

**WESTCAS**  
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June 18-20, 2012

*“WESTCAS at Twenty:  
Past, Present and Future”*

**State Reports**



*“The Voice of Water Quality in the Arid West”*

## WESTCAS STATE REPORT

**STATE:** Arizona

**NAME OF PRESENTER:** Jeremy Mikus for Jim Kudlinski

**DATE:** June 2012

### **NEWS EVENTS SINCE LAST CONFERENCE:**

#### ADEQ's New Deputy Director

In November 2011, ADEQ Director Henry R. Darwin named Misael Cabrera as the new Deputy Director. Cabrera, a registered professional engineer, accepted the position after working for almost 20 years as a consultant in the Phoenix metropolitan area. Cabrera's previously worked as a senior engineer/project manager for Haley & Aldrich, AMEC and CH2M Hill before accepting the position.

When Director Darwin publically announced Misael Cabrera's selection, he stated that Misael will be tasked with revitalizing ADEQ's air, water and waste permitting programs to make them more business friendly, (i.e., reduce turn-around times and costs associated with permitting). Since his appointment Cabrera has held two stakeholder working sessions to streamline the permitting application and renewal requirements for Aquifer Protection and Clean Air Act permits.

#### Border Cleanup

On January 28<sup>th</sup>, 123 volunteers collected more than 10,000 lbs of trash from the Santa Cruz River near Nogales. The event co-sponsored by the Arizona Department of Environmental Quality, Friends of the Santa Cruze River, Anza Trail Coalition, Rio Rico Properties and Santa Cruze County.

About half of the volume of trash was believed to be discarded by persons who illegally crossed the U.S. border in the area. The cleanup was one of several that ADEQ coordinates along the U.S. Mexico border each year to address the growing problem of illegal aliens discarding trash along emigration routes into the U.S.

### **KEY WATER ACTIVITIES INVOLVING STATE LEGISLATURE, STATE AGENCIES, FEDERAL AGENCIES:**

#### House Bill 2199

On April 12<sup>th</sup>, Governor Jan Brewer signed House Bill 2199 (HB2199). This new law provides an incentive for regulated industries to investigate and correct deficiencies or noncompliance issues. HB2199 provides that an environmental audit report prepared by a company's auditor or consultant is inadmissible as evidence and is not subject to discovery in a civil action or administrative proceeding. HB2199 benefits both the regulated community and the environment by encouraging businesses to take a detailed look at their overall compliance profile and take upfront corrective action, if needed.

### Senate Bill 1289

On April 12<sup>th</sup>, the Governor signed Senate Bill 1289 (SB1289) which amended the statute that authorizes the Arizona Department of Environmental Quality (ADEQ) to develop and implement an AZPDES permit program consistent with the requirements of sections 402(b) and 402(p) of the CWA. SB1289 will now allow ADEQ to develop a state-specific construction general stormwater permitting program that will provide operators with reduced control measures (i.e., BMP's) as long as a site retains all stormwater. To qualify for reduced control measures an operator will be required to provide ADEQ with construction drawings demonstrating that the site can retain all stormwater from a local one-hundred year, two-hour storm event as calculated by an Arizona Registered Professional Engineer.

SB1289 was sponsored by the Arizona Homebuilders Association and was promoted as a means of creating an alternative general permit program to address non-discharging construction sites. Although SB1289 was signed into law, ADEQ has not initiated a stakeholder process to develop the new general permit program.

### ADEQ's Pesticide General Permit

The state's new Pesticide General Permit (PGP) became effective on February 6, 2012, and authorizes operators to apply pesticides "to" or "over" including "near" or "at water's edge adjacent to" Waters of the U.S. (WOTUS) under four general use patterns.

