

ARIZONA NPDES PERMIT QUALITY REVIEW

EPA REGION 9

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EPA Region 9
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I. PQR BACKGROUND

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

EPA's Arizona PQR consisted of two components—permit reviews and special focus area reviews. The permit reviews focused on core permit quality and included a review of the permit application, permit, fact sheet, correspondence, documentation, administrative process, and select core topic areas, as well as other factors.

The core permit review process involves evaluating selected permits and supporting materials using basic NPDES program criteria. Reviewers complete the core review by examining selected permits and supporting documentation, assessing these materials using standard PQR tools, and talking with permit writers about technical questions related to the permit development process. The core review focuses on evaluating the aspects identified in the Central Tenets of the NPDES Permitting Program. In addition, for the Arizona PQR, discussions between EPA Region 9 and state staff addressed a range of topics, including program status, the permitting process, relative responsibilities, organization, and staffing. Core topic area permit reviews are conducted to evaluate specific issues or types of permits in all states. The core topics reviewed in Arizona were nutrients, the pesticide general permit, pretreatment, and stormwater.

EPA selected a total of 11 permits to review, randomly selected from subcategories consistent with the distribution of major, minor, publicly owned treatment works (POTW), and non-POTW facilities within the state. EPA selected four major and two minor POTWs, as well as three non-POTWs from three representative industries—a power plant, a mine, and a hatchery. EPA also selected one municipal separate storm sewer system (MS4) permit and one stormwater general permit.

Special focus area reviews target specific types or aspects of permits. These include special focus areas selected by EPA regions on a state-by-state basis. The Region 9 special focus area reviews addressed the following areas: anti-degradation, reasonable potential, Low-Impact Development requirements for stormwater permits, and the enforceability of permit language. The results of these reviews provide important information to the EPA region, EPA headquarters, and the public.

EPA Region 9 conducted a comprehensive core review in Arizona, which included an on-site visit in Phoenix. The review team consisted of a Region 9 staff person, EPA headquarters staff, and contractor support. The site visit occurred March 13–14, 2012.

II. STATE PROGRAM BACKGROUND

A. Program Structure

The Arizona Department of Environmental Quality (ADEQ) has three divisions, including a Water Quality Division (WQD). The WQD includes sections that address various water quality issues: Compliance, Drinking Water, Engineering, Rule Development, Groundwater (which issues individual Aquifer Protection Permits [APPs] and Reclaimed Water Permits), and Surface Water. The Surface Water Section (SWS) issues individual and general Arizona NPDES (AZPDES) permits and certifies that federal NPDES permits meet state water quality standards (WQSs). ADEQ gained authorization to administer the NPDES permit program on December 5, 2002. ADEQ's primary office is in Phoenix, and the personnel in the Phoenix office are responsible for AZPDES permit development and most aspects of permit implementation and enforcement. There is a field office in Tucson, and staff in that office perform inspections and liaison functions. In the Phoenix office there are five AZPDES permit writers; one additional person in that office develops stormwater permits. Permit writers are trained internally and through use of the EPA's Permit Writer's Course.

The SWS uses several tools to support AZPDES permit development. For individual permits, the SWS has developed both permit and fact sheet templates that include standard headings and language and are used by permit writers. The templates are oriented toward POTWs because most of Arizona's permitted facilities are POTWs. The SWS is considering developing permit and fact sheet templates for industrial facilities. In addition, the SWS has developed a substantial spreadsheet that is used to determine the reasonable potential (RP) of a pollutant to cause or contribute to an exceedance of a WQS and to calculate permit limits. This spreadsheet is based on the approach specified in EPA's *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001). The SWS also has developed RP guidance, various form letters that address common permitting scenarios, and monitoring frequency guidance for POTWs. The SWS does not use models to calculate mixing zones because of the limited use of mixing zones in the state.

AZPDES fact sheets include a discussion of the basis and derivation of the draft permits. These fact sheets generally include documentation regarding the following headings:

- (I) Status of Permit
- (II) General Facility Information
- (III) Receiving Water
- (IV) Description of Discharge
- (V) Status of Compliance with the Existing AZPDES Permit
- (VI) Proposed Permit Changes
- (VII) Determination of Effluent Limitations and Assessment Levels
- (VIII) Narrative Water Quality Standards

- (IX) Monitoring and Reporting Requirements
- (X) Biosolids Requirements
- (XI) Special Conditions
- (XII) Antidegradation
- (XIII) Standard Conditions
- (XIV) Administrative Information
- (XV) Additional Information
- (XVI) Information Sources.

The SWS uses a spreadsheet to track the status of AZPDES permits; it also has two databases, one focused on license and permit issuance time frames (specified by state law as 284 business days for major permits and 220 days for minor permits) and a second for tracking water quality activities (i.e., tracking permit actions). The SWS is in the process of merging the two databases and continues to use a variety of spreadsheets to track important information. Discharge Monitoring Report (DMR) data are managed by the Compliance Section and are entered into an SWS database. The SWS indicated a desire to have monitoring data submitted electronically, but data are not currently being submitted in that manner.

Draft permits are reviewed by management and circulated internally for further review and comment, using a routing form to document the review process. Permit files are maintained in hard copy in the Phoenix office, and some electronic files are maintained by individual permit writers. Final permits and fact sheets are not posted on ADEQ's website.

