The Customer Services Division (CSD) staff members perform a variety of tasks. Whether running lab tests, designing posters, assisting a new business to locate in Oklahoma or fielding phone calls from small communities that need help, CSD employees assist both internal and external customers.

The State Environmental Laboratory (SEL) provides analytical support for DEQ, other state agencies and Oklahoma’s public water supply systems. SEL processes about 30,000 bacteriological samples and 21,000 chemical samples every year. SEL staff ensure quality data and analysis.

The customer assistance programs support other divisions and provide assistance to businesses and small communities. Staff members often team up with other divisions to perform a wide variety of outreach and emergency response efforts for businesses and towns throughout Oklahoma.

The publications department, including its graphic artists, design and create numerous publications each year that are widely distributed throughout Oklahoma. In fact, the publications team designed this annual report.
The Metals Unit of the State Environmental Laboratory (SEL) developed new methods in 2008, in response to the analytical needs of several internal laboratory customers. A semi-automated method to digest and analyze soil samples was implemented to support the Land Protection Division’s (LPD) Blackwell Zinc Project. The second method involved a direct analysis technique to measure mercury in fish tissue as part of the Air Quality Division’s (AQD) mercury monitoring survey of Oklahoma lakes.

To implement the new methods, planning meetings were held and Project Data Quality Objectives (DQOs) were clearly established. Timelines were negotiated. Laboratory personnel researched and evaluated new methodology. Analytical procedures were
drafted and put to the test. Parallel studies were done comparing the accuracy and precision of data that was generated using the new methods, as compared to data generated by traditional ones. Following a series of experiments, key laboratory customers were brought in for a “dry run demonstration” of practice samples, which were analyzed. Once it was determined by all parties that all project DQOs could routinely be met, the project went live.

The successful net result of this type of planning and expansion of laboratory capabilities was recognized on several levels:

- Based on third-party concerns, LPD and AQD were able to get quality data that met their specific project requirements.
- The laboratory was able to increase by a factor of five its sample throughput for these types of samples while improving analytical sensitivity 50 percent.
- Laboratory customers were able to receive their data in a timeframe that would have previously been impossible using traditional methodology.
- In the case of Blackwell Zinc, the SEL was able to increase analytical diversity and process a record number of samples with a negligible error rate. Both parties recognized the importance of establishing and maintaining strong working relationships that emphasize planning and communication that take into consideration the challenges faced by project managers inside and outside the laboratory.

Development of cooperative relationships with SEL customers allows the laboratory to meet customer needs and maximize effectiveness by providing the best possible data for use in agency decision making.

**Did You Know?**

There are about 17 million households in the U.S. that use water from private wells.

*Operator’s Companion by USA BlueBook 6th Edition/Harry Von Huben, Editor*
In February 2007, DEQ received a complaint from a citizen concerned about uranium in a private drinking water well. Upon investigation, levels of arsenic, selenium, and uranium were found above the Environmental Protection Agency (EPA) EPA Maximum Contaminant Level (MCL), the highest level allowed in drinking water. Customer Services personnel researched the source of the contamination and found deposits of naturally occurring arsenic, chromium, selenium and uranium within the underground Central Oklahoma Aquifer, which consists of the Chase-Admire Formations and the Garber-Wellington Formations.

In the past, the U.S. Geological Survey and DEQ have conducted studies to determine the prevalence of these four metals in the Central Oklahoma Aquifer. Based on the results, predictions cannot be made as to areas of the aquifer where the concentrations of metals may exceed the MCLs. DEQ responded by creating a fact sheet to help citizens understand the problem and by offering reduced-cost water analysis of these four metals.

In addition, DEQ staff investigated 125 public water systems across nine counties. Fourteen systems had at least one well with concentrations of uranium greater than the MCL of 30 ug/L (ppb). DEQ is working with those systems to develop treatment options to reduce the amount of uranium in the water.

To date, DEQ has received samples from 76 private water wells from the potentially impacted area. Analysis found 26 were above the MCL for uranium, 10 for selenium and 10 for arsenic. In all, 89 percent of the elevated samples were from Logan County, prompting further educational efforts in this area. DEQ held a public meeting on April 3, 2008 at the Logan County Rural Water District #2 office to provide additional information and assistance to citizens.
Every county in Oklahoma has a Local Emergency Planning Committee (LEPC). LEPCs were created by federal law and have many responsibilities including planning for emergencies, providing information to the public on chemicals in their county and training local first responders. Unfortunately, the federal law did not provide any funding to LEPCs to carry out these important duties. Over the years, LEPCs have struggled to make ends meet.

In 2006, DEQ passed rules which resulted in two major changes that benefited county LEPCs. First, the reporting of chemicals on a hazardous chemical inventory, which used to be mailed to DEQ, LEPCs and fire departments, was changed to online electronic filing. Now, LEPCs could get information on chemicals in their county directly from DEQ in an electronic format rather than hundreds of individual pieces of paper from each facility in the county. The change meant that LEPCs no longer had to spend valuable resources filing paper and entering data into computer databases by hand. With the chemical information readily available, LEPCs could devote time to using the data to improve emergency plans.