Although the PGP largely tracks EPA's permit there are several state-specific differences between the two permits; specifically:

- NOI's are required for any quantity of pesticides applied to WOTUS.
- NOI's are not required for any WOTUS that only have agricultural irrigation and livestock watering (Agl/AgL) designated uses.
- Pesticide Discharge Management Plans only have to be prepared if an operator exceeds an Annual Treatment Area (ATA) threshold.
- No ESA evaluations.
- Operators must pay an initial NOI filing fee and annual fees to retain coverage.  
(\$500 Area Wide; \$250 Single Source Coverage)

Since inception, ADEQ has received only 30 NOI's from operators seeking coverage (18 Areawide; 12 Single Source). However, ADEQ reports that there is no way of knowing how many other permitted discharges are occurring given the structure of the permit and that not all eligible discharging activities are required to submit an NOI.

### ADEQ's Revised Construction General Permit (CGP) 2013

On June 6<sup>th</sup> ADEQ held its 9<sup>th</sup> and final bi-weekly working group meeting with industry stakeholders. ADEQ intends to Public Notice the replacement permit during the month of August or September and issue the Final CGP in early February 2013.

Several new Arizona CGP terms and conditions include:

The addition of EPA's 2009 non-numeric Construction and Development Effluent Limitation Guidelines, and

Two new options that allow operators to submit a Notice of Termination (NOT) without meeting the permit's "final stabilization" requirements:

Option A allows site operators that have retention capacity that meets or exceeds the 100 year/2 hour storm event to submit a Notice of Termination (NOT) without having to meet the final stabilization requirements. This option was incorporated from SB1289.

Option B allows site operators to submit a NOT without meeting final stabilization requirements if they can demonstrate that the site's post-construction stormwater flows are equal to or less in volume and pollutant loads than pre-construction flows.

Operators choosing to use Option A or B will have to provide documentation (calculations) from an Arizona registered professional engineer, geologist or landscape architect with the NOT.

The draft CGP is available at <http://www.azdeq.gov/environ/water/permits/cgp.html>

#### ADEQ's Proposed General Discharge Permits

On September 16<sup>th</sup>, ADEQ Public Noticed the *Infrequent Discharger General Permit*. When finalized the permit will allow eligible WWTP operators (design flow < 20MGD) to discharge on an infrequent basis (no more than two times per calendar year with a duration of no more than 14 consecutive days and at least 30 days between each discharge event) to waters of the U.S.

On November 25<sup>th</sup>, ADEQ Public Noticed the *Minor (<1 MGD) Domestic Wastewater Discharge General Permit*.

To date, ADEQ has not finalized either permit. ADEQ reports that they received significant comments during the Public Notice periods, but expect to issue the final general permits by Mid-June or early July.

ADEQ is still developing a *Biosolids General Permit* and plans to hold one more stakeholder meeting in fall before starting the Public Notice period.

Work to develop a *Groundwater Remediation System General Permit* and *Riparian Habitat Restoration General Permit* is currently underway. ADEQ intends to initiate the stakeholder participation process sometime in the fall with final permits issued in mid-2013.

The *Arsenic Treatment Plant General Permit* was canceled due to issues with chlorine limits and the lack of stakeholder interest.

#### Draft 303(D) Report

On January 13<sup>th</sup>, ADEQ Public Noticed the Draft 2010 Status of Water Quality in Arizona 305(b) Assessment and 303 (d) Listing report. The public comment period ended on April 2<sup>nd</sup>. ADEQ is currently summarizing and preparing their response to comments and expects to Public Notice the final draft for 45 days in mid- to late June. After the second comment period (which is only open to commenters who participated in the initial period) ADEQ will submit the draft final report to EPA for approval.