B. Universe and Permit Issuance

The SWS administers approximately 161 individual non-stormwater AZPDES permits, including 131 POTW permits and 30 non-municipal permits. In addition, eight medium and large MS4s are subject to individual stormwater permits. The SWS has developed general permits for stormwater from small MS4s, construction, and industrial activities (i.e., Multi-Sector General Permit or MSGP), as well as general permits for industrial stormwater from mining, de minimis (low-threat) discharges, pesticides, and concentrated animal feeding operations (CAFOs; expired). Proposed general permits are under development for small POTWs (specific use only), POTW emergency discharges, biosolids, and discharges to canals. The significant industries in the state are copper mining and agriculture, including grazing. Six percent of AZPDES permits are expired (3 percent for major permits), which is below the 10 percent maximum target set by EPA.

The SWS reminds facilities regarding permit reapplication four months prior to permit application due dates. State permit application forms, which include minor modifications of the EPA NPDES permit application forms, are used. Permit writers ensure that applications are complete and then compile the applications and other available data. Technology-based effluent limitations (TBELs) are identified and calculated, and the RP and limits spreadsheet is used to determine water quality-based effluent limitations (WQBELs). Mixing zones are not used when

the discharge is to ephemeral waters, but they may be used for discharges to the Colorado River and other flowing waters that are not effluent-dominated. The SWS has developed internal guidance regarding establishing the monitoring frequency for permit limits and assessment levels. Special conditions are included as warranted, including biosolids management requirements. (Arizona is authorized to implement the NPDES Biosolids Program.) Standard conditions are included in an appendix in each AZPDES permit.

For individual permits the SWS communicates often with permittees to address issues and promote understanding. Meetings are held when they are deemed necessary. For general permits SWS conducts a significant number of outreach meetings (e.g., 10–15 for the MSGP). The meetings are typically in Phoenix, but various technologies are used to allow for public participation in other locations. Once the permit and fact sheet are drafted, they undergo internal review, then stakeholder review (agencies, permittee, and identified stakeholders), then public notice and comment. Permit challenges and appeals have decreased as the program has matured.

C. State-Specific Challenges

The SWS's AZPDES program began to transition to a fee-based (per rule) system as of July 1, 2011. The fees are intended to cover SWS's costs of administering the permit program. This transition, which will require the processing of fees, is proving burdensome to the SWS. Under the system individual permits will be based on an hourly fee and general permits will be based on flat fees.

Other challenges include tribal issues, stormwater permitting, mining permitting, hatchery permitting, and maintaining sufficient staffing to meet all permitting responsibilities. EPA Region 9 issues tribal permits, but numerous issues must be coordinated with the state and tribes. Stormwater permitting remains challenging in part because stormwater requirements are contained in rules, which makes changing requirements complex. With regard to hatchery permits, Region 9 is working with the SWS to address specific variance issues. The SWS also would like to make permits available on its website, but it has been unable to do so because of resource and server limitations.

D. Current State Initiatives

The SWS includes monitoring requirements in its AZPDES permits to ensure that it has sufficient data to develop permit limits that are protective of water quality. This monitoring includes permit limit compliance monitoring, assessment-level monitoring, and effluent characterization monitoring. Assessment levels are not limits but serve as triggers to indicate when there might be cause to reevaluate RP. For oil and grease, assessment levels are calculated based on best professional judgment (BPJ). For other parameters, assessment levels are calculated just as a limit would be calculated. Effluent characterization testing is used to determine whether parameters of concern are present in the effluent and at what levels. A number of smaller facilities in Arizona may have limited monitoring data at the time of permit reissuance due to reclamation of effluent and infrequent discharge.

The SWS also is working to develop general permits that will reduce the overall administrative burden associated with AZPDES permitting.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

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

The 11 AZPDES permits and fact sheets reviewed during the core review consistently include identification of outfalls and location information relative to receiving waters. The permits include permit issuance, effective, and expiration dates; authorized signatures; specific authorization-to-discharge information; and the required standard conditions. The permits and fact sheets reviewed include a good description of the relevant facilities, including the activity, treatment processes, and disposition of effluent. The permit applications also include facility information.

One permit with a term of five years plus one day was identified; however, discussions with staff indicated that the permit term is now explicitly checked during the permit review process. In addition, where one permit was modified, the modification extended the permit expiration date. Though not an NPDES requirement, it was observed that the permit records contain only basic information regarding reuse of effluent where this occurs. (Many POTWs also have aquifer protection permits and reuse permits.)

2. Permit Application Requirements

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

In general, the permit files contain current, appropriate, and complete permit applications. The state uses state forms that reflect slight modifications to EPA's application forms. The SWS does not use EPA Form 2D; rather, it uses Form 2C because the latter requires more useful data. Some limited discrepancies were identified. In one instance, the permit application did not include treatment information and a process flow diagram was not clear. In another, an application could not be readily identified in the permit file. In a third case, referenced pages of whole effluent toxicity (WET) data were missing from the application, although the permit file included substantial WET data provided over four years.

B. Technology-based Effluent Limitations

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

1. TBELs for POTWs

POTWs must meet secondary or equivalent-to-secondary standards (including limits for biochemical oxygen demand [BOD₅], total suspended solids [TSS], pH, and percent removal). Thus, permits issued to POTWs must contain limits for all of these parameters (or authorized alternatives) in accordance with the Secondary Treatment Regulations at 40 CFR Part 133.

The permits and fact sheets developed for municipal facilities that were part of the core review provide a good description of wastewater treatment processes and discussions of the basis of TBELs. The permits reviewed consistently apply secondary treatment standards appropriately. Effluent limitations were established using the appropriate units and forms (i.e., concentration or mass, average weekly and average monthly), and they include the appropriate percent removal requirements. Tables in the fact sheets summarize the parameters that are limited and the rationale for those limits (i.e., 40 CFR 133.102).

