U.S. Army Corps of Engineers ®

Tulsa District
Project Update

First-ever pintle ball repair successfully completed by Tulsa District at Chouteau Lock 17

The moment of truth as the custom-made pintle ball is moved into place under the dam gate. There were no existing replacement parts available for this work at Chouteau Lock and Dam 17 in Chouteau, Oklahoma, so crews were forced to wait until the actual placement of the part to know if it would fit, which it did.

Work involving the repair of a major component of a lock along the McClellan-Kerr Arkansas River Navigation System (MKARNS) was recently completed ahead of schedule by the Tulsa District, U.S. Army Corps of Engineers (USACE).

The work involved the removal and replacement of a pintle ball at Lock 17 at Chouteau, Oklahoma. This was the first time such a repair has been performed on a lock on the MKARNS. The entire lock was emptied of water, an operation referred to as "dewatering," so that the dam gate could be lifted for the removal of the pintle.

Impact to commercial operations along the navigation system was kept to a minimum through extensive planning, spanning several months, in an effort to close the lock for three weeks or less. The lock closed August 27 and reopened to river traffic September 6, with crews scheduled to continue any other required work between traffic.

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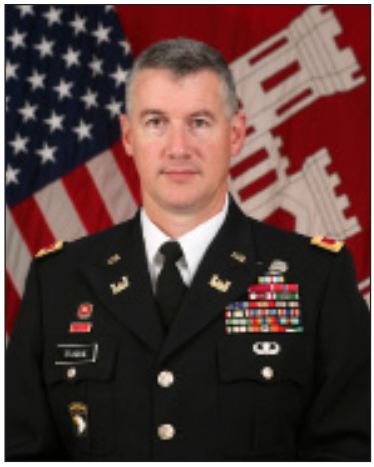
District Commander's Perspective



Colonel Michael Teague
Commander, Tulsa District

The U.S. Army Corps of Engineers is in the middle of implementing a Civil Works Transformation. The basic principle of the effort is to relook our priorities across the Nation, make better use of federal funds, and get things done faster. In the Tulsa District, the focus is on extending the life of the projects that our Nation has entrusted to us.

The cover photo on this edition of the *Project Update* is from Lock & Dam #17 where our crews replaced the pintle balls on the downstream gates; essentially we replaced the hinges on the bottom of the 375,000 pound gates. Many of you had the opportunity to visit the site and see the magnitude of the work. Simply amazing! Past similar repairs across the country have utilized different solutions which resulted in the gate being out of service for several months. We have never made this type of repair on the McClellan-Kerr Arkansas River Navigation System (MKARNS) before and could not impact our stakeholders with that length of closure. Our crews devised a way, including several contingencies, to make the repairs within a planned closure of just 21 days. They then executed it and finished five days early. That is transformation.

We recently signed a partnership agreement with the Arkansas Oklahoma Port Operators Association (AOPOA) to work together on a strategic plan for the MKARNS. A group of stakeholders helped us develop the vision of *"A resilient, reliable, and sustainable waterborne transportation system that optimizes the value of the system to all of the users and beneficiaries while making the best use of available resources."* AOPOA has now partnered with both the Tulsa and Little Rock Districts to complete the plan that will provide the roadmap for the decisions and action needed to achieve our collective vision for the system.

This edition includes the agreement with the City of Mannford for the operation of the Salt Creek recreation area on Keystone Lake. It includes an update on the work at Lake Eufaula to update the project Shoreline Management Plan and Master Plan. All of these are efforts to work more closely with our partners. It is about bringing all of our collective resources to bear; federal, tribal, state, and local; public and private. It is about keeping this critical infrastructure running smoothly well into the future.

And behind it all, the drought continues. We continue to work with our partners on many of our projects to reduce the impacts of the drought. While we have gotten some much needed rain, there are still so many projects that are well below normal. Canton, Waurika, Skiatook, Hulah, Pine Creek, John Redmond, and the list goes on and on. Every project is different and every project has different stakeholders. The key continues to be balancing all of the project purposes and working closely with our partners. Sometimes it is "transformational" but sometimes it is just how folks get things done.

The combined efforts of the fantastic members of the District with our dedicated stakeholders are how we will respond to the drought and how we will tackle transformation.

USACE Commander's Vision

A GREAT engineering force of highly disciplined people working with our partners through disciplined thought and action to deliver innovative and sustainable solutions to the Nation's engineering challenges.

Mission:

Provide vital public engineering services in peace and war to strengthen our Nation's security, energize the economy, and reduce risks from disasters.

Commander's Intent:

The U.S. Army Corps of Engineers will become a GREAT organization as evidenced by the following in all mission areas:

- **Delivers Superior Performance;**
- **Sets the standard for our profession;**
- **Makes a positive impact on the Nation and other nations;**
- **Is built to last as evidenced by our strong "bench" - educated, trained, competent, experienced, and certified.**

We will deliver superior performance through disciplined people, thought, and action. We will use the Campaign Plan as a component of our Corporate Strategic Management Process to establish our command priorities, focus our transformation initiatives, measure and guide our progress, and adapt to the needs of the future.