Additional information is available at <http://azdeq.gov/environ/water/assessment/assess.html>

## WESTCAS STATE REPORT

**STATE:** California

**NAME OF PRESENTER:** Alan Dyer

**DATE:** June, 2012

### **CURRENT UPDATES/CALIFORNIA WATER ISSUES:**

At the present time, California ends the water year on a dry note. The final statewide Sierra Nevada snow survey of the season was only 40 percent of average for spring to summer. California's winter season was dry with a lower than normal precipitation. Rainstorms that finally arrived in March and April was too little too late. The importance of a heavy Sierra snowpack is that it provides about one third of the state's water. End result? Deliveries to local retailers through the State Water Project will only be a sixty percent allocation. Climatologists in California are hoping for a "La-Nina" weather pattern which involves the abnormal warming of surface water in the eastern tropical Pacific Ocean that can deliver heavy rains in the southwest region. When it comes to California water, it's either feast or famine. So, when water agencies get a lot of rainfall, they store as much water as they can underground (water banking) for emergency use during drought conditions.

### **CALIFORNIA BAY DELTA CONSERVATION PLAN UPDATES:**

As previously reported in a WESTCAS California State Report, a new water plan in California – The Bay Delta Conservation Plan or BDCP, is taking shape in order to carry out an important redesign of California's water system. Currently, the plan includes (a) a significant habitat restoration, (b) a new conveyance facility that would protect California's water supply from the aging Delta levees (weak infrastructure) – moving state project water either around or underneath the Delta.

This new infrastructure will be designed to withstand earthquakes, floods and rising sea levels and it would be operated under the nation's toughest environmental standards. This public work's project could boost the state's economic plight by generating nearly 130,000 new jobs during construction. Again, the California water industry is trying to balance the needs of people, industry and environmental agencies in a collaborative, cooperating manner in order to meet the state's growing population demand for water.

### **LOCAL/STATEWIDE "WATER TAP" NEWS:**

- (a) California Department of Resources report that the Bay Delta "Fix" Flood-Control Plan calls for \$17 billion in repairs. More than half of 300 miles of aged urban levees do not meet modern design criteria according to newly released analysis. Moreover, 60 percent of 1,230 miles of non-urban levees have a high potential for failure from under-seepage, through-seepage, structural instability, and/or erosion.
- (b) California Water Rate – Payer Revolt: Aging water infrastructures (well replacement/ seismic retrofits) are blamed for water bill hikes. Grant monies for repairs are becoming scarce. Water agencies are being forced to raise water rates 12 to 24 to 132 percent from public and private water companies like Golden State Water Company and American

States Water in southern California. The proposed increases are because of sustaining higher power costs for pumping and treating water.

- (c) California Water Legal Updates: San Bernardino and Riverside County Water Agencies within a “taskforce” are still challenging the habitat protection for the listing of the Santa Ana Sucker fish. The U.S. Fish and Wildlife has designated 9,331 acres of critical habitat to ensure the survival of the fish. However, the “taskforce” water agencies believe that the U.S. Fish and Wildlife decision has not been based upon accurate scientific evidence, thereby, disrupting water supplies to wholesale and retail water agencies in the southern California “Inland Empire” regions. Also, regarding federal legal issues with water, the House recently passed HR1837, by Rep. Devin Nuney, R – Visalia, CA, a bill that would guarantee water supplies to central California valley farmers and redirect more water from the Sacramento-San Joaquin Delta to agriculture. The bill would also under a 2006 legal settlement to restore the San Joaquin River and exempt new water infrastructure projects from state environmental land. Many water officials from California and states from Oregon to Texas oppose the Bill because it intrudes on water rights and allocation choices – matters traditionally decided by states. The consensus in the water community is that the Senate should kill this piece of legislation.
- (d) Mojave Desert Water Recovery and Storage Project: The Cadiz Inc., Project – 2<sup>nd</sup> Proposal: The University of Redlands has hosted academic lectures from several key technical and scientific experts who have worked on the proposed Cadiz Valley Water Conservation, Recovery and Storage Project to acquire public support for the proposed ground water project. The Cadiz Inc. owns approximately 34,000 acres of land in eastern San Bernardino County where the proposed project would be located. The project is proposing to capture an annual average of 50,000 acre-ft. per year of water from the groundwater basin and convey this water supply to water providers throughout the southern California region for a period of 50 years. Once the project is approved and implemented, extraction wells would be installed on Cadiz property and a 43 mile underground water pipeline would be constructed within an active railroad right-of-way that intersects the Colorado River aqueduct. However, I wonder why the first proposal failed? Any ideas?
- (e) California Water Conservation News – Wind & Solar Energy Cost-Savings Programs:
  - (1) The Rancho California Water District expects to save almost \$9 million in power costs over the next 25 years by installing solar panels at its headquarters and largest pump station. The panels will follow the sun’s movement and increase sunlight capture by 25 percent. Funding for the project comes from federal bonds tied to the 2008 economic stimulus and issued to promote alternate energy use by public agencies. The district expects to get more than \$3 million in rebates through a southern California Edison program.
  - (2) Another southern California water agency will save money on its water recycling plant using wind power. The Inland Empire Utilities Agency in Rancho Cucamonga recently hit the “on” switch during the windy season to generate 2.2 million kilo watt hours every year, enough to power about 250 average hours. The utilities agency’s plan is to go off the electricity grid by 2020. The three-bladed turbine will generate 20 percent of the energy needed to run their waste water treatment plant.

