concrete batch plants, rock crushing plants, and construction sand and gravel facilities, and one for all other industrial activities.

Kansas issues one general permit which uses language similar to that in EPA's Multi-Sector General Permit (MSGP) 2000, although the permit overly simplifies many of the permit requirements.

Missouri issues 17 industrial stormwater general permits. It appears as though Missouri issued these general permits based on the activities occurring in the State although other regulated industrial stormwater discharges exist that are not eligible for coverage. Certain industrial activities, such as steam electric generation, publicly-owned treatment works (POTWs), and landfills, are required to obtain stormwater discharge permits but are not eligible for any of the State's general permits. These types of dischargers must obtain coverage under individual permits. The State does identify certain activities within its industrial general permits as needing individual permit coverage (e.g., SIC 2011 – meat packing) and does not allow coverage under a general permit for discharges that are in close proximity to sensitive waters (e.g., critical habitat, outstanding resources, drinking water supplies, etc.).

Nebraska is currently operating under an expired industrial stormwater general permit (the existing general permit expired in September 2002). The State expected that a new general permit would be proposed in summer 2007, although that permit has not yet been proposed. The State did propose a permit to replace its expired construction general permit in October 2007, which it was planning to public notice before the industrial stormwater general permit.

Findings for Industrial Stormwater Permits

Iowa: The review identified two permit provisions that should be modified when the permits are reissued. Specifically, the permits (i.e., renotification requirements) provide for an automatic six-month extension of permit coverage (allowing permit coverage for 5½ years). Permit terms are limited to five years under the CWA and administrative extensions are subject to specific conditions. Also, the permits specify that permittees should "reduce" pollutants in the discharge. It is recommended that this language be strengthened to "eliminate or minimize" pollutants or some other language that provides a more meaningful pollutant control than simply to "reduce."

Missouri: The 17 industrial stormwater permits range in length from 4-9 pages and are tailored for the specific industrial activities being regulated under each. However, many of the standard permit conditions that reasonably should be identical in each of these 17 permits, are not. For example, seven of the permits do not appear to incorporate standard conditions by reference. Although many of these permits include a provision regarding duty to comply, at least three permits did not appear to include this language. In addition, some language on the cover pages of these permits could be clarified to better identify the specific scope of the permit authorization. In some cases, the activities or materials addressed by the permit appears potentially inconsistent with the 40 CFR 122.26(b)(14) (e.g., the list of activities or materials required to obtain permit coverage does not include immediate access roads and rail lines).

The Missouri permits typically require that stormwater pollution prevention plans (SWPPPs) be developed within a specified timeframe after permit issuance (e.g., 180 days) and that they be implemented by a specified point in time (e.g., 360 days after permit issuance). This language is carried over from the first permits (i.e., in the early 1990s) but is no longer appropriate. Existing facilities should already have this SWPPP and should be implementing their SWPPP upon permit coverage (with the exception of allowing some time to implement any new requirements under the most recently issued permit). Similarly, new facilities should develop their SWPPP prior to obtaining permit coverage and should begin implementing the SWPPP immediately.

Four Missouri permits do not require SWPPPs and in some instances, (e.g., MOR60A000) for salvage yards, no documentation of any procedures are required. Although not required by current regulations, it is strongly recommended that all permits identify specific documentation and recordkeeping requirements if for no other reason than for inspectors to be able to evaluate compliance with permit requirements. Finally, with regard to documentation, the one fact sheet reviewed is less than one page and does not provide a sufficient basis for the permit.

Kansas: Kansas issued its first industrial stormwater general permit in 2006. The Kansas general permit uses language similar to EPA's MSGP 2005 although the permit language has been simplified and in many instances this simplification has resulted in permit conditions that are not specific enough to be able assess compliance with permit terms. The permit does not clearly define what level of control is acceptable (i.e., permittee to "reduce" the amount of pollutants in stormwater discharge and to develop a SWPPP consistent with EPA's 1992 SWPPP guidance and the 1995 MSGP). Also, the permit requires implementation of best management plans (BMPs) as required in the SWPPP when in fact these are required in the permit but documented in the SWPPP. Finally, it does not appear as though the State developed a fact sheet for this permit (or, at least, it is not available on the website).

Nebraska: Nebraska is currently operating under an expired general permit (the existing general permit expired in September 2002). The State expected that a new general permit would be proposed in summer 2007, although the permit has not yet been proposed. It is strongly recommended that Region 7 review this permit in detail. EPA Headquarters is also willing to review and comment (preferably before proposal). EPA's review of the existing expired general permit found several provisions that are either inconsistent with the federal regulations or could be strengthened to provide for better control of stormwater runoff.

3.3.2.2 Small MS4 Stormwater Permits

Background and Scope

Iowa covers small MS4s under individual permits. Two permits were reviewed: IA0078263 issued to City of Cedar Falls on May 10, 2004, which expires May 9, 2009 (thirteen (13) pages); and IA0078808 issued to City of Davenport on July 22, 2004, which expires July 21, 2009 (twelve (12) pages).

Kansas covers small MS4s under general permit KSR041, effective October 1, 2004, which expires September 30, 2009.

Missouri covers small MS4s under general permit MOR004000, effective March 10, 2003, which expires March 9, 2008. Under this permit, the permittee must, in consultation with the Department, determine whether any discharges contribute measurable pollutants to an impaired waterbody, as well as whether relevant TMDL(s) apply. In either case, the SWMP (storm water management plan) must describe how discharges will not cause or contribute to in-stream exceedances of WQSs, and/or how the WLA will be met. The stormwater management plan (SWMP) also must describe a monitoring program that can determine whether stormwater controls are adequate to meet the WLA. Additional measures must be implemented until two continuous monitoring cycles demonstrate that WQSs are being met.

Nebraska covers small MS4s under several permits issued to clusters of permittees. For this effort, the permit issued to Douglas, Sarpy and Washington Counties, NER200000, effective August 1, 2004, and expiring on July 31, 2009, was reviewed.

Findings for Small MS4 Permits

Iowa: The Iowa permits reviewed do not mention that discharges must be controlled to the "maximum extent practicable (MEP)," or to meet water quality goals. WQS, impaired waters, and TMDLs are not mentioned, although according to Region 7's, they should be part of the application and permit development process. Since these are individual permits, assessments/analyses should be completed as part of permit development, and reasonable assurance is incorporated by way of specific permit provisions. With regard to public education and outreach, and involvement and participation, the permit generally acknowledges these areas but does not provide for behavioral changes or specific goals, not does it specify target pollutants/sources or audiences. The permit provisions are not identical, and appear to reflect to a certain degree already established activities. Also, in general, the post-construction permit provisions are weak: a permittee must "consider" certain issues, but minimal requirements are imposed. The Cedar Falls permit does require site plan review, and it does include a provision that construction activities may not commence until site plans have been approved. It also provides that stormwater structures modifications cannot be made following approval.

Missouri: The Missouri small MS4 permit does not stipulate specific provisions for minimum measures, but it does require the SWMP to describe a decision process that includes pollutants/sources of concern, target audiences, responsible parties and metrics for evaluating success. "Representative monitoring" is required, but no details as to locations, frequency, numbers, schedules, etc., are included in the permit. Discharge monitoring reports (DMRs) are required. The permits include no clear requirements for tracking activities or controls.

Kansas: Under the Kansas MS4 general permit, the permit provisions for the six minimum measures are very minimal. Examples include: public education and outreach only requires distribution of materials or "equivalent," there is no requirement to target pollutants of concern, sources or behaviors of concern, or specific audiences; there is no requirement to provide follow-up on initial efforts; for post-construction provisions, there is nothing in these provisions that sets an expectation of outcomes or performance, types of controls, tracking of best management practices (BMPs) to ensure that maintenance occurs, or any requirement for inspections or maintenance schedules; and finally, for municipal operations, nothing other than employee training is required, with little specificity about what this should entail.

Nebraska: The Nebraska permit reviewed requires "substantial compliance with the six minimum requirements." It is possible that qualifying compliance could weaken the enforceability of the permit. The term "maximum extent practicable" is defined in the permit as follows: "MEP means the necessary intergovernmental coordination to reduce the discharge of pollutants using management practices, control techniques, system design, engineering methods, and other appropriate provisions." The one weak area of the SWMP is post-construction, where there is no mention of site design criteria, reviews, goals, outcomes, or performance standards.

3.3.3 Concentrated Animal Feeding Operations

Background and Scope

EPA examined NPDES Concentrated Animal Feeding Operation (CAFO) permits from Iowa, Missouri, Kansas, and Nebraska to determine their conformance with the NPDES CAFO regulations.