In addition, the new DEQ rules changed the fees paid by facilities that reported chemical inventories. This change allowed DEQ to have the funds to make grants of up to $1,000 to each LEPC. By simply demonstrating that they were providing chemical inventory information to fire departments in the county, LEPCs were eligible for grant funding. As a result, LEPCs across Oklahoma had a stable operating income for the first time. Grants to LEPCs make it possible for these groups to

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conduct planning meetings, exercise the emergency plan and provide information to the public.

DEQ is pleased to be able to lend a hand to volunteers across Oklahoma who spend time and energy serving on LEPCs to ensure their communities are safer. By providing hazardous chemical inventory information to LEPCs in a form that is easy to manage and use, DEQ has made emergency planning simpler, more efficient and more accurate.
CSD Expands Labfest

Staff members from Environmental Complaints and Local Services learned about current sample collection, toured the laboratory and asked all their questions during the first-ever Labfest in 2007. Plans are underway to expand Labfest by offering a customized program to the Land Protection Division and Water Quality Division in 2008.

Labfest stresses the importance of proactive project planning and developing strong working relationships between laboratory clients and the State Environmental Laboratory (SEL).

The program, which includes a series of analytical demonstrations, addresses the specific sampling and reporting needs of the audience. In addition, Labfest helps DEQ staff members stay current with changing environmental trends, regulations and sample collection techniques as well as with laboratory capabilities, procedures and staff. The event is interactive, so participants are encouraged to ask questions throughout the day.

One factor that should improve the quality and impact of future Labfest programs is the SEL’s acquisition and implementation of a new Laboratory Information Management System (LIMS). As part of this process the SEL contracted with a management consultant to evaluate and help optimize laboratory operations. Several divisions that routinely submit samples to the SEL also participated in this needs assessment process. Based on the projected impact of the LIMS on all aspects of laboratory services and operations, it is likely that another special outreach will be needed to orient and educate laboratory customers as SEL business practices continue to evolve and advance as a result of the new LIMS.
DEQ Achieves Compliance with the National Incident Management System

DEQ plays a vital role in supporting communities during environmental emergencies, whether they are the result of man-made accidents or natural disasters. During 2007, there were a record nine Presidentially declared disasters in Oklahoma, as well as countless other smaller emergencies. In order to continue to provide outstanding response in emergencies, such as the Coffeyville oil spill, ice storms, tornadoes, floods and even an occasional hurricane, DEQ must participate in the command structure outlined by the National Incident Management System (NIMS).

NIMS determines the roles for all agencies, including DEQ, in response to any disaster. In order to understand the structure of incident command as well as to be compliant with federal requirements under NIMS, DEQ personnel participated in Incident Command System (ICS) training during the past year. ICS is a standardized, on-scene, all-hazard incident management concept in the United States. ICS is based upon a flexible,
scalable response organization providing a common framework so people can work together effectively. These people may be drawn from multiple agencies that do not routinely work together, and ICS is designed to give standard response and operation procedures to reduce the problems and the potential for miscommunication.

ICS courses were offered in Oklahoma City and around the state so that DEQ staff would have several opportunities for training. The training courses lasted two days and covered topics including unity of command, management by objective, span of control, incident action plans, resource management, communications and command structure.

More than 175 DEQ employees completed this training, including managers, engineers, laboratory scientists and environmental specialists. These individuals will represent DEQ as part of the Incident Command Structure by providing technical advice and assistance to communities struggling to cope with environmental emergencies. The coordination with other state and federal agencies also responding during times of crisis in the future will be enhanced by the understanding DEQ personnel will bring to the organized response. The result will be more efficient delivery of services to Oklahoma’s citizens when they need it most.
The Customer Services Division (CSD) is working with the Air Quality Division (AQD) to conduct a screening level survey of mercury in fish. CSD began collecting and sampling fish in fall 2007. Fish collection will continue through the following year at 75 sites on 42 Oklahoma lakes. The monitoring project will be completed by the fall.

Largemouth bass are targeted because their mercury levels are consistently higher than other species. If the mercury concentrations in largemouth bass from a particular lake exceed screening levels, the other species and other sizes of fish from that lake will be resampled. CSD will use the information to issue fish consumption advice for specific lakes, so that citizens can make informed choices about their diet and health.

AQD will use this information along with information from mercury deposition monitoring to determine if some areas of Oklahoma are more affected by mercury emissions than others. This information will also be used as a baseline to evaluate the effectiveness of air quality rule changes in the future.

Lake List for AQD/CSD Mercury in Fish Tissue Program

Map of priority 1 and 2 lakes for mercury monitoring
SoonerWARN: Utilities Helping Utilities in Times of Emergency

Oklomans know all too well the results of Mother Nature’s wrath. While state and federal resources can help, these are often late in arriving. A neighbor lending a helping hand is often the fastest way to get help in an emergency. 