- (3) Finally, Eastern Municipal Water District (Hemet/San Jacinto Regions) is offering a unique turf buy-back program as a water conservation measure. Water customers must remove existing turf irrigated with potable water from an area between 100 and 10,000 square feet, replace the irrigation system and replant with water-wise plants without using artificial turf. Qualified customers may receive a rebate check for one dollar per square foot of turf removed. The program is budgeted \$100,000.00 funded by Metropolitan Water District.

**CALIFORNIA'S WATER CLEAN-UP ISSUES - CONTAMINATION SITES AND REGULATORY ISSUES – PRESENTER: STEVE BIGLEY, COACHELLA WATER DISTRICT:**

Hinkley, California: The plume of Chromium 6 contamination in this unincorporated community, 8 miles west of Barstow, has grown a mile in a year, according to maps released by the Lahontan Regional Water Quality Control Board. In the 1950's and 60's, Pacific Gas and Electric Co. emptied water containing Chromium 6 from its cooling towers into unlined ponds where it eventually entered the groundwater.

A recent study by James A. Jacobs, a geologist specializing in hydrology, was asked to review the scientific validity of groundwater sampling and said that the methods used have produced data that is "completely worthless." Results? Questions rise over Chromium 6 levels. Both state and federal regulators are working to establish a MCL of Chromium 6 in drinking water. Jacobs is the co-author of "The Chromium VI Handbook," published in 2005. Last year, The State Environmental Protection Agency set 0.02 pp.b as a cleanup goal for Chromium 6, but this is not meant to be considered an enforceable water standard which is likely to take several years to determine.

**CALIFORNIA WATER REPORT SUMMARY:**

California water agencies have made significant gains to conserve water, but are costing rate-payers with higher water fees because of water districts faced with fixed infrastructure costs, energy and treatment costs along with a loss of customer revenues from foreclosed homes, high unemployment and a lagging economy.

Respectfully submitted,

**ALAN DYER**, WESTCAS California State Coordinator  
Past President/Director, West Valley Water District  
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## WESTCAS STATE REPORT

**STATE:** Colorado

**NAME OF PRESENTER:** Mike Eytel for Mary Gardner

**DATE:** June, 2012

### **Nutrients**

The Colorado Water Quality Control Commission held a hearing on nutrient regulations March 12-14. Two sets of regulations were presented; Regulation 85 a technology based standard and Regulation 31 referred to as interim numeric standards. The Commission, after hearing numerous testimony both in favor and in opposition, determined it was appropriate to adopt both regulations.