Iowa: The State agency with primary responsibility for the administration of the CAFO program has been the Iowa Department of Natural Resources (DNR) since 1978. Iowa has established agricultural/animal feeding operation (AFO) programs that are separate from other industrial sector NPDES programs. The State's agricultural/AFO programs have the responsibility for CAFO-related NPDES activities, as well as State agricultural programs which regulate AFOs and other agricultural activities that do not fall under the NPDES program.

NPDES permits are required for feedlots with 1,000 animal units (Aus) and that discharge to waters of the State. Based upon the information provided to EPA Headquarters by Region 7 it is estimated that there are 1,859 CAFOs in Iowa, of which 124 open-lot cattle facilities have NPDES permit coverage. Even though most of the 1,859 CAFOs are swine operations, none are permitted due to the fact that the Iowa statute does not define covered facilities as CAFOs. EPA HQ is working with Iowa to update this statute, as it is not currently consistent with the federal regulations.

It is estimated that one half of the Iowa open feedlots with less than 1,000 animal units have an alternative control system and do not have total containment. State regulations require a minimum of solids settling for all feedlots, but the regulations are not implemented through a permit. Some of the remaining open feedlots with less than 1,000 animal units have total containment, but the majority of these facilities have no control systems.

The State requires manure management plans for all confinement feeding operations that meet the following criteria: 1) constructed after 5/31/85 and that have an animal weight capacity of 200,000 lbs. for all species other than bovine, and 400,000 lbs. for bovine, and 2) are new or expanding and required to obtain a construction permit. Manure management plans (MMP) are currently based on nitrogen. Plans prepared by the Natural Resources Conservation Service (NRCS) will utilize the Phosphorus index to determine the limiting nutrient on which the plan will be based. AFOs have developed and submitted 2,431 manure management plans, of which to date 920 have been approved. Manure management plans cover less than 5 percent of Iowa's 26 million acres of row crop land.

Other relevant information regarding the Iowa CAFO program includes the following:

- IA: Six percent permit coverage
    - Program was revised in March 2006.
    - The Iowa Department of Natural Resources (IDNR) does not have a general permit. However, a review of the NPDES CAFO permit for a feedlot did meet the applicable requirements of 40 CFR 122 and 412.

- Five individual NPDES permits issued for alternative technology systems were reviewed by EPA HQ. The final permits:
  - do not address eight of the nine nutrient management program (NMP) minimum controls
  - have no effluent limitations
  - do not address duty to maintain coverage unless the operation has been properly closed
  - require Nutrient Management Plan (NMP) submission with construction permit application
- NRCS data: As of December 2007, there were 248 beef operations, 124 of which were cattle CAFOs, and 1,446 swine operations that could need technical support for NMPs. The 248 beef operations also included medium CAFOs and previous CAFOs over 1,000 head that dropped below the 1,000 head threshold.
- Three out of four enforcement cases had no actual discharge observed during inspections, but showed evidence of previous discharges. WQ runoff models used also showed a high potential for discharge.
- Five year amnesty ended April 2006. Fifty inspections completed; seven violations; EPA took on four cases (described above) and Iowa took on three cases. EPA cases are in negotiations.
- IA has two sets of regulations: open lots and confinement facilities; open lots are covered by the new regulations based on the 2003 EPA rule. The Waterkeeper decision vastly reduced the number of facilities that will be covered by permits.
- MMP and regulations: combination of regulations and MMP constitutes technical standards.

Missouri:

The State agency with primary responsibility for administration of the NPDES CAFO program has been the MDNR since 1974.

Based upon information provided to EPA Headquarters by Region 7, it is estimated that there are 479 CAFOs in Missouri, all of which are covered by NPDES permits. These CAFOs are primarily in the swine sector.

MDNR issues individual NPDES permits to CAFOs and also provides authorization under a general permit for CAFOs. NPDES CAFO permits address no discharge waste management collection, holding, treatment, and land application systems.

All CAFOs must receive a NPDES permit or be covered under the State's general permit. The State of Missouri has developed a classification scheme for CAFOs based on capacity. This allows managers to develop and apply regulations based on the size and potential impact of a CAFO. The classes of animal feeding operations in Missouri are as follows:

- *Class IA* – Any concentrated animal feeding operation with a capacity of 7,000 animal units or more.

- *Class IB* – Any concentrated animal feeding operation with a capacity of at least 3,000 animal units, but less than 7,000 animal units.
- *Class IC* – Any concentrated animal feeding operations with a capacity of at least 1,000 animal units, but less than 3,000 animal units.
- *Class II* – Any concentrated animal feeding operation with a capacity of at least 300 animal units, but less than 1,000 animal units.

Class IB, IC, and II CAFOs are covered under Missouri's general NPDES permit. Class IA facilities must seek an individual NPDES permit. All Class I facilities are subject to State construction and operating/permitting requirements. Permits are not required for AFOs with less than 300 animal units when the operation uses best management practices approved by MDNR. Permits are not required for AFOs with 300 to 999 animal units if there is no discharge.

MDNR has not approved any alternate control systems through their permit system.

All permitted AFOs are required to have a waste management plan; the waste must be kept under cover; and adequate land must be available for applying the manure and wastewater at the nitrogen rate (not phosphorus). Receiving a CAFO permit does not relieve an operation from obtaining other permits that may be required. For example, an operation that will be undergoing construction that will disturb one acre or more of land is required to obtain a land disturbance permit. A CAFO also may be required to comply with county or local ordinances.

Currently it is estimated that 200,000 acres are addressed under mandatory plans. The number of acres addressed under voluntary plans is undetermined.

Other relevant information regarding the Missouri CAFO program includes the following:

- MO: 100 percent permit coverage
    - General permit was revised in February 2006
    - All CAFOs >7000 AU require individual permits
    - All CAFOs <7000 AU are covered by a CAFO general permit
    - Does not require submission of NMP with permit; no NMP review by state; no public notice of NMP
    - NRCS data: 331 swine operations could need technical support for NMPs
    - Due to Waterkeeper decision and EPA rule revisions, Missouri has delayed revising CAFO regulations; revision will include establishing technical standards.

Kansas:

The State agency with primary responsibility for administration of the NPDES CAFO program has been the Kansas Department of Health and Environment (KDHE) since 1974. The Department of Agriculture (KDA) is responsible for the development of nutrient management programs for swine facilities with greater than 1,000 animal units (Aus).

Individual NPDES permits are issued to livestock facilities with capacities greater than 1,000 animal units. However, regardless of the number of animals confined, the KDHE determines whether there is a significant potential for water pollution from the AFO and, thus, the need for a permit. Permits require the operation to meet the effluent limitation guideline (ELG) and also include specific management requirements.

Kansas has established agricultural/AFO programs which are separate from their regular NPDES programs. The State's agricultural/AFO programs have the responsibility for CAFO-related NPDES activities, as well as State agricultural programs that regulate AFOs and other agricultural activities that do not fall under the NPDES program.

Other relevant information regarding the Kansas CAFO program includes the following:

- KS: 100 percent permit coverage
    - Manure management plans are required for all permits
    - Requirements for proper mortality management, diversion of clean water, and proper chemical handling are found in the standard conditions and/or the NMP. In addition there is no requirement for continued permit coverage until the operation is properly closed.
    - NRCS data: 331 beef operations and 7 dairy could need technical support for NMPs
    - Technical standards are on website; not in regulations.

Nebraska:

The State agency responsible for administering the NPDES CAFO program has been the Nebraska Department of Environmental Quality (NDEQ) since 1974. Based upon information provided to EPA Headquarters by Region 7, it is estimated that there are 1,000 CAFOs in Nebraska, of which 313 have NPDES permit coverage under a general permit. These are primarily in the beef and swine sectors. Nebraska NDEQ identified 1,700 operations with less than 1,000 but greater than 300 animal units that have registered. Of these, 800 operations have no potential to discharge. The remaining 900 require State permits. Nebraska NDEQ estimates that perhaps 50 percent of the 900 have alternate control systems.

Nebraska has established agricultural/AFO programs which are separate from their regular NPDES programs. The State's agricultural/AFO programs have the responsibility for CAFO-related NPDES activities, as well as State agricultural programs that regulate AFOs and other agricultural activities that do not fall under the NPDES program. Nutrient management plans are required as a part of the permit application and are based on nitrogen. The State is considering making the plans phosphorus based. Manure management plans are required prior to construction permit approval.

The Livestock Waste Management Act established a classification system for Livestock Waste Control Facilities (LWCFs) based on the maximum number of animal units (Aus) a waste control facility is designed to manage. Nebraska uses the old federal definition for an animal unit. The classifications of livestock operations are as follows:

- Class I: A facility designed for 1,000 animal units or less
- Class II: A facility designed for 1,001 through 5,000 animal units
- Class III: A facility designed for 5,001 through 20,000 animal units
- Class IV: A facility designed for 20,001 animal units or greater

NPDES permits are required, in addition to any applicable construction or operating permits, "when a livestock waste control facility discharges or has the potential to discharge pollutants into waters of the State as a result of runoff from a precipitation event." Livestock operations with less than 300 Aus are exempt from the permitting process (including the requirement to request an inspection) unless there has been a confirmed discharge into waters of the State or NDEQ determines that the operation has a "high potential" for discharge into waters of the State, in which case NDEQ must notify the owner that the operation is subject to the Act.