2. TBELs for Non-Municipal Dischargers

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

The three non-municipal permits reviewed are for a power plant, a hatchery, and a copper mining facility, two of which should be subject to ELGs. In general, the fact sheets for these permits include a good description of the facility including processes, wastestreams and pollutants, and treatment, as well as the applicable standards and any special considerations. The ELGs appear to be properly applied and expressed, although the following was noted:

- The copper mine permit, in Part 1.A, states: “Discharges resulting from less than the 100 year, 24 hour storm event are prohibited.” The permit language implies the prohibition applies to Table 1a for stormwater discharges from Outfall 001; however, the language is unclear in that it may also be read to apply to Table 1b from Outfall 002 for mine drainage. From the fact sheet it appears this prohibition is intended to apply only to stormwater discharges from Outfall 001. The fact sheet does not specifically indicate

whether the facility is an existing source or a new source, although the application of BAT as stated in the fact sheet would indicate it is an existing source.

- For the steam electric power generating facility, most limits are consistent with the ELG; however, the final effluent limitations for priority pollutants are less stringent than what is required by the ELG. The ELG requires that all priority pollutants are non-detect in the effluent. The fact sheet for this facility states the correct requirements, but the permit requires monitoring only for priority pollutants.
- The hatchery operates just below the size threshold for the ELG, and thus the fact sheet indicates that the TSS limits are based on BPJ. Documentation of criteria considered and calculations for this limit were not identified in the permit file. The permit did not consider the ELG requirements for BPJ. In addition, this permit includes a variance for the nitrogen and phosphorus limits. Although the variance is explained in the fact sheet, the explanation in part identifies historical construction at the hatchery as a human-caused condition that prevents the attainment of the use. The permit also does not include a specified duration for the interim limits.

C. Water Quality-Based Effluent Limitations

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

The PQR for ADEQ’s SWS assessed the processes employed by permit writers and water quality modelers to implement these requirements. Specifically, the PQR reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers had determined the appropriate WQSs applicable to receiving waters; evaluated and characterized the effluent and receiving water, including identifying pollutants of concern, determining critical conditions, incorporating information on ambient pollutant concentrations, and assessing any dilution considerations; and determined whether limits were necessary for pollutants of concern and, where necessary, calculated such limits or other permit conditions. For impaired waters, the PQR also assessed whether and how permit writers consulted, and developed limits consistent with the assumptions of, applicable EPA-approved total maximum daily loads (TMDLs).

The fact sheets for the permits reviewed consistently identify the receiving streams, applicable designated uses, and the impairment status of such streams (including past impairments), including relevant TMDLs. Applicable WQSs are referenced in the fact sheets and included in SWS’s RP and limits spreadsheet.

With regard to identifying pollutants of concern and determining RP, the fact sheets reviewed reference the process described in the TSD for developing WQBELs and indicate that the highest reported value for each parameter is multiplied by a factor to determine a highest estimated value and compared with lowest applicable WQS for the relevant receiving water. The fact sheets do

not discuss how non-detect data are used or not used. (Notes provided by the SWS indicate that typically all data are evaluated.) For organic pollutants, only detected values are entered in spreadsheets. For metal pollutants, all the data are entered in spreadsheets, with non-detects entered at one-half the detection level. For example, for one permit it appeared that an RP assessment had not been conducted for all parameters with data, and as a result the limits development process was not clear.

Information in the permit files and discussion with staff indicated that generally background data are not used and mixing is not considered (except for certain waterbodies) in developing WQBELs because a significant number of receiving waters are ephemeral. As a result, WQBELs are typically applied at end of pipe.

The RP and limits spreadsheets were generally found in the permit files, although in a few cases they were located on the computer network. (For some permits a truncated version of the spreadsheet was found in the file.). The RP and limits spreadsheet appear to be consistent with the federal requirements for developing WQBELs.

Some limited issues were noted:

- For one permit, neither the RP spreadsheet nor the limit calculations were found in the permit file.
- For a second permit, the permit limits appear to be more stringent than indicated in the spreadsheet, and no rationale for the final limits was found.
- In a third case, the permit file lacks an RP assessment for TBELs. The fact sheets reviewed state that when determining limits, both technology- and water quality-based criteria are compared and the more stringent criteria are applied. For a few permits, documentation of this comparison was not found in the permit file.

The fact sheets for the permits reviewed also include standard language indicating that if a facility meets its permit limits, it will protect designated uses and meet antidegradation requirements. This language documents consideration of antidegradation requirements, but it does not explain why antidegradation requirements apply or do not apply to a specific permit and what level of review was conducted.

Finally, one permit includes some limits that are less stringent than those in the previous permit; the fact sheet explains the basis for these changes and includes standard language indicating that anti-backsliding requirements were satisfied. This language documents consideration of anti-backsliding requirements, but it does not explain how anti-backsliding requirements are allowable under 40 CFR 122.44(1).

D. Monitoring and Reporting

The NPDES regulations require permittees to periodically evaluate compliance with the effluent limitations established in their permits and provide the results to the permitting authority. Monitoring and reporting conditions require the permittee to conduct routine or episodic self-monitoring of permitted discharges and, where applicable, internal processes and report the

analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

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

The permits reviewed include appropriate monitoring and reporting requirements based on the facility type, type of discharge, and corresponding limit basis. Influent monitoring is required for BOD₅ and TSS for POTWs. The permits include a general requirement that monitoring must be conducted according to test procedures approved under 40 CFR Part 136 and also provide that the limit or quantification level must be below the effluent limitations. General monitoring locations are stated in the permits. Many of the permits reviewed require monitoring for WET. The fact sheets reviewed discuss the rationale for the monitoring requirements for the respective permits.