Since these regulations were very controversial and contentious there were other activities taking place by opposition parties to either block the regulation or have it delayed until further scientific evaluation could be done. Two bills were sent to the legislation. The first one passed the House. The Senate voted against the first bill and an **amended** version. One of the bills proposed a review panel be developed to review the science behind the interim standards. The amended bill was to have the cost of the regulation discussed in more detail. This was somewhat of a weak bill but was still voted down.

At the 11<sup>th</sup> hour the Governor's office sent a letter to the Commission to have the record opened for two items. One, increase POTW exclusions from 500,000 gallons to 1,000,000 gallon facilities and second to extend the deadline of implementation of regulation 85 from June 2012 to July 2013 to investigate means for funding. This is presently open for comment until May 31, 2012.

### **303(d) Listing Methodology**

The work group for discussing 303(d) listing will convene in August to begin discussing criteria for listing in the next cycle. With nutrients on everyone's minds there will be much discussion on how impairment will be determined. This was one of the hot topics associated with developing the nutrient criteria; a concern that based on the new regulations most segments of water bodies would be impaired.

### **Water Quality Forum Retreat**

Each summer the group of stakeholders known as the Water Quality Forum attends a two day retreat to discuss all the upcoming and ongoing issues. The stakeholders consist of wastewater treatment and industrial dischargers, water treatment providers, environmentalists, agriculture, regulators-both state and EPA and other interested parties. With tight economics and more regulation it is expected that this year's retreat might prove to be "interesting".



## WESTCAS STATE REPORT

STATE: Nevada

NAME OF PRESENTER: Mike Fleury for Brenda Pohlmann

DATE: June, 2012

### **Water Projects:**

The Southern Nevada Water Authority (SNWA) is continuing construction of the new \$700 million intake structure to draw raw water from Lake Mead. This will provide SNWA with a third intake designed to draw water from Lake Mead at a depth of 860 feet which is deeper than the two existing water intakes and will provide some insurance in case Lake Mead water levels continue to drop.

A special Tunnel Boring Machine (TBM) is being used to drill a three mile long 20-foot diameter tunnel under Lake Mead. In 2010, SNWA began excavation of a starter tunnel but ran into problems when they encountered a geotechnically unstable area which caused the tunnel to flood three times. They abandoned this original alignment and began a new starter tunnel in early 2011. On June 11<sup>th</sup>, a construction accident occurred in the tunnel when some workers were setting concrete segments. A section of the segments broke loose and struck two workers, killing one and injuring another.

SNWA's Board of Directors recently approved an infrastructure surcharge to pay for large water system projects, including the new third intake. The SNWA Board considered three pricing options and chose the one that had the least impact on residential customers. The SNWA Board also included an amendment setting a reduced fixed-rate for fire meters at 35 percent of the infrastructure charge.

Under the option selected, the charge is based upon the customer's meter size. Typical residential customers are seeing a monthly increase of approximately \$5, while small retail stores are paying about \$36 more for water service. Large customers such as resorts, are facing increases of about \$2,200 per month.

Historically the majority of capital projects were funded through connection charges for new customers. With the economic downturn the area is experiencing, these funds have decreased from \$188 million in 2006 to as low as \$3.2 million in 2010. These rate increases have been extremely controversial since businesses have started receiving their water bills. A number of businesses have complained that their bills have increased significantly more than was indicated.

One example of an organization that was hit particularly hard is a women's shelter called The Shade Tree. Their water bills have increased dramatically, not because they're using more water. Instead, since the bills are based on meter size, a building such as this one which is designed to house a large number of people is being charged a high rate because of fire suppression flow requirements. Many people are upset that they are no longer being charged simply based on how much water they use, but how much water could potentially be used at their business. SNWA is offering to work with individual businesses and organizations that are being particularly hard-hit by the rate increase.