In addition to the State permit program, the Livestock Waste Control Program administers the NPDES permit program for animal feeding operations in Nebraska, although NDEQ is the permitting authority. Each NPDES permit prohibits discharges to waters of the State, except as established in effluent limitations for the livestock waste control facility and for the agronomic application of livestock wastes to cropland. Producers may either submit an application for an individual NPDES permit or request coverage under the NPDES CAFO General Permit.

In Nebraska, only open-lot livestock operations were previously subject to NPDES permit coverage. The eligibility criteria have changed with the conversion to a one-permit system for CAFOs, resulting from changes in the federal rules and the passage of the amended Livestock Waste Management Act (LWMA).

During FY2004, NPDES General Permit coverage was issued to 61 animal feeding operations, bringing the total number of facilities covered under the general permit to 71 operations. Currently, 164 facilities have active NPDES individual permits. No new NPDES individual permits were issued in FY2004. Livestock Program staff continued evaluating applications for issuance or renewal of NPDES individual permits to determine eligibility for coverage under the general permit. During the review, some operations with NPDES permits were found to be inactive. In FY2005, total confinement operations were also subject to NPDES permitting. However, as a result of the February 2005 *Waterkeeper* court decision, only those operations that discharge or propose discharge are required to obtain an NPDES permit.

Other relevant information regarding the Nebraska CAFO program includes the following:

- NE: 29 percent permit coverage
    - Draft general permit was submitted November 2007, with the requirement for an NMP. The regulations were revised in December 2006
    - NDEQ identified 1700 CAFO facilities <1000 but >300 have registered
    - 800 operations did not have the potential to discharge
    - General permit does not explicitly require development of a NMP
    - General permit does not require continued permit coverage until the operation is properly closed

- NRCS data: 764 beef operations could need technical support for NMPs
- Technical standards completed February 2005
- Waterkeeper decision initiated a change in state legislation and now the State must revise CAFO regulations

Findings for CAFO Permits

Iowa:
The Iowa Department of Natural Resources (IDNR) does not have a general permit. However, a review of the NPDES CAFO permit for a feedlot did meet the applicable requirements of 40 CFR 122 and 412.

The IDNR has issued thirteen NPDES permits as of December 2007 for the discharge from alternative technology treatment systems. Comments were provided on the draft permits for the following feedlots: Gregory Feedlot (Open Feedlot); Couser (Open Feedlot); John Fluit, Jr. (Beef Feedlot); Rolling Hills Feedlot; and Corey Agr., Inc., (Open Feedlot), but the following comments were not addressed in the final permits:

- The permits reviewed by EPA HQ do not address eight of the nine NMP minimum practices defined in 122.42(e)(1): 1) adequate storage, 2) mortality management, 3) diversion of clean water, 4) prevent direct contact of animals with waters of the U.S., 5) chemical handling, 6) site specific conservation practices, 7) identify protocols for testing of manure, litter, process wastewater, and 8) soil, and protocols to land apply manure, litter or process wastewater. Facilities without existing NMPs will be required to submit them by February 2009, as per federal regulations.
- There are no effluent limitations in the permits, just a reference not to exceed the predicted annual pollutant load from a "SYSTEM 4: OPEN FEEDLOT EFFLUENT APPLICATION AFTER EACH SIGNIFICANT PRECIPITATION EVENT as outlined in APPENDIX A, 567 IAC Chapter 65 (baseline)".
- The two year conditional permits do not require the duty to maintain coverage unless the operation has been properly closed. If the alternative technology does not work they must revert to conventional systems and be issued another permit.

Missouri:
The general permit for CAFOs does not explicitly require the development of a nutrient management plan that meets the requirements found in 40 CFR 122.42(e)(1) and, where applicable, 40 CFR 412.4(c). However, the Best Management Practices attachment to the general permit, does delineate general requirements for land application that could be translated into a nutrient management plan that would meet the federal requirements.

Kansas:
A review of the NPDES CAFO permit for feedlots did meet the applicable requirements of 40 CFR 122; with the exception of explicitly requiring all of the nine minimum measures found at 122.42(e)(1). In particular, proper mortality management, diverting clean water and proper chemical handling were not adequately addressed. These requirements were addressed in the KDHE's Manure/Waste Management Plan (part of the permit) prior to the requirement of an NMP. In addition, there is no requirement for continued permit coverage until the operation is properly closed.

Based upon information provided to EPA HQ by the Region, it is estimated that there are 476 CAFOs in Kansas, of which 453 are covered under an NPDES permit. These are primarily in the beef sector.

Of the 1,324 AFOs, the range of estimates by the KDHE staff for alternative control systems ranged from 10 to 90 percent with no consensus reached. The alternative control systems are considered grass buffers, etc. If the potential for pollution exists and documented in a questionnaire, then retention structures are required. In any case, it appears to be a significant number of operations.

A manure management plan is required for all permits. Nutrient utilization is based primarily on nitrogen, with phosphorus limiting application on specific sites. The nutrient utilization plan is for swine only and is based primarily on nitrogen. The NMP is based on a risk assessment and depending on the risk can be P limiting. A manure/waste management plan is required for all facilities that do not have a NMP or nutrient utilization plan approved. The number of plans is not readily available as a result of the plans being dynamic and subject to amendment.

Swine facilities with an animal unit capacity of 1,000 animal units or more are required to submit a manure management plan and a nutrient utilization plan if the facility applies manure or wastewater to land.

Nebraska:
The draft general permit for Livestock Operations does not explicitly require the development of a nutrient management plan that meets the requirements found in 40 CFR 122.42(e)(1) and, where applicable, 40 CFR 412.4(c). The 2007 draft general permit requires the development of an NMP by February 2009.

3.3.4 Combined Sewer Overflows

Background and Scope

Region 7 has 22 Combined Sewer Overflow (CSO) communities with 24 permits. Of these, ten are in Iowa, nine in Missouri, three in Kansas, and two in Nebraska. EPA conducted a review of these CSO permits as part of this PQR. Focal points included the status of Long Term Control Plan (LTCP) implementation and the Government Performance Results Act (GPRA) Water for Safe Swimming (SS) measure.

Regional Status of LTCP and Water Safe for Swimming (SS) Measure

Out of 22 CSO communities in Region 7, only two communities have separated their Combined Sewer Systems: City of Lake City (IA0020842) and Cape Girardeau Municipal WWTF (MO0050580). A third community, Sedalian WWTP (MO0023027) is expecting separation to be completed soon. In addition, according to the KDHE, Topeka Oakland WWTP (KS0042722) has completed implementation of their LTCP. Region 7 is including these four CSOs for their Water Safe for Swimming measure. In FY2007, two judicial referrals were accepted for the SS measure, addressing four CSO permits. In FY2008, Region 7 will no longer count judicial referrals as meeting the SS measure.

That means Region 7 had four CSO communities that met the SS measure at the time of the review in March 2007, which is only 16.7 percent of their CSO universe. Most of the LTCPs submitted by permittees to the States for review have been deficient. Permitting authorities have asked permittees to revise and resubmit their LTCPs, and Region 7 is on track to have improved CSO controls. As of September 2007, Region 7 had 11 CSO communities that met the SS measure.

CSO Program Evaluation

Region 7 did not meet the SS goal of 45 percent for FY2005, the goal of 55 percent for FY2006, or the goal of 65 percent for FY2007. If Region 7 does not take appropriate action, it will not be able to meet the national SS measure goal of 75 percent for the FY2008

Possible solutions**:**

- Region 7 should coordinate better with the States and local authorities in the LTCP development process.
- The LTCP approval process should be expedited.
- The LTCP implementation process should be expedited.
- EPA Headquarters is working closely with Region 7 in the LTCP review process and to resolve LTCP issues.
- If necessary, Region 7 should consider the potential use of enforcement actions to achieve the FY2008 SS goal.

3.3.5 Sanitary Sewer Overflows

Background and Scope

As part of this PQR review, EPA examined the following SSO issues:

- What is the status of the Region's efforts to ensure SSOs are being reported and appropriate notification of drinking water facilities is being conducted?
- Permit requirements for Peak Excess Flow Treatment Facilities (PEFTFs), and
- Bypass/SSO language in Iowa permits.

A first step to controlling wet weather discharges from municipal wastewater sources is to ensure reporting of overflows to the NPDES authority. EPA believes that currently, most CSOs and bypasses at treatment plants are being adequately reported. However, information obtained in developing the 2004 "Report to Congress on the Impacts and Control of CSOs and SSOs," indicates that some NPDES authorities need to improve permittee reporting of SSOs.