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Using this idea of mutual assistance, DEQ developed Oklahoma’s Water-Wastewater Agency Response Network (SoonerWARN).

SoonerWARN is a system of “utilities helping utilities” to respond to and recover from natural or man-made emergencies. Through SoonerWARN, drinking water or wastewater utilities are able to request and receive emergency personnel, equipment, materials and other services from other water or wastewater utilities. The objective is to facilitate rapid, short-term emergency services so that the critical operations are restored until permanent solutions can be implemented. SoonerWARN provides a network for emergency contacts as well as streamlined access to the specialized resources water and wastewater facilities need to recover from emergency disruptions.

Participation in SoonerWARN is voluntary and there is no direct cost. It is easy to join SoonerWARN. A membership application is available at http://soonerwarn.org. SoonerWARN is designed to gear up without any advance notice using the Web page and personal contact information.

Member utilities request assistance through the SoonerWARN Web site. If electricity is not available, utilities can make requests to a SoonerWARN administrator through DEQ’s 24-hour hotline. When there is advance warning of an event, as with severe weather, member utilities are alerted. As a disaster develops, utilities not in the path of impact can gear up to help the affected areas. Unaffected water and wastewater facilities can decide if they can help and respond to requests for assistance directly through the Web page or using contact information.

The focus of SoonerWARN is to get the correct resources to the appropriate location within the first days after an event. Along with DEQ, representatives from the Oklahoma Emergency Management Agency, Oklahoma Rural Water Association, Oklahoma Water Environment Association, Oklahoma Municipal League and the Oklahoma Association of Regional Councils of Government participate on the SoonerWARN steering committee. The SoonerWARN Web site is also a source of information on training and other resources.
In June 2007, strong storms dropped torrential rains on northeastern Oklahoma and southeastern Kansas, creating flash floods in several counties. More than 21 inches of rainfall brought the Verdigris River out of its banks, sending massive amounts of flood water through an oil refinery in Coffeyville, Kansas. The flood water carried at least 1,000 barrels of oil into the river, which then flowed into Oklahoma and posed a contamination threat to several public water supplies.

A few months later, December 2007 brought one of the most significant ice storms to ever strike Oklahoma. Several inches of heavy ice accumulated on trees and power lines. Hundreds of thousands of Oklahomans endured weeks without electricity.

In response to the summer flooding and subsequent oil spill, DEQ environmental specialists went to the scene, assessed the situation and warned water supply managers. Samples from both the river and nearby water supplies were collected and sent to DEQ’s State
A stockpile of debris in Miami, OK
Environmental Laboratory for additional testing and analysis. The testing provided by DEQ helped to determine whether water contamination was present and if drinking water was safe for public consumption.

During the flooding, engineers and environmental staff provided on-site and remote technical assistance to water plant operators to help guarantee safe drinking water. Numerous wastewater treatment plants across the state received similar help in addressing the impact of the floods, including securing funds for repairs, replacement and construction.

In addition, DEQ employees developed a comprehensive recovery plan. As part of that effort, nearly 250 systems were contacted and helped with applications for funding from the Federal Emergency Management Agency.

To ensure victims of the flooding were able to access emergency information in a timely manner, a Web page with fact sheets and emergency contacts was created. Many Oklahomans were left without power, so DEQ employees helped locate emergency generators which provided much needed electricity to
affected homes and businesses.

To further increase the amount of aid provided, a coordination effort among DEQ, the Environmental Protection Agency and the Kansas Department of Health and Environment was spearheaded by DEQ. This effort made it possible to reach as many people as possible with accurate information on topics such as air quality issues, debris management and various other problems which arose during and after the flooding.

In December, a crippling ice storm and the resulting loss of power brought devastation to our state once again. The effects of this storm were far reaching, and DEQ employees were once again called upon in a time of emergency.

The loss of power shut down many drinking water and sewage treatment plants. DEQ staff fanned out across the state and surveyed the initial extent of damage and provided technical assistance to more than 200 storm-damaged facilities. Many of the communities and rural water districts that staff visited were paralyzed by the power outage, and as a result, DEQ employees coordinated the location of emergency generators to provide electricity to multiple treatment plants.
The ice storm also generated tons of downed tree branches and trees. The agency developed a method of recycling the debris to save precious landfill space.

In addition, during any emergency it is a priority for DEQ to keep the public informed. At the same time, it is also important for the agency to communicate with its employees. The employee notification system mentioned earlier in this report was essential in getting messages to DEQ employees during the December ice storm.

As with any environmental-related emergency, employees from all divisions – Air Quality, Land Protection, Environmental Complaints and Local Services, Administrative Services, Water Quality, Customer Services - work as a team to achieve a common goal - to continuously protect public health and the environment. This would not be possible without the widely varying specialties of DEQ staff and the coordination efforts which continuously help Oklahomans during times of crisis.