The permits reviewed typically also include assessment-level monitoring and effluent characterization monitoring. As noted earlier, assessment levels are not limits but serve as triggers to indicate when there might be cause to reevaluate RP. Effluent characterization testing is used to determine whether parameters of concern are present in the effluent and at what levels.

For one permit, the use of multiple internal monitoring points was not justified.

E. Standard Conditions and Special Conditions

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

In addition to these required standard permit conditions, permits may also contain additional standard requirements that are unique to a particular category of permittee. These case-specific narrative requirements are usually referred to as “special conditions.” Special conditions might include requirements such as additional monitoring or special studies, best management practices (see 40 CFR 122.44(k)), and/or permit compliance schedules (see 40 CFR 122.47). Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

Standard conditions established at 40 CFR 122.41 and relevant portions of 122.42 are included in the permits reviewed as an appendix. These conditions were found to be consistent with federal requirements. One permit includes a compliance schedule, and it was found to be consistent with

federal requirements. (The schedule requires a plan within two years, annual updates, and compliance within five years.) The fact sheets reviewed include a heading for narrative WQSS, under which the discussion identifies where in the permit such narrative conditions are specified.

Arizona is authorized to administer the NPDES Biosolids Program. The POTW permits reviewed include biosolids requirements that appear to be consistent with federal requirements. The special conditions section of the permits reviewed generally includes headings such as Operation, Reopener, and Pretreatment. When special conditions are included in a permit, the relevant fact sheet explains the basis and nature of the requirement.

F. Administrative Process

The administrative process includes documenting all permit decisions, coordinating EPA and state review of the draft (or proposed) permit, providing public notice, conducting hearings (if appropriate), responding to public comments, and defending the permit and modifying it (if necessary) after issuance. The PQR team discussed each element of the administrative process with WQD permitting staff and reviewed materials from the administrative process as they related to permits reviewed for the core permit review.

The supporting records for the permits reviewed include documentation demonstrating that public notice procedures were implemented and, in certain cases, that comments were received and addressed. In one file a response to comment document was not identified, and whether any comments had been received was not clear. Several permits have undergone minor modifications, and these changes appear to be consistent with federal requirements. For one permit the modification resulted in a new five-year permit term. The fact sheets include a heading addressing Administrative Information, which includes discussion of the public notice, public comment, public hearing, and EPA review requirements and process.

G. Documentation

The administrative record is the foundation that supports the NPDES permit. If EPA issues the permit, 40 CFR 124.9 identifies the required content of the administrative record for a draft permit and 40 CFR 124.18 identifies the requirements for a final permit. Authorized states should have equally strong documentation. The record allows personnel from the permitting agency to reconstruct the justification for a given permit and defend the permit during any legal proceedings regarding the permit. The administrative record for a draft permit consists, at a minimum, of the permit application and supporting data; draft permit; fact sheet or statement of basis; all items cited in the statement of basis or fact sheet, including calculations used to derive the permit limitations; meeting reports; correspondence with the applicant and regulatory personnel; all other items supporting the file; and, for new sources where EPA issues the permit, any Environmental Assessment, Environmental Impact Statement, or Finding of No Significant Impact.

The permit records appeared to be complete and were reasonably easy to navigate. In a few instances limit calculations and comparisons of TBELs and QBELs were not readily

identified. In one file, as noted previously, a response to comment document was not found and whether any comments had been received was not clear.

1. Fact Sheet or Statement of Basis

Under 40 CFR 124.8 and 124.56 fact sheets are required for major NPDES permits, general permits, permits that incorporate a variance or warrant an explanation of certain conditions, and permits subject to widespread public interest. Current regulations require that fact sheets include:

- General facility information
 - Description of the facility or activity
 - Sketches or a detailed description of the discharge location
 - Type and quantity of waste/pollutants discharged
- Summary rationale of permit conditions
 - Summary of the basis for draft permit conditions
 - References to the applicable statutory or regulatory provisions
 - References to the administrative record
- Detailed rationale of permit conditions
 - Explanation and calculations of effluent limitations and conditions
 - Specific explanations of:
 - Toxic pollutant limitations
 - Limitations on internal wastestreams
 - Limitations on indicator pollutants
 - Case-by-case requirements
 - Decisions to regulate non-POTWs under a separate permit
 - For EPA-issued permits, the requirements for any state certification
 - For permits with a sewage sludge land application plan, a description of how all required elements of the land application plan are addressed in the permit
 - Reasons why any requested variances do not appear justified, if applicable
- Administrative requirements
 - A description of the procedures for reaching a final decision on the draft permit, including:
 - Public comment period beginning and ending dates
 - Procedures for requesting a hearing
 - Other procedures for public participation
 - Name and telephone number of the person to contact for additional information.

The fact sheet and supporting documentation were reviewed with the administrative record of the permit file as part of the PQR to assess whether the basis or rationale for limitations and other permit decisions were documented in the development of the final permit.

ADEQ/SWS develops very good fact sheets. All the permits reviewed were accompanied by fact sheets. The fact sheet and permit record generally provide a good description of the facility, treatment process, effluent, and applicable standards, as well as clear documentation of the decision-making process employed during permit development or the rationale for final effluent limitations. The fact sheets typically include considerable facility and receiving water information, as well as a description of the discharge and compliance status, a summary of limits, monitoring requirements, and associated rationales. The fact sheets also identify proposed changes to an existing permit and the rationale for the changes.