We will align and synchronize our work throughout the Corps and make deliberate and informed corporate decisions on the best use of our resources. If any requirements outside the Campaign Plan arise, we will make a corporate decision to either divert resources or incorporate new objectives and adjust work priorities as necessary.

My intent is for the Corps to be ONE DISCIPLINED TEAM – in thought, word, and action – and to meet our commitments, with and through our partners, by "SAYING WHAT WE WILL DO, AND DOING WHAT WE SAY."

U.S. Army Corps of Engineers ®

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"The completion of the repair work and the reopening of Lock 17 to river traffic ahead of the scheduled three-week closure was an absolutely amazing effort by an incredible crew," said COL Michael Teague, Commander, Tulsa District, USACE.

The need for the repair was discovered during a routine dewatering of Lock 17 in 2009. Since such work had never been done in the District, engineers had no plans or drawings to follow. Tulsa District crews used a process known as "reverse engineering" to develop five different scenarios and contingencies for the removal of the damaged pintle.

Obtaining replacement parts also proved to be a challenge. There were no existing replacement parts available "off the shelf," thus requiring the team to design the parts and have them built-to-order. This raised the possibility that the custom parts might not be an exact fit, something the team might have to learn the hard way during the scheduled three-week dewatering. As evidenced by the early completion of the work, the pintle did fit, and it proved to be a success in civil engineering and planning for the Tulsa District team.

Lessons learned from this repair project will be put to use for other repairs to locks along the MKARNS, which is an aging system, and all locks in the system have symptoms of wear and tear, such as the grinding and vibrations created by metal-against-metal when the gates are opened and closed.

Shane Roe, team lead for Tulsa District's maintenance crew on this project, checks out a pintle ball at Lock and Dam 17. This is the first time the balls have been replaced.

Fast Fact

A lock has two sets of doors called miter gates. At this particular lock, each miter gate weighs around 200 tons. These gates open and close to allow a vessel to enter and exit a lock. The pintle ball serves as the pivoting point for the miter gate. The approximate lifespan of a pintle ball is 40,000 swings or 40,000 lockages.

Civil Works Transformation

Why Transform the Civil Works Program?

The Civil Works program faces a myriad of challenges that are prompting swift transformation in our business model. To meet current and future challenges and address the water resource needs of our nation, the U.S. Army Corps of Engineers (USACE) has initiated an effort to transform its Civil Works program with the imperative to improve performance and responsiveness, increase customer satisfaction, public trust and confidence, improve readiness, and maintain a competitive edge.

Transformation will promote enhanced capabilities and greater involvement, ownership, concurrence and commitment among internal USACE team members, local sponsors and partners. Shared learning and enhanced understanding of mutual challenges can provide creative alternatives and sources of funding, and important, sustained feedback. It will set a clear direction for the Civil Works program to meet the Nation's current and emerging water resources needs.

Transformation Target Areas

Transformation fosters a better and smarter way of working for the Nation. To deliver the best possible Civil Works products and services to the Nation, USACE needs to…

- *Modernize the project planning process.*
- *Enhance the budget development process through a systems-oriented watershed approach, collaboration, and innovative financing*
- *Evaluate the current and required portfolio of water resources projects through a smart infrastructure strategy to deliver solutions to water resources problems*
- *Improve methods of delivery to produce and deliver critical products and services through water infrastructure and other water resources solutions*

Tulsa District Transformation Initiatives

For operating projects, Tulsa District project portfolio review has identified several opportunities for change to provide additional benefits, renewable energy, alternative financing, revised operations, or divestiture. Several on-going initiatives are listed below. Additional SWT Civil Works Transformation initiatives are being conducted at the McClellan-Kerr Navigation System, full story on page 7 and at Lake Eufaula, see page 8.

1. Red River Chloride Control Project (Salient Gradient Solar Pond Renewable Energy)

A proposal is being formulated in conjunction with the project sponsor, Red River Authority of Texas (RRA), and a private sector company to utilize the saltwater presently stored at Truscott and the saltwater from the two unfinished sites to build Salinity Gradient Solar Ponds in the footprint of the Truscott Reservoir. The first phase of construction would build arrays capable of producing 15 megawatts with the plan to expand each year to a target capacity of 50 megawatts which, if utilized by military installations, would meet 75% of Department of Defense's renewable energy goal.

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2. Lower Illinois River Fishery

Two projects are under construction that will benefit the fishery. The first is the installation of a Supersaturated Dissolved Oxygen System that will target the stilling basin where the 2011 fish kill occurred. It will be operated by Oklahoma Department of Wildlife Conservation during times when the dissolved oxygen level reaches critical lows in that area. The other project is a low flow pipe system that will release water directly from the surge tank to the stilling basin. These projects are funded by Southwestern Power Administration and are executed by the Tulsa District. In addition, the Corps of Engineers, Oklahoma Department of Wildlife Conservation, Southwestern Power Administration and U.S. Fish and Wildlife are setting up a plan to monitor conditions throughout the fishery downstream of the dam. Funds for additional monitoring stations along the Illinois River were donated by Trout Unlimited of Oklahoma and Tulsa Fly Fishermen Association.