**Wastewater Projects:**

NDEP recently developed a new discharge permit called the “Individual Maintenance Discharge Permit.” This permit has been issued to the Las Vegas Valley Water District, the City of North Las Vegas, and to the City of Henderson. It allows for system-wide discharges of clean water primarily from routine maintenance activities. The types of discharges that are covered by the permit are disinfection of mains, testing of fire hydrants, and storage tank draining for maintenance. In addition, the permit covers unplanned releases from equipment failures and emergencies, water main breaks and leaks, reservoir and tank overflows, and emergency flushing activities.

## WESTCAS STATE REPORT

STATE: New Mexico

NAME OF PRESENTER: Joshua Rosenblatt

DATE: June, 2012

### **Principle Topics in and around the State of New Mexico**

New Mexico is currently facing multiple issues surrounding TMDLs.

#### **PCB Analytical Methods**

The State of NM Environmental Department has issued enforcement actions against local governments based on results of the congener testing for PCBs. The EPA on the other hand has withdrawn the congener method (EPA Method 1668) from rulemaking, so that the Aroclor testing remains the approved testing for PCB concentration in ambient waters. The New Mexico League Environmental Quality Association has finalized a committee level resolution on this matter to be forwarded for full League consideration that re-examination of PCB analytical methods remain based on credible science and technologically achievable standards which are reasonable cost – effective and that any enforcement action based on the congener test results be held in abeyance until scientifically based and analytical methods for PCBs are established.

#### **Nutrients – “How low can you go, at what cost, and will it make a difference anyway?”**

For TMDLs involving nutrients, the NMED uses target nutrient concentrations derived using the eco-region approach. This results in the nutrient effluent limits that are not technologically achievable. The City of Ruidoso spent \$38M to upgrade their WWTP to meet the low nutrient limits, but the new plant cannot meet the limits. At the same time, the sewer bills in Ruidoso have gone up \$100 per month. This same scenario was set to occur in a number of other small NM cities, including Raton, Tucumcari, Taos, Chama. The New Mexico Municipal League requested a working group with NMED to review the derivation of nutrient TMDL target concentrations and propose different approaches. Any other suggested approaches from other states would be very welcome – please contact Kelly Collins.

#### **Storm Water NPDES Permits**

EPA Region 6 recently indicated that when the General Permit for medium and small MS4s expires in 2013, they will replace it with a watershed-based permit developed in the middle Rio Grande. This permit may be applied to “urban clusters” and the 12-digit Hydrologic Unit Code (HUC) that surround them. Previously, the MS4 program applied only to “urbanized areas” – of which there are 4 in New Mexico. However, with this new application of the MS4 program to urban clusters, many more small cities and towns in New Mexico will be required to have MS4 permits than before.

#### **Storm Water BMPs**

Under the storm water program, there is a big emphasis on low impact development (LID) to capture storm water on-site and keep it from discharging into the rivers. One type of BMP for implementing LID is infiltration of storm water. However, many types of infiltration systems

are also considered as underground injection and fall under the UIC rules, which require a groundwater discharge permit. The NMED is completely unprepared for the rush of groundwater discharge permit applications for storm water infiltration that will likely result from the new MS4 permits. Capture and retention of stormwater or rainwater harvesting is contrary to water rights of NM and return flow obligations to Texas and Mexico under the Rio Grande compact through the central part of the state. So here the legal elements of water quality vs. water quantity rise to a head. The NMEQA committee passed on to the Leagues Resolution Committee for consideration a resolution requesting the Office of the State Engineer to develop and adopt rule through formal proceedings standards by which first flush catchments, and infiltration measures in such a manner that does not reduce the amount of runoff that would have occurred under pre-development state providing for conservation, protection of water quality, and maintenance of adequate stream flow to meet downstream compact obligations. Any suggestions of how the UIC regulations for storm water infiltration are handled in other states would be very welcome.

### **Influences of Drought on Permit Limits**

Another TMDL issue on any loading parameter of NPDES permit is the persistent drought to the extent that receiving stream flows have fallen below the initial historical low flows upon which the original permitted limits were established. In some cases zero flows for certain periods of time. At what point is a new average low identified during a drought cycle that would generate a permit change? A violation? Again if any of the membership would comment or share any case history that would be appreciated.