Sewage overflows and bypasses at sewage treatment plants may endanger human health. Appropriate third party notification can reduce health risks associated with these releases. Permits can establish a process for requiring the permittee or the NPDES authority to notify specified third parties of overflows that may endanger health due to a likelihood of human exposure; or unanticipated bypass and upset that exceeds any effluent limitation in the permit or that may endanger health due to a likelihood of human exposure.

In April of 2005, EPA's Water Permits Division distributed draft guidance for NPDES permit requirements for SSOs. The draft guidance addresses how NPDES permits should be clarified to ensure SSOs and unanticipated bypasses and upsets are reported. The draft guidance is expected to be finalized in 2008.

SSO Findings

EPA Region 7 has not yet had comprehensive discussions with the States about how to ensure that SSOs are being reported and how drinking water facilities should be notified of impacts on source water from SSOs or unanticipated bypasses or upsets. Although, Region 7 has reviewed a new standard permit condition from Iowa that requires that SSOs and bypasses be reported. Region 7 also identified potential permit-as-a-shield issues associated with standard permit conditions used in Iowa. The Region is working with the State to ensure that the standard permit condition is modified to clarify that bypasses and SSOs are explicitly prohibited and not eligible for a permit shield.

With regard to peak excess flow treatment facilities (PEFTFs), Region 7 has identified a permit authorizing discharges for wet weather treatment facilities in Johnson County Kansas. The Region is working with Headquarters to ensure that the permit will have appropriate effluent limitations based on secondary treatment and appropriate WQBELs when reissued.

3.3.6 Whole Effluent Toxicity

EPA reviewed the Whole Effluent Toxicity (WET) provisions in NPDES permits issued by Region 7 States; three Iowa permits, four Kansas permits, four Missouri permits and four Nebraska permits were reviewed for this PQR.

General findings, applying to every State in Region 7, include the following:

- Fact Sheets – More documentation and explanation is needed of the basis for permit requirements and how decisions were made. For example, flow exposure information, basic flow data (e.g., design flow, ambient flow, etc.) and dilution series are not included in the fact sheet to substantiate or explain how permit requirement decisions were made or developed.
- Update Permit Boiler Plate Language – Region 7 staff said most of the Region 7 permits are developed from boiler plate permits. Boiler plate language needs to be updated to include, at a minimum, current EPA promulgated WET test method citations (2002) and minimum method requirements for valid data (e.g., test acceptability criteria and reference toxicants).
- Monitoring – For most permits sampled for review, monitoring appears to be inadequate to ensure that State WQS are not being exceeded for toxicity and to be considered representative of the discharge for determining reasonable potential and making decisions for developing WET limits.
- Triggers– Permit needs to clarify whether additional or accelerated WET testing will be required of a permittee when there is a routine WET test failure, and if a test failure occurs again during the additional WET testing, whether it would be considered a permit violation. This information should be clearly spelled out to the permittee in the permit and is not clear in all cases in Region 7 permits and should be better clarified in the permit and fact sheet.
- State Permit Writer Training – Additional WET training may be necessary
- Other—Facility information should be considered along with any available WET data to provide a defensible WET reasonable potential analysis, if reasonable potential is determined. The appropriate acute and chronic WET limits should also be included in the permits.

4.0 SUMMARY OF FINDINGS AND PROPOSED ACTIONS

The NPDES Regional Program and Permit Quality Review identified areas where the Region and its States were doing well and recommended areas where improvement is needed. This section provides a summary of the main findings of the review and provides proposed Action Items to improve Region 7 NPDES permit programs. This list of proposed Action Items will serve as the basis for discussions between Region 7 and their authorized States, as well as between Region 7 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. This list of final recommended Action Items 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 and/or may serve as a roadmap for modifications to Region 7 program management.

It should be noted that the NPDES Program Review for Region 7 took place in April 2007 and significant steps for improvement in deficient areas may have already occurred.

4.1 NPDES REGIONAL PROGRAM REVIEW

4.1.1 Region 7 GPRA Measures

A review of Region 7 GPRA measures identified that the Region has challenges in meeting several of the national performance goals (In particular, those for CSOs with controls, number of facilities that have implemented water quality trades, number of CIUs with controls, percent major dischargers in SNC, number and percent of priority permits issued, and percent tribal permits current). For other measures such as percentage of SIUs with controls and Priority Permits, the Region has already demonstrated improvement and is at, or near, their goals. Proposed Action Items for programs with measures have been provided under other subsections.

4.1.2 Permit Issuance

The Region had a significant backlog of NPDES permits in April 2007 (76% current). The most significant backlogs were in Iowa (49% current) and Nebraska (65% current). Since that time additional data has become available on the numbers of facilities covered by general permits which has resulted in improved performance numbers. Recent performance numbers (9/30/07) for permit backlog in Region 7 indicate that they are at 90 % current overall. However, there remains a significant backlog in the number of individual permits issued, in particular major and minor individual permits in Iowa at 48% and 60%, respectively. Nebraska has improved their performance and is now at 100% for major and 72.7% for minor individual permits. Missouri's efforts to recategorize a significant number of waterbodies are expected to delay permitting and may have a negative effect on issuing permits in that State. Proposed Action Items to improve permit issuance include the following:

- Region 7 should work with Iowa, Nebraska, and Missouri to identify and resolve barriers to permit issuance.

- Region 7 follow-up: All Region 7 Tribal WWTP permits are now current.

4.1.3 Designated Uses, Antidegradation, and Other Water Quality Concerns

Region 7 is working with the States of Iowa and Missouri to improve the quality of their use attainability analyses (UAAs). UAAs are required in Iowa for all waterbodies prior to issuing or renewing any NPDES permit. Missouri has recently had to revise standards for almost 100 waterbodies requiring UAAs.

Region 7 also has challenges regarding implementation of antidegradation requirements in both Missouri and Iowa. Antidegradation implementation procedures are currently under review/development in both States. Environmental groups have cited this as a high priority issue to be resolved. In addition, there are issues with the use of mixing zones in recreational waters and potential delays in approvals for WQS packages due to the need for post-submittal negotiation and consultation with HQ. These delays affect States' abilities to issue permits.

In addition, Iowa's UAA process for classified waters is expected to adversely impact the backlog for individual permits. The increased burden of information collection, the associated analyses to modify designated uses in the receiving streams, and the need for EPA review are expected to continue to create delays in issuance.

Proposed Action Items to resolve water quality issues include the following:

- Region 7 should continue to work with Missouri and Iowa to improve implementation procedures for antidegradation.
- Iowa should aggressively deal with this issue to avoid increasing its backlog as a result of developing UAAs for all discharges into newly classified waters. It may be possible to continue to issue permits and then conduct any UAAs deemed necessary or appropriate.
- Region 7 should work with Iowa to develop a strategy that (1) identifies permits whose schedule is potentially affected by the need to conduct UAAs; (2) sets a schedule for implementing the UAAs and issuing permits; and (3) ensures coordination of State, Region, and EPA HQ assistance and prompt issuance of permits. Region 7 should coordinate with EPA HQ to ensure rapid response on getting these permits issued.

4.1.4 Watershed-based Permitting Review

Currently only one State in Region 7 (Kansas) is implementing watershed-based permitting. Proposed Action Items to improve implementation of watershed-based permitting include the following:

- Region 7 should work with States to identify opportunities for implementing watershed-based permitting. EPA HQ is prepared to help with this effort.

4.1.5 Water Quality Trading

Region 7 has yet to implement water quality trading. Proposed Action Items to facilitate implementation of the Water Quality Trading Program include:

- Region 7 should continue to work with States to educate them and identify potential trading opportunities. EPA HQ is prepared to help with this effort.
    - Region 7 follow-up: Region 7 hosted its first Water Quality Trading Conference on October 23, 2007, and has identified a staff person to coordinate water quality trading efforts in the region.

4.1.6 Pretreatment Program Review

Last fiscal year, the Region met a performance level of 99.9% of SIU in POTWs with Pretreatment Programs implementing control mechanisms. However, Region 7 and their States program coordinators do not participate in monthly Pretreatment conference calls. Proposed Action Items to improve implementation of the Pretreatment Program include the following:

- Region 7 and its States should participate in monthly conference calls to improve coordination with EPA HQ on pretreatment program issues.

4.2 PERMIT QUALITY REVIEW

4.2.1 Core Permit Quality Review

In general, the core Permit Quality Review showed that both Iowa and Missouri would benefit from better documentation of rationales supporting permit conditions to develop strong, effective permits. In particular, Missouri had not always developed fact sheets for all major permits, but staff are now developing fact sheet templates and beginning to implement them. Both States should work toward clearly documenting all reasonable potential, antibacksliding/ antidegradation, and water quality impairment analyses, as well as the basis for all permit limitations and monitoring requirements in fact sheets. Such documentation can include standard language on how the various NPDES requirements are fulfilled in each respective State; as well some discussion of how each requirement was addressed for the relevant permit. New templates developed by the States should serve to assist in addressing many issues raised by this PQR.