3. John Redmond Lake, Burlington, Kansas

Many investments have been made to restore the embankment and associated dike (the Hartford Levee) to near new condition, including restoration of the gates. The gates have been restored. Interim Risk Reduction Measures have enabled the Hartford Levee's Dam Safety Action Classification rating to be revised from level 3 to level 4. A Reallocation Study is nearing completion to compensate for lost water supply storage from the flood control pool. The primary remaining sustainment action is to address the sediments in the lake, as 100% of the inactive pool and 42% of the conservation pool are filled with sediments. Kansas Water Office and Tulsa District are working together on a dredging plan for the reservoir.

4. Port of Catoosa Land Conveyance

The Port of Catoosa, located at the upper end of the McClellan-Kerr Arkansas River Navigation System (MKARNS) is the largest of all ports on the MKARNS and provides the most benefits to the system. This port has grown to capacity and is commonly congested with traffic and inadequate capacity to moor the barges. The Port has worked with Tulsa District for several years in an effort to gain additional lands from the Corps immediately downstream and contiguous to the Port. Efforts to swap or sale lands has been thwarted by complicating laws, rules and policy. The Interim solution is for a 25-year lease of lands to the Port of Catoosa while long term solutions are identified, including the consideration of a business plan for the Port's interest in owning the navigation system north of, and immediately downstream of the I-44 bridge, which could lead to a possible Civil Works Transformation alternative for divestiture.

5. Optima

The Optima Reservoir has never filled due to changing hydrologic conditions in the Oklahoma panhandle over the past several decades. A Section 216 Study performed by the District concludes that the project has not fully realized its authorized project purposes including flood control, water supply, recreation, and fish and wildlife. However, the 13,249 acres of federal lands that were purchased for the project have provided the only public recreation area for many panhandle residents. There are 4,300 acres licensed to U.S. Fish and Wildlife Service (Optima National Wildlife Refuge) and 8,062 acres licensed to the State of Oklahoma for a Game Management Area, providing hunting, field trials, primitive camping, bird watching, target shooting, and hiking. Discussions and correspondence are ongoing between Tulsa District and the Oklahoma Department of Wildlife Conservation and the U.S. Fish and Wildlife Service to convey all project lands (potentially including the approximate 1,000 acres for the dam, spillway and outlet works) to U.S. Fish and Wildlife Service or the State in either fee or a long term license (99 year, no cost), with the Corps maintaining access for flood control operation and storage easements on the land.

6. Cross Timbers at Skiatook Lake

StateSource Inc, the sub-leasee to the Skiatook Economic Development Authority for the Cross Timbers development at Skiatook Lake has taken the initiative to provide, free of charge, a fully furnished and handicap equipped cottage on Skiatook Lake that will be offered exclusively to Wounded Warrior heroes of the military, and potentially service disabled members of law enforcement agencies and fire departments. This is the latest in the public-private partnership that has resulted in a 498 slip Clean Marina, ShipStore, cabins and trails and will, in the near future, provide additional camping, a golf course, and village. Skiatook Lake was an underdeveloped Corps lake and now has become a recreation destination spot using private funding.

7. Keystone Bridge Replacement

Tulsa District's highest priority major maintenance project for FY13 is replacement of the bridge over Keystone Dam. The OK-151 Bridge structure over the Keystone Dam in Tulsa County is being replaced incorporating the superstructure, both highway lanes, guardrails, and lamp posts. The current structure consists of steel girders/beams/stringers with a cast-in-place concrete deck. The new structure will consist of pre-cast, pre-stressed concrete girders and a pre-cast, post-tensioned concrete panel

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deck with crash-rated guard rail system. The bridge will maintain the existing two-lane system and alignment. The project cost is federally funded by the U.S. Army Corps of Engineers as a part of the civil works operation and maintenance budget. In addition to the roadway, the Keystone Dam Bridge functions as a working platform for maintenance activities of the dam's flood control gates. The Keystone Dam Bridge was constructed in 1964 by the U.S. Army Corps of Engineers. Oklahoma Department of Transportation maintains the roadway easement with the Corps of Engineers connecting to OK-51 to US 412 /US 64, otherwise known as OK-151. Current FY13 funding is only partially adequate to fully fund the bridge replacement contract. The Oklahoma Department of Transportation has voluntarily offered to contribute up to $6M toward this critical project. Efforts are underway to obtain approval for acceptance of these contributed funds.