Notwithstanding the high quality of the SWS fact sheets, some documentation issues were identified. The fact sheets for these permits include information that clearly indicates whether specific limits are technology- or water quality-based; however, this is not stated explicitly. In addition, facility characterization information should indicate whether the facility or discharge is an existing source or a new source in cases where ELGs apply. Where a limit is based on BPJ, the fact sheets do not explain the basis for the limit and how the criteria at 40 CFR 125.3(d) were addressed. With regard to WQBELs, the discussion in the fact sheets typically references the TSD but does not explain which parameters were initially considered in evaluating the need for WQBELs. Similarly, the antidegradation and anti-backsliding discussions in the fact sheets do not address applicability, the level of review, and how requirements are met or reference documents that do so.

H. Core Topic Areas

Core topic areas are specific aspects of the NPDES permit program that warrant review based on the specific requirements applicable to the selected topic areas. These topic areas have been determined to be important on a national level. Core topic areas are reviewed for all state PQRs.

1. Nutrients

Nitrogen and phosphorus pollution of all types of surface waters has consistently ranked as one of the top causes of degradation in U.S. waters for more than a decade. EPA has worked at reducing the levels and impacts of this pollution since 1998 and continues to support a range of efforts, including the development and implementation of numeric nutrient criteria. In March 2011 EPA announced a framework for nutrient reductions that in part called for ensuring the effectiveness of point source permits in sub-watersheds targeted or identified as priority watersheds because of nutrient pollution. The framework specifically identified permits for municipal and industrial wastewater treatment facilities that contribute significant nitrogen and phosphorus loadings, CAFOs, and urban stormwater sources that discharge into nitrogen- and phosphorus-impaired waters or are significant sources of nitrogen or phosphorus. For this PQR, EPA Region 9 reviewed two POTW permits and one hatchery permit.

Arizona has developed numeric water quality criteria for total phosphorus and total nitrogen for specific rivers and river segments. The total nitrogen and total phosphorus criteria are expressed as an annual mean, 90th percentile, and single sample maximum for 11 waterbodies/segments.

Arizona has also developed “[Draft Narrative Nutrient Standard Implementation Procedures for Lakes and Reservoirs](#)” (April 2008). ADEQ has created five functional lake classes—deep, shallow, igneous-based, sedimentary-based, and urban. For each class and each applicable designated use, ADEQ has developed a matrix of threshold values expressed as ranges for chlorophyll-a, Secchi depth, total nitrogen (N), total Kjeldahl nitrogen (TKN), total phosphorus (P), percent blue-green algae, and total count of blue-green algae. Dissolved oxygen (DO) and pH standards have been added as relevant and supportive endpoints.

For NPDES permits, target nutrient limits for point source discharges of nutrients to a lake or reservoir will be set not to exceed applicable matrix nutrient threshold ranges unless assimilative capacity can be demonstrated such that the applicable chlorophyll-a threshold is met within an acceptable zone of influence, not to exceed 2 ug/L above background for that lake or reservoir.

EPA has not approved the draft standards, and therefore they are not in effect.

For lakes and reservoirs, two lake sample events must be conducted during the peak season; the results of average chlorophyll-a values are compared to the table in the WQSs based on the designated use. Arizona’s nutrient criteria and implementation procedures are consistent with EPA’s recommended nutrient management framework.¹

Two of the permits reviewed did not establish effluent limits for nutrients. The fact sheets provide adequate rationale for not including nutrient limits in each case. One permitted POTW discharges to a receiving water where there are no applicable nutrient WQSs. For another POTW permit, a reasonable potential analysis was conducted for nitrate and nitrite. There are no applicable WQSs for total P, total N, or TKN. The analysis concluded there was no reasonable potential for nitrate or nitrite, and therefore the permit does not establish nutrient effluent limits. Although there are no limits for nutrients established in the POTW permits, the permits require monitoring for TKN, nitrate/nitrite, and total P for assessment purposes. One permit requires once/year characterization for total P, total N, nitrate, nitrite, and ammonia, whereas the other permit requires quarterly monitoring for TKN, nitrate/nitrite, total P, and ammonia. Reasonable potential will be reassessed upon permit reissuance. For the hatchery, the permit contains appropriate limits for total N and total P. The permit establishes a single- sample maximum for total N and total P based on applicable WQSs without allowance for dilution. For the annual average limits, the permit provides for a variance for total N and total P that has been approved by EPA Region 9.

The permit establishes an interim limit of 0.85 mg/L as an annual average for total N and an interim limit of 0.15 mg/L as an annual average for total P. The fact sheet describes efforts taken to date to reduce nutrients, and it describes additional steps the hatchery will adopt to further

¹ Nancy Stoner, *Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions*. Memorandum from Acting Assistant Administrator for Water Nancy Stoner to EPA Regional Administrators, March 11, 2012.

reduce nutrients. The permit does not contain a specific compliance schedule or specific milestones beyond the requirements for the interim limits, which is consistent with federal requirements for establishing permit elements associated with WQS variances.

2. Pesticide General Permit

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

Background

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

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

On October 31, 2011, ADEQ issued an APDES Pesticide General Permit (PGP; AZPGP2011-001) for the application of pesticides to, including over and near, waters of the United States. The permit is issued under Arizona Administrative Code (A.A.C.) R18-9-C901, and it applies to all areas in Arizona except Indian Country. The PGP authorizes chemical and biological pesticide discharges to, over, and near waters of the United States for the following five use patterns:

1. Mosquito and Other Flying Insect or Pest Control
2. Weed, Algae, and Vegetation Control
3. Animal Pest Control

4. Forest Canopy Pest Control
5. Specific Approvals (a pesticide discharge activity not covered by one of the other four patterns, but determined to be within the purpose and intent of the PGP by ADEQ in advance of the pesticide discharge).