### **Advancing a New Era of State Agency Communications**

Amidst all the emerging contradictory rules between quality and quantity, cost effectiveness and sustainability, Federal and State sovereignty there did emerge in the last meeting of the NMEQA a new sign of increased openness for dialog by the State. Guests presentation by the executive branch of NMED including recent new Cabinet Secretary David Martin, Resource Protection Division Head Jim Davis were very open and each shared concerns about the limited budgets and the urgent need to maintain fiscally responsible environmental protection to the State and indicated commitments to increased dialog and problem solving. The afternoon session included a first time appearance by representatives of the State Engineers Office indicative of the need for more open dialog in the quality vs. quantity issues and there was a public recognition between the two agencies that more interagency communications were needed to reduce and reassess conflicting regulations and an agreement to do so.

The Blue Ribbon Water Task Force was a highly effective committee of water resource experts that had been created by former Gov. Richardson which provided for strategic water resource policy guidance at the cabinet level. Our member at large Charles Nylander served on that task force. Based on the degree of excellence and efficacy of the Task Forces service in the past there was strong support to lobby the Martinez Administration to reactivate the Blue Ribbon Water Task Force to provide for expanded professional expertise capable of providing direct input to the development and review of water resource management policies of the State of New Mexico.

## WESTCAS STATE REPORT

STATE: Texas

NAME OF PRESENTER: Dr. Peggy Glass

DATE: June, 2012

### OVERVIEW

The drought has eased somewhat in Texas. Good rains in late winter and spring have restored soil moisture and eased the stress on vegetation. However, not all areas of the States received sufficient rainfall to refill the water supply reservoirs. Therefore, having sufficient water supply this summer will be serious concern for many communities. There are some major initiatives underway to address this need.

In addition, there a number of water quality issues on which the Texas Commission on Environmental Quality (TCEQ) and U.S. Environmental Protection Agency (EPA) Region VI cannot agree. However, with the departure of Dr. Armendariz as Regional Administrator (as a result of an ill-chosen remark about “crucifying” noncompliant permittees) and a change in the Executive Director at TCEQ, a better opportunity may exist for the two agencies to find common ground. (A step toward resolving the long-standing disagreements between TCEQ and the EPA related to the Texas air quality program was announced on June 7).

Finally, a high-profile activity in Texas involving both water quantity and water quality is “fracking.” There are strata suitable for oil and gas development using hydraulic fracturing in many areas of the state. Finding both a sufficient water supply and a way to dispose of the residual fracking water is a challenge in all of these areas.

### *WATER QUANTITY ISSUES*

In an effort to resolve water supply concerns, two topics are currently receiving much attention: direct potable reuse and importation of water from Oklahoma. Two communities (Big Spring and Brownwood) are proposing to build direct potable reuse systems that have very limited detention time and limited dilution between the effluent discharge and water intake. TCEQ is struggling with coming up with a policy on the technical requirements for such a system.

The Tarrant Regional Water District (TRWD) is seeking to obtain water from within the State of Oklahoma. TRWD believes it is entitled to this water pursuant to the Red River Compact, an interstate agreement between Texas, Oklahoma, Arkansas, and Louisiana. Oklahoma has adopted laws that prohibit the Oklahoma Water Resources Board from issuing permits for out-of-state water use. TRWD has sued Oklahoma over these water embargo laws. The Tenth Circuit has ruled in favor of Oklahoma. TRWD is now seeking to appeal the case to the Supreme Court.

### *WATER QUALITY ISSUES*

The major water quality issues that have not been resolved between TCEQ and EPA are nutrients, whole effluent toxicity (WET), and pH. Each of these is summarized below. In addition, TCEQ has begun work on the next revision to the water quality standards (even though many of the standards adopted in 2010 have not yet been approved by EPA). TCEQ has targeted October 2013 as the date when the next revisions will be adopted.