8. Partnership with City of Mannford, Oklahoma for increased recreation opportunities

Our goal for the City of Mannford and the Corps of Engineers is to expand the success story on Keystone Lake, Oklahoma. The expanded partnership involved a joint management agreement between the Corps of Engineers and the City of Mannford on the Salt Creek camping area. Salt Creek campground currently is only open from April 1 - September 30 each year. The partnership would expand the period of operation of the park. Aside from the short window of use, the 147 campsites currently contain no 50 amp electric services. This is critical in the camping sector for larger trailers and RVs. Salt Creek campground currently has as many as six sites hooked up to each water hydrant. Many other costly improvements and ongoing maintenance contracts are a burden on the growth of Salt Creek campground. The joint management agreement eliminates the major portion of expenses for the Corps of Engineers. While expanding and improving the infrastructure and quality of the campground, the City of Mannford takes over the gate and reservation component, along with the mowing and upkeep, the utilities, the police contract, and trash contract. This will save the Corps of Engineers more than $100,000 per season, yet keep the park open and improving. In return for absorbing these contracts and expenses, the City of Mannford retains the site rental income. As major improvements to infrastructure are needed, the true joint agreement partnership will come into play. The City of Mannford has all the equipment and qualified personnel on staff to lay water lines, electric lines and electric upgrades, and asphalt roadways. The Corps of Engineers will fund electrical wire, electric pedestals, water hydrants, and asphalt. The City of Mannford will perform all the labor. This will be an enormous savings to the Corps of Engineers over contracting out these needed improvements.

Tulsa District signs MOA with City of Mannford for Salt Creek Park at Keystone Lake

Tulsa District, U.S. Army Corps of Engineers Commander COL Michael Teague and City of Mannford Mayor Johnnie Bozarth sign a Memorandum of Agreement for the operation of Salt Creek Park at Keystone Lake, Oklahome on October, 12. 2012, as City Administrator Mike Nunneley and Tulsa District Operations Division Chief Earl Groves watch. The USACE and the City of Mannford entered into a partnership that will allow the City to operate the park while it will remain Corps property with Corps oversight. The City and the Corps have signed such agreements in the past for the operation of Corps parks that the agency no longer has the funds necessary to maintain them.

McClellan-Kerr Arkansas River Navigation System

A Model System - Resilient, Reliable and Sustainable

The U.S. Army Corps of Engineers (USACE) opened a Human Resource (HR) Center of Standardization in October 2009 to help implement improvements related to the Inland Marine Transportation System (IMTS) workforce. The IMTS was created to implement the improvement ideas that came from the USACE Navigation workforce and industry during a study conducted 2007-2008. Many of those improvement ideas related to establishing a consistent, uniform approach to IMTS workforce policies and procedures. The IMTS Board of Directors was established October 2009. The IMTS developed and issued guidelines for evaluating and determining levels of service to be provided for navigation systems. The table below illustrates the guidance used for evaluation. The number of lockages was based on 2010 barge traffic.

Guide to Levels of Service

Level #	Title	Guideline for Range of Lock Operation Data
1	Full Service 24/7	More than 1000 commericial lockages per year
2	Reduced Service - two shifts per day	Between 500 to 1000 commercial lockages per year (low use)
3	Limited Service - single shift	100 to 500 commercial lockages per year or greater than 1000 recreational lockages per year
4	Scheduled Service - set times per day	Limited commercial (less than 100 per year) and/or sustantial recreational traffic, with a more consistent daytime pattern of lockage
5	Weekends & Holidays	Little to no commercial lockages with significant recreational lockages (500 or more per year)
6	Service by Appointment	Limited commercial traffic with no consistent pattern of lockage

Five locks (Locks 12 and 13 in Arkansas and Locks 14, 17, and 18 in Oklahoma) on the McClellan-Kerr Arkansas River Navigation System (MKARNS) were classified as low-use based on 2010 data. Tulsa and Little Rock Districts partnered with industry to use the Levels of Service initiative to develop a new Strategic Plan for a Model System - one that is resilient, reliable, and sustainable. The goal is to move more of available funding toward maintenance by wisely reducing operational costs with minimum impacts to users of the system.

Current Status: As of October 1, 2012, levels of operating service has been reduced on the above mentioned locks. The locks went to 20 hours of operating service. The hours where lock closure occurs on a daily basis are as follows:

Locks 12-13: 0800 – 1200 (daily)

Locks 16, 17, 18: 1200 – 1600 (daily)

During these closure periods, maintenance is being performed by lock mechanics, navigation fleet support personnel, and electricians, as required.

After the first 30 days of implementation, navigation industry approached the Tulsa District to recommend a 30-day trial period where daily coordination was to take place and given 24-hour notice, the maintenance period would be adjusted at Lock 17. This worked very well and a recommendation was made to expand the coordinated effort to all five low-use locks as of January 3, 2013. The coordination of barge traffic at five locks has proven very difficult for navigation industry and they have now requested to return to the default closure periods.

Competitors with the Bass Pro Tournament lock through at Webbers Falls Lock and Dam in Oklahoma, August 12, 2011.