For this PQR, Region 9 reviewed Arizona's PGP with a focus on verifying its consistency with NPDES program requirements. The region worked with ADEQ during the development of the PGP. The PGP is nearly identical to the EPA PGP and is fully consistent with federal requirements.

3. Pretreatment

The pretreatment program review assessed the status of the Arizona pretreatment program and assessed specific language in POTW permits. With respect to NPDES permits, the review focused on regulatory requirements for pretreatment activities and pretreatment programs (40 CFR 122.42(b), 122.44(j), Part 403, and 403.12(i)). Two POTW permits with and without approved pretreatment programs were reviewed across the state. Arizona is not classified as a 40 CFR 403.10(e) state.

As part of this PQR, EPA reviewed:

- The streamlining rule implementation status of regulatory requirements from the 2005 revisions to the pretreatment regulation (40 CFR Part 403).
- Database entry consistency for pretreatment categories.
- Adherence to the Compliance Monitoring Strategy (CMS) program policy for frequency of regional and state reviews of POTW pretreatment programs.
- Arizona has 16 approved POTW programs with approximately 300 significant industrial users (SIUs). Approximately five SIUs discharge to POTWs without approved pretreatment programs. The state does not have special programs for mercury; voluntary dental amalgam; pharmaceutical take-back; fats, oils, and grease (FOG); or removal credits. The state is currently under a rule moratorium with no specific end date. Therefore, ADEQ has been unable to update its pretreatment regulation to come into compliance with the streamlining rule.
- The state has conducted three pretreatment compliance inspections (PCI) and one pretreatment compliance audit (PCA) within the past five years. The state has met its goals for compliance monitoring inspection frequency for the past two years although no inspections have been conducted on the five SIUs discharging to POTWs without approved pretreatment programs. Previously, the state was not meeting its goals because of insufficient staffing resources.
- Both permits reviewed for the PQR required pretreatment programs. The permits contain standard pretreatment boilerplate language that meets all federal requirements. The fact sheets adequately describe the programs for each of the permits and municipalities. For one permit, the fact sheet states that two of the municipalities discharging to the POTW have approved pretreatment programs, while the permit requires the third municipality to

submit a program to ADEQ for approval within a specified time frame. For the second permit, the fact sheet states that the city submitted its pretreatment program in 2006, although the permit required the city to resubmit the pretreatment program to ADEQ within a specified time frame due to changes in the program since 2006. It was unclear from the fact sheet whether ADEQ had previously approved the program. ADEQ staff informed EPA that the pretreatment program for the City of Goodyear has not been approved.

4. Stormwater

The NPDES program requires stormwater discharges from certain MS4s, industrial activities, and construction sites to be permitted. Generally, EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s, industrial activities, and construction activities.

ADEQ has eight individual MS4 permits, a general permit for small MS4s, a construction general permit, a multi-sector industrial stormwater general permit, and a general permit for industrial activities associated with mining. All permits are current with the exception of the small MS4 permit, which has been expired since December 2007.

EPA reviewed the expired small MS4 general permit and the City of Tucson MS4 permit. EPA's review of the Tucson permit found that the permit meets all minimum requirements of EPA's stormwater program for large and medium M4s (40 CFR 122.26). The permit contains measurable goals and requirements for program assessment. Of note, the permit contains specific measurable goals for elimination of illicit discharges, an escalated enforcement protocol, specific targeting of groups for public outreach/education, targets for review of sediment and erosion plans, inventory of municipal facilities, and targets for industrial inspections. The permit requires submittal of an annual report to track measurable goals. The permit adequately requires the city to effectively control the discharges of pollutants from industrial sites and construction sites to the MS4. The permit requires the city to perform specific activities that constitute an effective program, including requirements to develop and maintain an inventory/list/database of facilities that have the potential to discharge pollutants to the city's storm sewer system; to conduct inspections of industrial and construction sites; to implement compliance and enforcement measures to ensure best management practices (BMPs) are utilized; to review plans for construction sites; and to notify ADEQ of non-filers.

Some areas, especially with regard to post-construction controls, lack specificity and rely heavily on permittees to develop BMP requirements in the Stormwater Management Plan (SWMP). The permit requires the city to continue to implement the existing SWMP and to submit a revised SWMP within 1 year. The time frame for complying with the updated SWMP is not specifically stated in the permit; however, Appendix A of the permit requires reporting of all measurable goals that are to be established in the updated SWMP, and this therefore requires full implementation of the updated SWMP by the submittal date of the second annual report.

The small MS4 permit was last issued in 2002. The permit meets the minimum standards of EPA's stormwater program for small M4s (40 CFR 122.26). It contains general requirements and relies heavily on the permittee to develop specific requirements and measurable goals in the

SWMP. ADEQ has developed a model SWMP, including measurable goals. ADEQ has begun the stakeholder process to renew the small MS4 permit.

IV. SPECIAL FOCUS AREA FINDINGS

The region selected several focus areas, including RP analysis, enforceability of permits, and Low-Impact Development requirements in MS4 permits as special focus areas.

A. Reasonable Potential

EPA's regulations at 40 CFR 122.44(d)(1) require that all effluents be characterized to determine the need for WQBELs in the permit. A permit writer must determine whether the discharge causes, has the reasonable potential to cause, or contributes to an excursion of a water quality criterion.

The focus of the review is to verify that:

- The state has a procedure in place to determine RP
- Permit writers follow the state's procedure
- Fact sheets properly document the analysis
- The analysis uses correct data inputs, statistical procedures, and water quality criteria
- Necessary effluent limits are properly incorporated into permits based upon the results of the RP analysis.