## **Nutrients**

In 2010, TCEQ adopted numeric criteria for chlorophyll-*a* for 75 reservoirs. The criteria range from 5 micrograms per liter (ug/L) to 55.8 ug/L and are based on historical data. None of these criteria have been approved by EPA. TCEQ is concerned that EPA will not approve them because there are no corresponding criteria for phosphorus and/or nitrogen, and EPA does not want to establish a precedent.

In the meantime, TCEQ is beginning work on numeric criteria for streams and estuaries. The target date for adoption of these criteria is 2016. For several years, TCEQ has been conducting studies to assist in determining what parameters to use for the criteria and how to calculate appropriate criteria. Possible parameters include water column chlorophyll-*a*, diurnal dissolved oxygen fluctuations, biological indices, and periphyton, in addition to nitrogen and phosphorus. No proposed criteria have been identified yet.

In addition to developing permit limits for nutrients based on the numeric criteria that have been developed for specific water bodies, permit limits are developed using TCEQ guidance adopted in 2010 and set forth in Procedures to Implement the Texas Surface Water Quality Standards, referred to as the IPs. The IPs provide screening criteria that are used to determine if nutrient limits should be established in a permit and, if so, at what level. Dischargers to all water bodies are subject to these screening criteria. EPA has neither approved nor disapproved these IPs. However, they have expressed concern about two primary provisions:

- The screening procedures establish effluent limits that are, for the most part, technology-based. The IPs state that, typically, a limit of 0.5 milligrams per liter (mg/L) for phosphorus will be implemented for all but small discharges, which will usually have a limit of 1.0 mg/L limit. The IPs further state that higher or lower limits may be recommended based on site-specific mitigating factors. EPA commented that effluent limits of 0.5 mg/L may not be sufficiently protective.
- TCEQ proposes to screen only new or expanding discharges. EPA commented that permit renewals also should be screened.

## **Whole Effluent Toxicity**

The IPs adopted in 2010 include the following provisions related to WET:

- A general discussion of an approach to the Reasonable Potential (RP) determination,
- Flexibility regarding the nominal error rate used in data analysis,
- Deletion of the requirement for Toxicity Reduction Evaluations (TREs) in permits with a WET limit,
- Removal of WET limits from a permit if there were no test failures in three years based on quarterly testing, and
- Permit limits based on three test failures

EPA objected to all of these, and other, provisions and disapproved the WET section of the IPs.

TCEQ submitted a revised draft of the WET section of the IPs this year. No official response has been received from EPA yet, but there has been an unofficial comment that they are not yet satisfied with the RP procedure.

TCEQ is currently moving forward with a proposal to change the permit endpoint from No Observed Effect Concentration (NOEC) to IC<sub>25</sub>. They are also considering developing a permit limit based on a median of test results rather than a single test failure.

## **pH**

TCEQ has always set permit limits for pH at 6.0 to 9.0 based on the federal secondary treatment standards for wastewater treatment facilities. Water quality standards for the receiving waters are set based on existing conditions, and the lower limits can range anywhere from 5.5 to 6.5. EPA has expressed concern regarding those permits with a pH limit of 6.0 when the water quality standard lower limit is 6.5.

Consistently maintaining a pH limit of 6.5 is difficult for permittees with stringent limits for ammonia. The nitrification reaction consumes alkalinity, which results in a decrease in pH. TCEQ has proposed an approach to EPA in which mixing zone models using default values for background water quality would be used to determine permit limits for larger discharges to perennial waters. For small discharges and discharges to intermittent, unclassified waters, it would be assumed that pH limits of 6.0 – 9.0 are protective. EPA has expressed concerns about these approaches. EPA commented that there is no evidence that pH limits of 6.0 to 9.0 for small discharges and discharges to intermittent waters are protective, and site-specific background data should be used in the mixing zone models.