Tulsa District hosts Eufaula Lake listening session and public workshop

COL Michael Teague, Tulsa District commander, updates attendees about the affects of the drought on Eufaula Lake at the listening session December 17.

The Tulsa District held a Commander's listening session on December 17, 2012 and a public workshop on December 19, 2012, in Eufaula, Oklahoma.

The listening session was an opportunity to update community members on a variety of topics concerning Eufaula Lake, and the public workshop was held to educate the public on the Draft Environmental Impact Statement, which is part of the update to the Shoreline Management Plan and Master Plan.

COL Michael Teague, Tulsa District Commander, hosted the listening session, which had approximately 80 attendees.

"The reason we came out tonight is two parts," Teague said. "First, we want to give brief updates on where we stand on the Eufaula Lake Advisory Committee, the pool management plan, and the reallocation study. Second, we want to talk a little bit about the drought."

Teague explained the status of the Lake Eufaula Advisory Committee and said that it is the first step in what he sees is a three-step plan, which also includes the pool management plan and the reallocation study.

Once the committee is approved and formed, he said it would be useful in helping to create a pool management plan that could establish a seasonal pool in Eufaula Lake. He talked about the reallocation study and said work has begun on getting funding in the next few years to begin the study.

"These things may not line up perfectly," he said. "We think that if we can get these things in place and ready to go once the advisory committee is approved, it'll give us an advantage going forward."

In addition to those updates, a major focus of the meeting was the impact of the drought.

"We've been dealing with this drought for two years now," he said. "We've talked about it a lot because we know how important it is to everyone."

He showed the crowd a map of all the Tulsa District projects affected by the drought and explained that it has been a major problem within the region, not just the Tulsa District. He said the biggest challenge is balancing the use of water for many different, sometimes competing purposes.

"There is no one purpose that reigns supreme over others," he said. "It's all about balancing."

Teague said that temporary deviations from the normal operations plan allows the Corps to stretch the water and make it last longer.

He said one way of stretching the water is to use it in as many ways as possible.

"The last thing you want to do is let water go without using it over and over again," Teague said. "The water released from Eufaula goes through the powerhouse and then ends up in Kerr Reservoir, and there it goes through the powerhouse again before going into the navigation channel for generation again

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at both Ozark and Dardanelle in Arkansas. The water used for generation also maintains the pool levels for navigation and supports fish and wildlife and recreation."

"The key to successfully getting through the drought is working together with others," he said.

"If there are four drops of water left in that lake, we are going to sit down with everyone to figure out the best use of those four drops," he said. "If the drought continues for three more years, we will continue to sit around that table and work it out together."

Two days later, a public workshop was held that focused on the Draft Environmental Impact Statement (EIS.) More than 200 people attended the workshop.

At the workshop, stations were set-up with a Corps representative at each station to answer questions. The stations explained the background of the Draft EIS, the process, and the options being considered. The workshop was an opportunity for the public to submit written comments, and a court reporter was present to take oral comments.