Proposed Action Items to improve issuance and quality of NPDES permits in Region 7 include the following:

- Missouri should continue to develop policies, procedures and templates for fact sheets to better document the decisions and justifications for permit conditions.
- Iowa permits should improve clarity of permit conditions applicable to bypasses.

- Both Iowa and Missouri should improve documentation of the basis for permit conditions in the fact sheets including identification of which pollutants are analyzed for a reasonable potential to cause or contribute to a violation of a WQS, discharge and monitoring points, categorization and determination of new versus existing facility, and mixing zones.
    - Region 7 follow-up: As of December 2007, IDNR has updated its permit language, and Missouri has dramatically improved the information content of their fact sheets.
- Missouri should improve antibacksliding documentation.
- Missouri should require influent monitoring in all cases where percent removal limitations are present in a permit.
    - Region 7 follow-up: According to Region 7, Missouri has implemented influent monitoring as of December 2007.

4.2.2 Thermal Discharges and Cooling Water Intake Structures (CWA sections 316(a) and 316(b)) Requirements in Permits

Decisions regarding thermal discharge variances authorized under CWA section 316(a) were not well documented in Region 7 State NPDES permits. Requirements for cooling water intake structure requirements in accordance with CWA Section 316(b) were inconsistent among Region 7 permits. Region 7 should implement the following Action Items to improve implementation of section 316(a) and (b) requirements in permits:

- Region 7 State permits and fact sheets should more explicitly address and document the basis for any Section 316(a) thermal variances
- Region 7 States should reevaluate any 316(a) variances and 316(b) requirements at each permit renewal (including the use of mixing zones) and document the basis in the permit fact sheet. Prior determinations should also be documented in the fact sheet and reflected in the current permit, as appropriate.
- Region 7 State permits should develop section 316(b) cooling water intake structure requirements for existing facilities on a BPJ basis, and the basis should be documented in the permit fact sheet.

4.2.3 Stormwater Requirements in Permits

Various concerns were identified with regard to industrial and municipal stormwater permits. Proposed Action Items for improving industrial stormwater and MS4 permits are as follows:

- *Iowa Recommendations*:
    - When the two Iowa industrial general permits are reissued, the State should:
        - eliminate the automatic six-month extension of permit coverage for renotification purposes; and
        - strengthen the pollutant control standard to beyond simply “reducing” pollutants in the discharge. EPA HQ recommends language such as “eliminate or minimize” pollutants.

- For MS4 permits, the State should require that discharges be controlled to the "maximum extent practicable," or to meet water quality goals.

- *Missouri Recommendations*:
  - As the 17 industrial permits are reissued, the State should:
    - ensure that permits contain similar provisions, such as standard conditions, for all sectors where appropriate. Variation in requirements across permits should be limited to differences associated with the activities regulated under each of these permits;
    - develop fact sheets consistent with regulatory requirements and that specifically describe the basis for permit requirements;
    - Revise language to require permit coverage for all facilities with "activities and materials exposed to stormwater." The current permit only requires coverage for those with "significant" activities and materials exposed to stormwater;
    - clarify language to require that SWPPPs be in place and implemented immediately upon permit coverage rather than providing six months to comply. Additional time should only be provided for existing facilities to modify existing SWPPPs to comply with the new permit conditions; and,
    - modify any permit without routine recordkeeping requirements to include this requirement as a way to demonstrate compliance with permit conditions intended to control pollutants in runoff.
  - For MS4 permits, provide descriptive details of "representative monitoring" in the permit and considering requiring tracking activities or controls, in accordance with Clean Water Act Section 122.34.

- *Kansas Recommendations*:
  - When the industrial general permit is reissued or modified, the State should:
    - strengthen the pollutant control standard to beyond simply "reducing" pollutants in the discharge. EPA HQ recommends language such as "eliminate or minimize" pollutants;
    - specify BMPs as required in the permit and documented in the SWPPP rather than requiring compliance directly with the SWPPP;
    - identify required pollutant control practices directly in the permit rather than simply referring to EPA's 1992 guidance and 1995 MSGP for procedures; and
    - develop a fact sheet consistent with regulatory requirements and that specifically describes the basis for permit requirements.
  - For MS4 permits, strengthen language regarding complying with the six minimum measures.
    - Region 7 follow-up: The state of Kansas believes it can only require the "musts" of the regulations, but not the guidance.

- *Nebraska Recommendations:*
  - The State should coordinate reissuance of their Industrial Stormwater general permit with Region 7. It is proposed that Region 7 provide EPA HQ with an opportunity to provide input on the Nebraska permit prior to publication. At a minimum, the State should:

- eliminate the automatic three-month extension of permit coverage for renotification purposes;
- revise language in the permit to clarify expectations for stormwater controls beyond the current language which simply requires that the permittee "shall consider" these controls; and
- revise permit language, or document the rationale in the fact sheet for not doing so, to prohibit discharges that contribute to violations of water quality standards rather than simply to those that "significantly" contribute as is presently worded in the expired permit.

- For MS4 permits, strengthen language regarding complying with the six minimum measures

4.2.4 CAFO Permits

Region 7 States have a relatively large number of CAFOs, and these States often have agricultural programs that may overlap with the NPDES permitting program. Missouri and Kansas have 100 percent CAFO permit coverage, and Iowa and Nebraska have 6 percent and 29 percent, respectively. It is important that the States address CAFOs in a manner consistent with the federal NPDES requirements. EPA's review found that Iowa, the Alternative Technology permits do not address eight of the nine NMP minimum practices defined in 122.42(e)(1): 1) adequate storage, 2) mortality management, 3) diversion of clean water, 4) prevent direct contact of animals with waters of the U.S., 5) chemical handling, 6) site specific conservation practices, 7) identify protocols for testing of manure, litter, process wastewater, and 8) soil, and protocols to land apply manure, litter or process wastewater. A review of the Kansas NPDES CAFO permit for feedlots that it generally met applicable requirements, but, it did not explicitly require all of the nine minimum measures. In particular, proper mortality management, diverting clean water and proper chemical handling were not adequately addressed, and there is no requirement for continued permit coverage until the operation is properly closed. Kansas and Nebraska were found to have good programs in place for CAFO NMP review.

Proposed Action Items to improve implementation of CAFO permits in Region 7 include the following:

- Region 7 should continue to work with all of its States to improve CAFO permitting coverage.
- Region 7 States should require that all NPDES permitted CAFOs develop and implement a nutrient management plan that meets applicable federal criteria.
    - Region 7 follow-up: In general: the nine minimum standards are required for the NMP and will be covered under the NMP by February 2009. Some of the minimum requirements can be found in the standard conditions and the Manure Waste Management Plans that are required under the States' permits.
- Iowa should develop and implement CAFO permitting policies to improve permitting rates and continue to work with EPA in updating their statute.

- Iowa should develop and implement CAFO permitting policies to improve permitting rates and continue to work with EPA in updating their statute. On September 20, 2007, the Iowa Citizens for Community Improvement and other groups submitted to EPA a petition for withdrawal of Iowa's NPDES Program. The Petitioners allege, among other things, that certain provisions of the Iowa Code that address CAFO are less stringent than federal requirements. As the Region works with Iowa to address these concerns, it should also seek to address any related issues with Iowa's program raised in Headquarter's 2005 review.

4.2.5 Combined Sewer Overflows In Permits

EPA HQ advises that all CSO communities in Region 7 submit LTCPs that meet the applicable CSO criteria. In addition, greater effort is needed by Region 7 and their States to improve compliance with the Water for Safe Swimming goals. Proposed Action Items to improve CSO implementation in Region 7 include the following:

- Region 7 should work with States to get LTCPs revised to meet applicable criteria. The Region should ensure that the review and approval processes do not result in delays in getting controls in place; EPA HQ has offered to support the Region in LTCP reviews.
- Region 7 should consider the use of enforcement actions with implementation schedules to achieve the "water safe for swimming" goal.

4.2.6 Sanitary Sewer Overflows in Permits

EPA Region 7 has not yet held comprehensive discussions with the States about the requirement to report SSOs and notify drinking water facilities of impacts on source water from SSOs or unanticipated bypasses or upsets. Region 7 should initiate discussions with each of its States on meeting this requirement. Where the State is not meeting these objectives, the Region should ensure that the States begin to modify standard permit conditions in a manner that is consistent with the April 2005 draft guidance on NPDES permit requirements for SSOs. This guidance is expected to be finalized in 2008.