Nine permits were reviewed for RP documentation, two of which were reviewed in detail. ADEQ has developed RP calculation spreadsheets, which were also reviewed. ADEQ has very good documentation of RP analysis in its permit fact sheets. The fact sheets state that the procedures used to determine RP are outlined in the *Technical Support Document for Water Quality-based Toxics Control (TSD)* (EPA/505/2-90-001). The TSD is EPA's recommended statistical procedure to determine RP, although states may develop their own approaches. The documentation in the fact sheets demonstrates ADEQ's adherence to the TSD approach. All the fact sheets reviewed contain an RP table with a list of pollutants of concern. The table provides a list of the most stringent applicable WQs, a summary of available effluent data, the estimated maximum value of effluent data based on statistical analysis, and the RP determination for each pollutant. The RP table provides clear documentation of the RP procedure and results.

Several elements of the RP procedure are not fully discussed in the fact sheet. The fact sheets do not discuss how pollutants of concern are initially selected or how non-detect data are used. ADEQ indicated, however, that typically all available data are evaluated. For organic pollutants, only detected values are entered in RP spreadsheets. For metal pollutants, all the data are entered in spreadsheets. Where all the data are non-detect, ADEQ uses one-half the detection value for the calculation. At times, the fact sheet does not specify whether the final effluent limit was based on the more stringent of water quality- or technology-based effluent limits, although this could be inferred from the results of the table. Overall, EPA finds that ADEQ's RP analysis procedures are sound, but in some cases they should be more carefully documented in fact sheets.

B. Enforceability of Permits

EPA's regulations at 40 CFR 122.44(i) and 122.48 require that permits establish monitoring and reporting conditions to ensure compliance with the effluent limits and standards of the permit.

The focus of the review is to verify appropriate monitoring locations, correct expression of effluent limits in permits, appropriate monitoring frequency, analytical methods, and reporting requirements for compliance with numeric effluent limitations. Additionally, for non-numeric permit conditions, which may include special studies, compliance schedules, ambient monitoring, interim limitations, and the like, the focus is to ensure the permit contains clear language with sufficient specificity to monitor progress and inform compliance determinations following permit issuance.

Nine permits were reviewed for enforceability, two of which were reviewed in detail. All the permits contain specific monitoring locations and requirements. All of them establish effluent limits at the outfall location with no allowance for dilution. Neither in-stream monitoring nor ambient monitoring is required. All the permits specify that EPA-approved analytical methods must be used. For the hatchery permit, where a variance for nutrients is established, the permit establishes interim effluent limitations and the fact sheet describes additional steps the hatchery will adopt to further reduce nutrients. Though it is not required, the hatchery permit does not contain a specific compliance schedule or specific milestones beyond the requirements for the interim limits. No other issues that could negatively affect the enforceability of permits were identified through EPA's review of these nine permits.

C. Low-Impact Development

EPA's stormwater regulations require that MS4 permits establish controls to the maximum extent practicable (MEP) and protect water quality (40 CFR 122.34).

EPA's stormwater regulations require development of a SWMP that includes a post-construction component to address stormwater runoff at the completion of construction of new or redevelopment sites disturbing one or more acres (40 CFR 122.26(d)(2)(iv)(D), 40 CFR 122.23(b)(5), 40 CFR 122.23(b)(5)).

The region has prioritized the use of Low-Impact Development (LID, alternatively "green infrastructure") to reduce pollutants and the detrimental impacts from the increase in impervious surfaces at newly developed and redeveloped sites. EPA Region 9 is emphasizing LID as a preferable approach to treating and reducing stormwater flow to MS4s and advocating its inclusion in MS4 permits. Region 9 has concluded that LID is an approach to stormwater management that is cost-effective, sustainable, and environmentally sound. The effectiveness of landscape-based treatment for stormwater is generally superior to the "conventional" treatment often used for post-construction controls because landscape-based treatment can remove a broader range of pollutants in a more robust and redundant fashion than conventional treatment BMPs. In addition to reducing downstream water quality impacts, LID approaches can achieve multiple environmental and economic benefits such as enhanced water supplies, cleaner air, reduced urban temperatures, increased energy efficiency and other community benefits such as

aesthetics, recreation, and wildlife areas. Region 9 is advocating the inclusion of clear, specific, and enforceable performance standards for LID in municipal stormwater permits.

The Tucson MS4 permit and the small MS4 general permit were reviewed for LID permit language. The 2002 general permit for small MS4s does not contain any requirements that MS4s evaluate or incorporate LID practices for new and redeveloped sites. The Tucson MS4 permit includes a requirement that the permittees conduct an assessment of LID, but it does not contain any requirements that the permittee incorporate LID controls into new or redeveloped sites.

V. ACTION ITEMS

This section provides a summary of the main findings of the review and offers proposed Action Items to improve Arizona’s NPDES permit programs. This list of proposed Action Items will serve as the basis for ongoing discussions between Region 9 and Arizona, as well as between Region 9 and EPA headquarters. The discussions should focus on eliminating program deficiencies to improve performance by enabling the timely issuance of good-quality, defensible permits.

The proposed Action Items are divided into three categories to identify the priority that should be placed on each Item and facilitate discussions between regions and states:

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

The critical findings and 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 EPA’s program management.

The action items include discreet actions to bring ADEQ attention to the permitting improvements needed to ensure permit and fact sheet quality. In addition, Region 9 will continue to review a significant percentage of draft AZPDES permits each year, including the next round of the specific permits reviewed for this PQR, to ensure these issues are addressed.