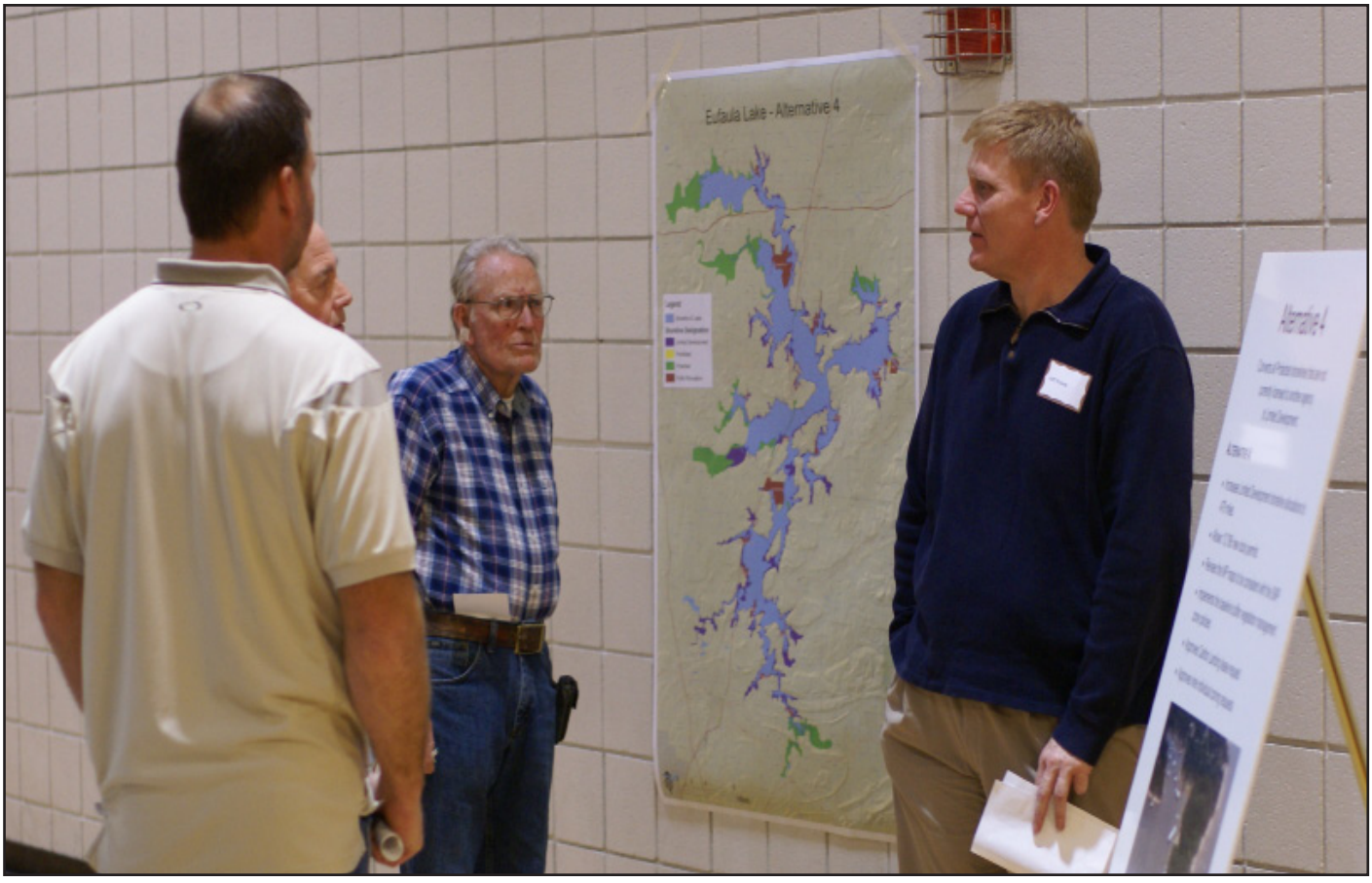
"The public comments are important because they help provide valuable input towards the preferred alternative," said Jeff Knack, Planning and Environmental Division. "The Corps of Engineers would not have full understanding of the public's desires on the Federal action without comments."

The Draft EIS is a part of the Shoreline Management Plan revision and supplement to the Master Plan for Eufaula Lake. The Shoreline Management Plan was last updated in 1998 and the Master Plan was last updated in 1977, although there have been a few supplements since then. The Shoreline Management Plan is a comprehensive plan for managing the shoreline. This includes examining the effects of human activities such as boat dock building and mowing. The Master Plan is an overall planning document that identifies the prescribed overall land and water management plan, resource objectives, and associated design and management concepts. Both documents identify areas that need to be protected and also areas that should allow recreation of varying degrees of intensity.

"All of these documents, once updated, should contain a management strategy that is more in line with today's use of Eufaula Lake," Knack said. "This updated strategy will provide a public benefit for many years. These updates will allow the Corps of Engineers to continue allowing shoreline use, public recreation, and further development in an environmentally friendly way."

The final EIS is scheduled for completion at the end of May and the Shoreline Management Plan and Master Plan updates will be done by the end of June.

Jeff Knack, Planning and Environmental Division, speaks to a group of Lake Eufaula area residents during the Draft Environmental Impact Statement public workshop December 19, 2012.



High Explosives Pressing Facility

Construction of the Pantex High Explosives Pressing Facility (HEPF) is well underway. When complete, the HEPF facility will provide approximately 43,250 square feet of floor space to support the Pantex mission.

The main facility will include a number of reinforced concrete bays for pressing, oven, buildup, staging, inspection, and machining of materials to support the HE mission at Pantex. Each of these bays will have highly specialized equipment installed in them. A magazine staging area will be provided, which utilizes earth-berm building methods for magazines based on a standard USACE design. An all weather ramp will provide access for movement of materials into and out of the facility. A penthouse area is included in the mid-section of the main facility, which will house heating, ventilation, and air conditioning (HVAC) and other supporting systems. Special HVAC equipment will also be installed on an exterior pad that is utilized to maintain the atmosphere in the main facility. The facility also includes a large administrative area

The project is approximately 52% complete. Reinforced concrete walls have been placed on the first level of Area A along with 75% of the first level soffits. Construction of pre-engineered building, comprising Area B is complete and construction of Area C magazine staging area is about 50% complete. Mechanical, electronic, and plumbing work is underway in Bay 2, Area B and outside slab area. All exterior walls of the administrative area have been placed. To date, the project has experienced approximately 0.4% cost growth and no time growth. The project has been selected for the Tulsa District FY12 Eagle Eye Award to include Eagle Eye Construction Contractor of the Year (Kiewit Building Group), Eagle Eye Construction Office of the Year (Pantex Resident Office) and Construction Representative of the Year (Donnie Lankford).