Region 7 identified one PEFTF and is currently working with EPA HQ to ensure that the reissued permit will have appropriate effluent limitations based on secondary treatment.

Proposed Action Items to improve SSO implementation in Region 7 include the following:

- Region 7 should meet with its States to discuss EPA April 2005 draft guidance on permit SSO reporting requirements.

4.2.7 Whole Effluent Toxicity

Region 7 recently finished training all four States on whole effluent toxicity (WET). In general, WET permit provisions need more documentation overall, specifically with regard to the rationale behind the basis for permit requirements and how decisions were made. As necessary, State boiler plate permit language and supporting regulations should be updated to include current EPA promulgated WET test method citations (2002) and minimum method requirements for valid WET data (e.g., test acceptability criteria and reference toxicants).

WET monitoring requirements (e.g., annual) did not appear to assure that State aquatic life protection WQS are not being exceeded – additional WET monitoring may be necessary. In addition, permit language should clarify if additional or accelerated WET testing will be required when there is a routine WET test failure, and if a test failure occurs again during the additional WET testing, it is considered a permit violation. Permit language for some permits (i.e., Missouri) should clearly indicate whether a WET limit is included in the permit. Many of these WET permit implementation issues could be addressed by providing additional NPDES WET training and technical support from EPA HQ or more experienced EPA Regions.

Proposed Action Items to improve WET implementation in Region 7 include the following:

- Region 7 States should update State regulations, laws, or guidance to reflect the most current EPA promulgated WET test methods of 2002.
- Region 7 States should improve documentation in fact sheets on basis for WET requirements and reasonable potential in permits.
- Region 7 States should increase WET monitoring in permits to ensure data are representative of the effluent discharge(s).
- Region 7 should evaluate the need for and provide additional WET training for permit writers in R7 States.

4.2.8 Impaired Waters and TMDLs in Permits

Iowa's current procedures to determine whether the facility was discharging to an impaired waterbody are adequate, but should be documented in the permit fact sheet.

At least two of Region 7's States (Missouri and Iowa) have processes in place to ensure implementation of TMDLs in permits. EPA HQ did not have sufficient information on TMDL implementation procedures in Nebraska and Kansas to evaluate trends and complete a detailed review in those States.

Proposed Action Items to improve implementation of impaired waters and TMDLs include the following:

- Region 7 should work with States to increase documentation and justifications in fact sheets for facilities located on impaired waterbodies and for those with TMDLs.

4.2.9 Pathogens in Permits

States in Region 7 are beginning to implement *E. coli* limits in permits. Proposed Action Items to improve implementation of *E. coli* limits in permits include the following:

- Region 7 should continue to work with States to improve implementation and documentation of *E. coli* limits in permits and fact sheets.
- Missouri should expedite the use of *E. coli* limitations in permits

4.2.10 Mercury Methods in Permits

Permits with mercury limitations reviewed in Region 7 did not specify detection limits nor did they specify appropriate testing methods corresponding to the detection limits. In addition, the justification for certain detection limits were not clear in the fact sheet. Proposed Action Items to improve implementation of mercury methods include the following:

- Region 7 should work with States to ensure they are requiring appropriate methods for monitoring requirements.
- States in Region 7 should implement policies and procedures to evaluate which methods are appropriate for application data and for monitoring during the permit term. Fact sheets should better document decisions and rationales behind limits used in the permit.

LIST OF ATTACHED APPENDICES:

APPENDIX A: CENTRAL TENETS OF THE NPDES PERMITTING PROGRAM

APPENDIX B: CORE REVIEW CHECKLISTS

APPENDIX A – CENTRAL TENETS OF THE NPDES PERMITTING PROGRAM

APPENDIX A – CENTRAL TENETS OF THE NPDES PERMITTING PROGRAM

I. Permit Administration	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**
The Clean Water Act (CWA) and NPDES regulations require that no point source may discharge pollutants to Waters of United States without explicit authorization provided by an NPDES permit. Complete applications must be submitted at least 180 days prior to discharge or expiration. Addtionally, NPDES permit terms may not exceed 5 years. NPDES permits must clearly state the permit term and may not be modified to extend the permit term beyond 5 years. The NPDES regulations also require "fact sheets" for all major facilities, general permits, and other permits that may be subject to widespread public interest or raise major issues. Fact sheets MUST contain all of the elements prescribed at 40CFR124.8 AND 40CFR124.56.	- Any facility that fails to submit a complete permit application at least 180 days prior to discharge or expiration -Any permit that does not clearly identify the permitted facility and describe the authorized discharge location(s) -Any permit with term > 5 years -Any permit modification that extends the permit term beyond 5 years - Any permit (for a major facility, general permit, et al.) that is not accompanied by a fact sheet developed in accordance with the requirements of 40CFR124.8 and 40CFR124.56.

II. Technology-Based Effluent Limits	
Municipal Dischargers - Publicly Owned Treatment Works (POTWs)	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**
CWA requires POTWs to meet secondary or equivalent to secondary standards (including limits for BOD, TSS, pH, and percent removal). Permits issued to POTWs, therefore, MUST contain limits for ALL of these parameters (or authorized alternatives) in accordance with the Secondary Treatment Regulations at 40 CFR Part 133.	-Any permit that does not contain <u>specific numerical limits</u> for BOD (or authorized alternative; e.g., CBOD), TSS, pH, and percent removal. - Any permit that contains limits less stringent than those prescribed by the Secondary Treatment Regulation at 40 CFR Part 133, unless authorized by the exceptions noted in this regulation. Any permit that applies these exceptions must clearly document the basis. - Any permit that contains a compliance schedule that extends a statutory deadline for meeting secondary treatment requirements.

Non-Municipal Dischargers	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**
The CWA requires permits issued to non-municipal dischargers to require compliance with a level of treatment performance equivalent to "Best Available Technology Economically Achievable (BAT)" or "Best Conventional Pollutant Control Technology (BCT) by July 1, 1989, for existing sources, and consistent with "New Source Performance Standards (NSPS)" for new sources. Where effluent limitations guidelines (ELG) have been developed for a category of dischargers, the technology-based effluent limits MUST be based on the application of these guidelines. In addition, if pollutants are discharged at treatable levels, and ELGs are not available, or for pollutants that were not considered during the development of an applicable ELG, the permit must include requirements at least as stringent as BAT/BCT. The performance level equivalent to BAT/BCT MUST be developed on a case-by-case basis using the permit writer's best professional judgement in accordance with the criteria outlined at 40CFR125.3(d).	- Any permit that does not include a specific numerical limit (or other requirement) for any pollutant parameter that is part of an ELG applicable to a discharger. - Any permit that misapplies or miscalculates an applicable limit required by an ELG (*e.g., improper categorization, improper new source/existing source determination, inappropriate production or flow data used to calculate limits, failure to adjust limits to account for unregulated wastestreams such as non-contact cooling water or storm water*). - Any permit that does not contain a limit at least as stringent as required by 40CFR125.3(c)(2) where effluent limitations guidelines are inapplicable (*e.g., where a pollutant is discharged at treatable levels, but there is no applicable ELG, or the applicable ELG did not consider the pollutant of concern*). - Any permit that contains a compliance schedule that extends a statutory deadline for meeting a technology-based effluent limit.

III. Water Quality-Based Effluent Limits	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**

III. Water Quality-Based Effluent Limits

CWA requires every State to develop water quality standards to protect receiving water, including designated uses, water quality criteria, and an antidegradation policy. The NPDES regulations at 40 CFR 122.44(d), require that limits MUST be included in permits where pollutants will cause, have reasonable potential to cause, or contribute to an exceedance of the State's water quality standards. States will likely have unique implementation policies for determining the need for and calculating water quality-based effluent limits; however, there are certain tenets that may not be waived by these State procedures. These include:

- Where valid, reliable, and representative effluent data or instream background data are available they MUST be used in applicable reasonable potential and limits derivation calculations. Data may not be arbitrarily discarded or ignored.
- Where calculations indicate reasonable potential, a specific numeric limit MUST be included in the permit. Additional "studies" or data collection efforts may not be substituted for enforceable permit limits where "reasonable potential" has been determined.
- Where the preponderance of evidence clearly indicates the potential to cause or contribute to an exceedance of State water quality standards (even though data may be sparse or absent), a limit MUST be included in the permit (e.g., a new POTW plans to chlorinate its effluent and instream chlorine toxicity is anticipated).
- Where a technology-based is limit is required (due to an ELG or BPJ) AND the limit is not protective of water quality standards, a WQBEL MUST be developed and included in the permit regardless of whether data indicate reasonable potential (i.e., a technology-based limit cannot authorize a discharge that would result in a violation of water quality standards).
- Where the permit authorizes the discharge of a pollutant that results in a new or increased load to the receiving water, the State must ensure that the new or increased load complies with the antidegradation provisions of the State's water quality standards.
- The final calculated limit placed in the permit MUST be protective of water quality standards, and MAY NOT be adjusted to account for "treatability" or analytical method detection levels.
- Any permit where the State fails to use all valid, reliable, and representative effluent or instream background data in reasonable potential and limits calculations.
- Any permit where the State fails to include a final enforceable limit in a permit where the discharge of a pollutant will cause, have reasonable potential to cause, or contribute to an exceedance of a State water quality standard.
- Any permit that fails to incorporate WLAs from an approved TMDL, or that contains a limit that is not consistent with the WLA prescribed in an approved TMDL
- Any permit that contains technology-based limits that are not protective of water quality standards
- Any permit that modifies a properly developed WQBEL to account for the ability of treatment to achieve the WQBEL or the availability of an analytical procedure to measure the presence of the pollutant
- Any permit that authorizes new or increased loading of a pollutant that is not in compliance with the State's antidegradation policy
- Any permit that contains a limit less stringent than a limit in the previous permit, unless specifically authorized under the antibacksliding provisions of the CWA
- Any permit that allows a variance of a State water quality standard, unless the variance has been approved by the EPA Region.
- Any permit that allows a new or increased loading of a pollutant to a receiving water that has not been evaluated for and shown to be in compliance with the antidegradation provisions of the State's water quality standards regulations.
- Any permit that includes a compliance schedule for meeting a WQBEL, unless the State standards specifically allow for compliance schedules, and the standard was established or modified after July 1, 1977.

IV. Monitoring and Reporting Conditions	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**
The CWA and NPDES regulations require permitted facilities to monitor the quality of their discharge and report data to the permitting authority. Each State will have unique policies and procedures to establish appropriate frequencies, procedures, and locations for monitoring; however, there are certain tenets that may not be waived by these procedures.	- Any permit that does not require at least annual monitoring for all pollutants limited in the NPDES permit, unless the permittee has applied for and been granted a specific monitoring waiver by the permitting authority, and this specific waiver is included as a condition of the permit. - Any permit that does not require monitoring to be performed at the location where limits are calculated and applied (i.e., the monitoring location cannot be at a location that includes flows that were not accounted for in limits development; e.g., cooling water, storm water). - Any permit that does not require that the results of all monitoring of permitted discharges conducted using approved methods, be submitted to the permitting authority.

V. Special Conditions

Municipal Dischargers - Publicly Owned Treatment Works (POTWs)	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**
In general, special conditions will be established based on the unique characteristics of the permitted facility. The appropriateness of these conditions, therefore, must be assessed on a case-by-case basis. However, there are certain elements of special conditions that may be the basis of an objection.	- Pretreatment: Any permit for a POTW required to implement a pretreatment program that does not contain specific pretreatment conditions. [State/Regional-specific language] - Municipal Sewage Sludge/Biosolids: Any permit that does not contain conditions addressing the facility's use/disposal of biosolids consistent with Federal requirements. [State/Regional-specific language] - Combined Sewer Overflows (CSO): Any permit for a facility authorized to discharge from CSOs, that does not comply with the State's CSO control policy and, at a minimum contain requirements for: ▸ Requiring compliance with all of the "Nine Minimum Controls" ▸ Requiring development and implementation of a "Long Term Control Plan" - Sanitary Sewer Overflows (SSO): Any permit that authorizes the discharge of untreated effluent from SSOs under any circumstances.
Municipal and Non-Municipal Dischargers	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**

V. Special Conditions	
In general, special conditions will be established based on the unique characteristics of the permitted facility. The appropriateness of these conditions, therefore, must be assessed on a case-by-case basis. However, there are certain elements of special conditions that may be the basis of an objection.	- Any permit that contains a compliance schedule that extends a CWA deadline or otherwise modifies or postpones CWA or NPDES requirements unless specifically provided for in the statute or regulations. - Any permit that uses special studies or management plans to replace or modify limits or conditions that are required by the CWA or NPDES regulations, unless specifically provided for in the CWA or NPDES regulations (*e.g., permit requires a monitoring program in lieu of establishing a permit limit where available data indicate reasonable potential*).

VI. Standard Conditions	
CWA/NPDES Requirements	**Conditions Subject to Disapproval**
The NPDES regulations at 40 CFR 122.41 and 122.42 require that certain "standard condtions" be placed in all NPDES permits. The regulations allow States to omit or modify these standard conditions ONLY where the omission or modification results in more stringent requirements. For example, the standard condition that allows "bypass" under certain circumstances or the standard condition that allows "upset" to be used as an affirmative defense, may be omitted because the result of the omission is a more stringent permit requirement.	- Any permit that does not contain ALL of the standard conditions of 40 CFR 122.41 (unless the omission results in a more stringent condition). - Any permit that modifies the language of the standard conditions (unless the modification results in language that is more stringent than the 122.41 requirement). - Any permit for an existing non-municipal discharger that does not include the notification requirement of 40 CFR 122.42(a) - Any permit for a POTW that does not include the notification requirement of 40 CFR 122.42(b) - Any permit for a Municipal Separate Storm Sewer System (MS4) that does not include the annual reporting requirement of 40 CFR 122.42(c)

APPENDIX B – CORE REVIEW CHECKLISTS

APPENDIX B – CORE REVIEW CHECKLISTS

NPDES Permit Quality Review Checklist - For Non-Municipals

Pre-Review Information

		Response	Comment
1.	NPDES Permit number of facility		
2.	Name of facility:		
3.	Permit Reviewer (Last Name)		
4.	Date of review (MM/DD/YYYY)		
5.	Is the draft permit complete ? (Y/N)		
6.	Is the fact sheet complete ? (Y/N)		
7.	Did the State provide all appropriate supporting information (e.g., permit application, supporting documentation) ? (Y/N)		
8.	Reviewer obtained PCS/DMR data for last 3 years (Y/N)		
9.	Reviewer examined previous permit, application, and fact sheet (Y/N/NA)		
10.	Reviewer examined all pertinent file information (Y/N)		
11.	Reviewer notified other Regional offices of reissuance (Y/N)		

Facility Information

		Response	Comment
12.	Are all outfalls (including non-process and storm water) at the facility properly identified and authorized in the permit? (Y/N)		
13.	Does the record contain a description of the wastewater treatment process and discharge point? (Y/N)		
14.	Does the record describe the physical location of the facility? (Y/N)		
15.	Does the record provide a description of the receiving water body(s) to which the facility discharges? (Y/N)		

Permit Cover Page/Administration

		Response	Comment
16.	Does the permit term exceed 5 years? (Y/N)		
17.	Does the permit contain specific authorization-to-discharge information (from where to where, by whom)? (Y/N)		
18.	Does the permit contain appropriate issuance and expiration dates and authorized signatures ? (Y/N)		

Effluent Limits

General Elements

		Response	Comment
19.	Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)? (Y/N)		
20.	Does the record indicate that any limits are less stringent than those in the previous NPDES permit? (Y/N)		
21.	If yes, does the record discuss whether "antibacksliding" provisions were met? (Y/N)		

Technology-Based Effluent Limits (Effluent Guidelines and BPJ)

		Response	Comment
22.	Is the facility subject to a national effluent limitations guideline (ELG) ? (Y/N)		
22a.	If yes, does the record adequately document the categorization process, including an evaluation of whether the facility is a new source or an existing source ? (Y/N/NA)		
22b.	If no, does the record indicate that limits were developed based on Best Professional Judgement (BPJ) for all pollutants discharged at treatable concentrations? (Y/N/NA)		
23.	For all limits developed based on BPJ, does the record indicate that the limits are consistent with the criteria established at 40 CFR 125.3(d)?		
24.	Does the record adequately document the calculations used to develop both ELG and/or BPJ technology-based effluent limits ? (Y/N)		
25.	For all limits that are based on production or flow, does the record indicate that the calculations are based on a "reasonable measure of ACTUAL production" for the facility (not design)? (Y/N/NA)		
26.	Does the permit contain "tiered" limits that reflect projected increases in production or flow? (Y/N)		
26a.	If yes, does the permit require the facility to notify the permitting authority when alternate levels of production or flow are attained? (Y/N/NA)		
27.	Are technology-based permit limits expressed in appropriate units of measure (i.e., concentration, mass, SU)? (Y/N)		
28.	Are all technology-based limits expressed in terms of both maximum daily and monthly average limits ? (Y/N)		
29.	Are any final limits less stringent than required by applicable effluent limitations guidelines or BPJ? (Y/N)		