A. Basic Facility Information and Permit Application

The AZPDES fact sheets and permit files reviewed provide a good level of facility information on which to base permit requirements. In general, the permit applications appear to be appropriate, timely, and complete. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- To ensure permit terms do not exceed five years, as required by 40 CFR 122.46, EPA will meet with ADEQ to ensure that ADEQ will implement quality assurance/quality control (QA/QC) measures in the permit development process. (Category 1).
- To ensure that all permit applications include appropriate treatment information, process flow diagrams, and data and that application information remains available in the permit files, EPA will meet with ADEQ to clarify how these requirements will be addressed during permit QA/QC review. (Category 2).

- EPA will recommend that ADEQ provide additional information in the fact sheets on the frequency of actual discharge and the reuse of effluent where this occurs (or, alternatively, reference existing documents that provide such information). (Category 3).

B. Technology-based Effluent Limitations

In general, the AZPDES permits reviewed properly implement TBELs for municipal and non-municipal facilities. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- To ensure that applicable ELGs are fully implemented in final permits as required by 40 CFR 405-471, EPA will meet with ADEQ to ensure permit writers and managers understand the requirement to incorporate ELG requirements. (Category 1).

C. Water Quality-Based Effluent Limitations

The permits reviewed include WQBELs, and the fact sheets and permit files document the basis for these limits. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- EPA will meet with ADEQ to ensure that permit writers and managers are aware of the requirements to include in permit files the most current RP and limits spreadsheets (or properly reference such information if located elsewhere) and to incorporate final limits consistent with the calculations in the spreadsheets or otherwise explained. (Category 2).

D. Monitoring and Reporting

Monitoring and reporting requirements in the permits reviewed generally appeared to be consistent with program requirements. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- No Action Items for monitoring and reporting were identified.

E. Special and Standard Conditions

The standard conditions reviewed were consistent with federal requirements, and the special conditions appeared to be appropriate and reasonably documented. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- No Action Items for special and standard conditions were identified.

F. Administrative Process (including public notice)

The permits reviewed appeared to be compliant with the administrative process requirements. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- EPA will meet with ADEQ to ensure that comments and responses to comments are included in the permit files, if applicable. (Category 2).

G. Documentation (including fact sheet)

The fact sheets reviewed were of very good quality, and the permit files were generally found to be complete. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- Although the fact sheets explain that TBELs and WQBELs are compared and the more stringent limit is placed in the permit, EPA recommends that ADEQ include in the permit file (or alternatively identify or reference) documentation of the comparison of TBELs and WQBELs. (Category 3).
- EPA will meet with ADEQ to ensure that facility categorization information clearly addresses whether a facility or discharge is a new or existing source where applicable. (Category 2).
- EPA will meet with ADEQ to ensure that where limits are developed on a case-by-case basis based on BPJ, permit documentation describes the basis for such limits and consistency with 40 CFR 125.3(d). (Category 2).
- EPA will meet with ADEQ to recommend including in the fact sheet or file a justification for internal monitoring points. (Category 2).
- Although the fact sheet discussion references the TSD procedures for identifying pollutants of concern, EPA recommends adding more specific discussion of how pollutants of concern are determined. (Category 3).
- EPA will meet with ADEQ to recommend including in relevant fact sheets additional discussion of whether and how antidegradation requirements apply to a specific permit and of the level of antidegradation review conducted. (Category 2).
- EPA will meet with ADEQ to recommend including in relevant fact sheets additional discussion of how the anti-backsliding requirements at 40 CFR 122.44(l) were satisfied. (Category 2).
- EPA recommends referencing the RP and limits spreadsheet in fact sheets. (Category 3).
- In cases where the facility falls just below the ELG size threshold, EPA recommends that the permit writer consider, as appropriate, ELG requirements based on BPJ analysis. (Category 3).

H. Core Topic Areas

Proposed Actions Items for core topic areas are provided below.

1. Nutrients

The permit review indicated that nutrients limits and monitoring were correctly established in permits. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- EPA should take action on ADEQ's "Draft Narrative Nutrient Standard Implementation Procedures for Lakes and Reservoirs" (April 2008) submitted to EPA in January 2009.

2. Pesticide General Permit

The permit review indicated the PGP meets federal requirements. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- There are no Action Items for the PGP.

3. Pretreatment

The permit review indicated that permits have been conditioned properly with pretreatment language. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- As required by 40 CFR 403, ADEQ must update its pretreatment regulation to come into compliance with the streamlining rule. (Category 1)

4. Stormwater

The permit review indicated that the stormwater permits meet federal requirements. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- There are no Action Items for stormwater permits except as noted in Special Focus Areas below.

VI. Special Focus Areas

Proposed Actions Items for special focus areas are provided below.

A. Reasonable Potential

The fact sheets contain clear documentation of the RP results and process. ADEQ uses EPA's recommended statistical procedures as documented in the TSD, and no issues regarding the RP determination, documentation, or translation of RP results into effluent limits were found. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- To improve clarity in the fact sheets, EPA recommends that the fact sheets include a description of how pollutants of concern were selected and specify whether the final effluent limit in the permit is a water quality-based or technology-based effluent limit. (Category 3).

B. Enforceability of Permits

The permits were found to contain enforceable provisions for monitoring, outfall locations, analytical methods, and monitoring frequency. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- There are no Action Items for enforceability of permits.

C. Low-Impact Development

The MS4 permits reviewed do not contain clear, measurable, and enforceable requirements to implement LID requirements for new and significant redevelopment. Proposed Action Items to help ADEQ strengthen its NPDES permit program include the following:

- R9 will meet with ADEQ during the reissuance of the MS4 permits to recommend that the permit contain measurable and enforceable standards for LID. (Category 3)