Altus Fuel Transfer Pipeline, Altus AFB, Oklahoma

The U.S. Army Corps of Engineers is scheduled to begin replacing a jet propellant 8 fuel line that will increase ground refueling capabilities for KC-135 Stratotankers.

- The new fuel line will replace a transfer line that was decommissioned in 2005 due to corrosion leaks
- The fuel line is projected to cost more than $9 million and will save the base money over time
- Construction is scheduled to be completed May 26, 2014

Members of the U.S. Army Corps of Engineers, Reliable Contracting Group, and Altus AFB pose for a picture at the Jet Propellant 8 Fuel Transfer Line groundbreaking, January 23, 2013. The groundbreaking was held to kick-off the reestablishment of a steel pipeline, which will connect the bulk fuel storage area to the tanker ramp providing a reliable and efficient way to refuel KC-135 Stratotankers.

ENJJPT officially certified LEED

The Euro-NATO Joint Jet Pilot Training (ENJJPT) Complex at Sheppard Air Force Base was officially certified Leadership in Energy and Environmental Design (LEED) Silver by the US Green Building Council. A plaque and certificates were presented by Mark McBurnett, Sheppard AFB Civilian Director of the Civil Engineering Squadron, and Col. Scott Chowning, 82nd MSG Commander, during a Wing Staff meeting of the 80th Flying Training Wing Senior leadership.

FY13 Top 15

Tulsa District Unfunded Maintenance Priorities

By making prudent use of FY12 emergency supplemental and regular Operations and Maintenance appropriations, Tulsa District has been able to successfully address and reduce the backlog of critical maintenance and repair of its water resource infrastructure. Every effort is being made to reduce operations costs to be able to invest more appropriated funds into preventative and critical major maintenance. However, the facilities continue to age.

The following are Tulsa District's Top 15 FY13 unfunded priorities for critical maintenance. Critical maintenance are repairs that, if not performed, could result in failure of the component, resulting in potential loss of the project and the protection of downstream property and population.

As always, public safety will continue to be the primary focus as the District allocates our available resources.

1 Oologah Lake, Oklahoma

Repair and Replace Service Gates, Hoisting Equipment, and Low-Flow Systems

All four service gates have lost structural strength and need to be replaced. A design to replace the worst service gate, Gate 4, and to repair the well liner was completed in FY10. A construction contract was awarded in FY11 for the fabrication and installation of a new gate and to repair the well liner in Slot 4 and replace the low-flow valve. The well liner has been repaired and fabrication of the gate is near completion. In FY12, a contract was awarded for repairing the well liner for Slot 3 and replacing Gate 3. Funds have been identified in FY13 to replace Gate 2 and repair that well liner. The final gate, Gate 1 remains unfunded, along with the well liner for Slot 1. Without funding, the gate will continue to corrode and erosion of the well liner wall will continue to occur. Currently, up to eight inches in thickness of the concrete well wall has been lost due to the unrepaired well liner.

Repair Cost Estimate: $2.2 million submission to Office of Management and Budget. If the gate and conduit system repairs are not made, a gate failure could occur. This would result in loss of service to the navigation system and potentially disrupt water supply to the City of Tulsa and other nearby municipalities.

2 Broken Bow Lake, Oklahoma

Replace Floating Bulkhead

The safe operation for the use and performance of the bulkhead has become a concern. The current condition is one of rapid decline – the internal mechanical system is completely deteriorated and the soundness of the exterior skin plates is reduced by severe surface pitting and corrosion. The bulkhead, composed of four different leaves, is a great mechanical design, but some changes are required before it can be utilized to its full potential. Assembling the gate into the appropriate configuration requires considerable scheduling and coordination. Different lake levels require different configurations. A mobile crane is required to maneuver the leaves during assembly. A temporary crane pad must be constructed by use of a dozer. The pad must be located immediately adjacent to the water's edge in order to provide crane access to the bulkhead leaves. A permanent pad is not feasible due to ever-changing lake levels and a corresponding change of the shoreline. As a result of the difficulties in using the bulkhead, Gate Operational Condition Inspections could not be made on all gates. Modification and repair is needed to ensure the gate's use during all lake elevations and to reduce the manpower and equipment costs each time it is assembled and used. Modification shall consist of redesign to facilitate full time storage in the wet, or redesign of deployment operations. Severe leakage in the spillway gallery has become a Dam Safety concern. Assurance and reliability of the bulkhead to function for a long period of time is required to properly assess and correct this problem.

Repair Cost Estimate: $2 million

3 Kaw Lake, Oklahoma

Install Seepage Filter Blanket on Downstream Left Groin of Dam

Seepage now emerges from the knoll mid-way down the left valley groin during pools greater than 10 feet above conservation pool. The first occurrence of seepage close to embankment fill was observed in 2007. The swampy area at the bottom of the abutment has constant seepage year round at any pool level. Piezometers in the groin indicate that there are high uplift pressures that fluctuate with the pool level that did not exist prior to 2007. This situation requires immediate repairs to ensure the safety of the embankment. The proposed project is to intercept the seepage with a chimney filter dug deep into the ground.