Water Quality-Based Effluent Limits

		Response	Comment
30.	Does the record indicate that the receiving water is impaired (i.e., that the receiving water is listed on the State's 303(d) list)? (Y/N)		
30a.	If yes, does the record indicate that a TMDL has been COMPLETED for the receiving water? (Y/N/NA)		
30b.	If yes, does the record indicate that any WQBELs were derived from a completed TMDL? (Y/N/NA)		
31.	Does the record describe (list) the designated uses of the water body to which the facility discharges (e.g., contact recreation, aquatic life use)? (Y/N)		
32.	Does the record provide effluent characteristics for each outfall? (Y/N)		
33.	Does the record document that a "reasonable potential" evaluation was performed? (Y/N)		
33a.	If yes, does the record indicate that the"reasonable potential" evaluation was performed in accordance with the State's approved procedures? (Y/N/NA)		
34.	Does the record describe the basis for allowing or disallowing in-stream dilution or a mixing zone? (Y/N)		
35.	Does the record present WLA calculation procedures for all pollutants that were found to have "reasonable potential"? (Y/N/NA)		
36.	Does the record indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations where data are available)? (Y/N/NA)		
37.	Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined? (Y/N/NA)		
38.	Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record? (Y/N/NA)		
39.	For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, instantaneous) effluent limits established? (Y/N/NA)		
40.	Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)? (Y/N)		
41.	Does the record indicate that the permit will allow new or increased loadings to the receiving water? (Y/N)		
41a.	If yes, does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy? (Y/N/NA)		

Monitoring and Reporting Requirements

		Response	Comment
42.	Does the permit require at least annual monitoring for all limited parameters? (Y/N)		
42a.	If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver? (Y/N)		
43.	Does the permit identify the physical location where monitoring is to be performed for each outfall? (Y/N)		
44.	Does the permit require testing for Whole Effluent Toxicity in accordance with the State's standard practices ? (Y/N)		

Special Conditions

		Response	Comment
45.	Does the permit require development and implementation of a Best Management Practices (BMP) plan or site specific BMPs? (Y/N)		
46.	If yes, does the permit adequately incorporate and require compliance with the BMPs? (Y/N/NA)		
47.	If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadllines and requirements ? (Y/N/NA)		
48.	Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations? (Y/N/NA)		

Standard Conditions

		Response	Comment
49.	Does the **permit** contain all 40 CFR 122.41 standard conditions? (Y/N)		

List of Standard Conditions – 40 CFR 122.41

- Duty to comply
- Duty to reapply
- Need to halt or reduce activity not a defense
- Duty to mitigate
- Proper O & M
- Permit actions
- Property rights
- Duty to provide information
- Inspections and entry
- Monitoring and records
- Signatory requirement
- Reporting requirements

Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24 hour reporting
Other non-compliance

- Bypass
- Upset

50.	Does the permit contain the additional standard condition for existing non-municipal dischargers regarding pollutant notification levels [40 CFR 122.42(a)]? (Y/N)		

NPDES Permit Quality Review Checklist - For POTWs

Pre-Review Information

		Response	Comment
1.	NPDES Permit number of facility		
2.	Name of facility:		
3.	Permit Reviewer (Last Name)		
4.	Date of review (MM/DD/YYYY)		
5.	Is the draft permit complete ? (Y/N)		
6.	Is the fact sheet complete ? (Y/N)		
7.	Did the State provide all appropriate supporting information (e.g., permit application, supporting documentation) ? (Y/N)		
8.	Reviewer obtained PCS/DMR data for last 3 years (Y/N)		
9.	Reviewer examined previous permit, application, and fact sheet (Y/N/NA)		
10.	Reviewer examined all pertinent file information (Y/N)		
11.	Reviewer notified other Regional offices of reissuance (Y/N)		

Facility Information

		Response	Comment
12.	Are all outfalls (including combined sewer overflow points) from the POTW treatment facility properly identified and authorized in the permit? (Y/N)		
13.	Does the record or permit contain a description of the wastewater treatment process and discharge point? (Y/N)		
14.	Does the record or permit describe the physical location of the facility? (Y/N)		
15.	Does the record or permit provide a description of the receiving water body(s) to which the facility discharges? (Y/N)		

Permit Cover Page/Administration

		Response	Comment
16.	Does the permit term exceed 5 years? (Y/N)		
17.	Does the permit contain specific authorization-to-discharge information (from where to where, by whom)? (Y/N)		
18.	Does the permit contain appropriate issuance, effective, and expiration dates and authorized signatures ? (Y/N)		

Effluent Limits

General Elements

		Response	Comment
19.	Does the record describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)? (Y/N)		
20.	Does the record indicate that any limits are less stringent than those in the previous NPDES permit? (Y/N)		
21.	If yes, does the record discuss whether "antibacksliding" provisions were met? (Y/N)		

Technology-Based Effluent Limits (POTWs)

		Response	Comment
22.	Does the permit contain numeric limits for ALL of the following: BOD (or an alternative; e.g., CBOD, COD, TOC), TSS, pH, and percent removal? (Y/N)		
23.	Are percent removal requirements for BOD (or BOD alternative) and TSS included, and are they consistent with secondary treatment requirements (generally 85%; or modified in accordance with 40 CFR Part 133 allowances)? (Y/N)		
24.	Are technology-based permit limits expressed in appropriate units of measure (i.e., concentration, mass, SU)? (Y/N)		
25.	Are permit limits for BOD and TSS expressed in terms of both 30-day (monthly) average and 7-day (weekly) average limits ? (Y/N)		
26.	Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day (monthly) average and 45 mg/l BOD5 and TSS for a 7-day (weekly) average)? (Y/N)		
26a.	If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations? (Y/N/NA)		

Water Quality-Based Effluent Limits

		Response	Comment
27.	Does the record indicate that the receiving water is impaired (i.e., that the receiving water is listed on the State's 303(d) list)? (Y/N)		
27a.	If yes, does the record indicate that a TMDL has been COMPLETED for the receiving water? (Y/N/NA)		
27b.	If yes, does the record indicate that any WQBELs were derived from a completed TMDL? (Y/N/NA)		
27.	Does the record describe (list) the designated uses of the water body to which the facility discharges (e.g., contact recreation, aquatic life use)? (Y/N)		
28.	Does the record provide effluent characteristics for each outfall? (Y/N)		
29.	Does the record document that a "reasonable potential" evaluation was performed? (Y/N)		

29a.	If yes, does the record indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures ? (Y/N/NA)		
30.	Does the record describe the basis for allowing or disallowing in-stream dilution or a mixing zone? (Y/N)		
31.	Does the record present WLA calculation procedures for all pollutants that were found to have "reasonable potential"? (Y/N/NA)		
32.	Does the record indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)? (Y/N/NA)		
33.	Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined? (Y/N/NA)		
34.	Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the record? (Y/N/NA)		
35.	For all final WQBELs, are BOTH long-term (e.g., average monthly) AND short-term (e.g., maximum daily, instantaneous) effluent limits established? (Y/N/NA)		
36.	Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)? (Y/N)		
37.	Does the record indicate that the permit will allow new or increased loadings to the receiving water? (Y/N)		
37a.	If yes, does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy? (Y/N/NA)		

Monitoring and Reporting Requirements

		Response	Comment
38.	Does the permit require at least annual monitoring for all limited parameters? (Y/N)		
38a.	If no, does the record indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver? (Y/N)		
39.	Does the permit identify the physical location where monitoring is to be performed for each outfall? (Y/N)		
40.	Does the permit require influent monitoring for BOD (or alternative) and TSS? (Y/N)		
41.	Does the permit require testing for Whole Effluent Toxicity? (Y/N)		

Special Conditions

		Response	Comment
42.	Does the permit include appropriate pretreatment program requirements? (Y/N/NA)		
43.	Does the permit include appropriate biosolids use/disposal requirements? (Y/N/NA)		
44.	Does the permit include appropriate storm water program requirements? (Y/N/NA)		
45.	If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadllines and requirements ? (Y/N/NA)		
46.	Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations? (Y/N/NA)		
47.	Does the permit allow discharges from Combined Sewer Overflows (CSOs) ? (Y/N)		
47a.	If yes, does the permit require implementation of the "Nine Minimum Controls" ? (Y/N/NA)		
47b.	If yes, does the permit require development and implementation of a "long-term control plan"? (Y/N/NA)		
47c.	If yes, does the permit require monitoring and reporting for CSO events? (Y/N)		
48.	Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs)]? (Y/N)		

Standard Conditions

		Response	Comment
49.	Does the **permit** contain all 40 CFR 122.41 standard conditions? (Y/N)		
	List of Standard Conditions – 40 CFR 122.41 • Duty to comply • Duty to reapply • Need to halt or reduce activity not a defense • Duty to mitigate • Proper O & M • Permit actions • Property rights • Duty to provide information • Inspections and entry • Monitoring and records • Signatory requirement • Reporting requirements Planned change Anticipated noncompliance Transfers Monitoring reports Compliance schedules 24 hour reporting Other non-compliance • Bypass • Upset		
50.	Does the permit contain the additional standard condition for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]? (Y/N)		