Repair Cost Estimate: $1 million

4 McClellan Kerr Arkansas River Navigation System, Oklahoma

Install Pintle Ball on Lock 14 (W. D. Mayo)

During the dewatering of Lock 14 in 2007, rough operation and problems were noted with the upstream landwall miter gate. The miter gate pops on travel, is difficult to miter, and the pintle no longer accepts grease. All are indicators the pintle ball and bushings need replacement. The failure to repair causes stress on the hydraulic system and other sector gear components. The rough travel increases the risk of fatigue cracks in the miter gates. The failure to repair could result in a long-term, unscheduled closure of the navigation system.

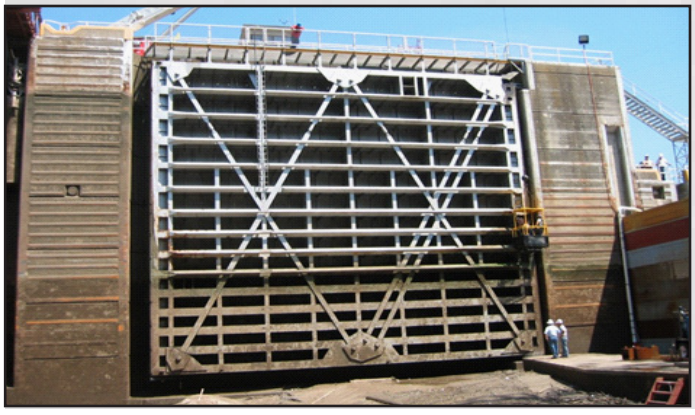
Repair Cost Estimate: $450,000 (cost is for installation only)

5 Webbers Falls Lock and Dam, Oklahoma

Replace Lock Pintle Ball

Downstream landside miter gate is operating jerkily, indicating it is sticking on its pintle ball. If it gets stuck, the navigation system from Lock and Dam 16 to Port of Catoosa will be shut down. A new pintle ball and all related parts should be purchased and installed. In addition, the downstream miter gates need to be checked for fatigue cracks. Cracks were found in both miter gates and repaired during the 2004 lock dewatering. Several members near tailwater level have laminated rust and should be rehabilitated and painted

Repair Cost Estimate: $1.75 million (cost is for material and installation)



6 Webbers Falls Lock and Dam, Oklahoma

Repair and Re-paint Tainter Gates

The gates were last rehabilitated and painted between 1998 and 2001. Floating debris swirls in the tailwater, and has ramed members and worn the paint off lower members over the first few years. Cycles of rusting and wear have been going on for the past 11 years. The constant ramming by large driftwood has bent, cracked, and knocked out braces. Two gates are missing members. In addition, some tight or hard to access locations were not well painted, and leaks and splashes are causing them to rust. Several bearings in the pillow bushings for the torque rods on the gates have slipped out of their housings. These repairs and painting are necessary to ensure that the tainter gates continue to operate and meet their intended function.

Repair Cost Estimate: $9.5 million

7 Denison Dam, Lake Texoma, Texas and Oklahoma

Replace Service/Flood Gates

Both the 2002 and 2007 Periodic Inspection reports indicated the service/flood gates leak profusely. The gates, their frames, and the sluiceway liners are more than 50 years old, and accumulative corrosion and cavitation has caused significant damage. There is also some cavitation of the concrete in the transitions. A contract was awarded in FY10 to repair one emergency gate. In addition, FY11 funds were used to complete the design of new service/flood gates with a contract awarded in September 2011 for three new flood gates and the turntable. That leaves three more services gates to replace and the frames, liners, and transitions to repair.

Repair Cost Estimate: Three of the six service/flood gates and all six frames, liners, and transitions remain unfunded at a total estimated cost of $4.2 million. Accelerated wear and corrosion will result if funding is not provided. Continued deterioration to key structural members and surrounding conduit is expected.

8 R.S. Kerr Lock and Dam, Oklahoma

Rehabilitate Tainter Gates and Operating Equipment

The 2008 Periodic Inspection, as well as the 2009 Annual Inspection reports, indicated floating debris that passes through the gates continues to cause damage to the gate paint and members. Gates 11 and 12 have bent strut arm braces. Just about every gate has some slightly twisted girder braces, and many of the rib and girder stiffeners are severely rusted and thin. Additionally, the remote controls for the tainter gates have proven unreliable and are no longer used. Many of the control inclinometers have been damaged by debris and are unusable. These gates and the operating equipment are more than 40 years old and need immediate repair to extend their useful life.

Repair Cost Estimate: $14.0 million

9 Copan Lake, Oklahoma

Repair and Re-paint Tainter Gates

The gallery sump pump outlet sprayed water onto Gate 2's left strut arm since construction. The years of spray have caused severe corrosion which has eaten away a lot of steel from the middle and bottom members of the left strut arm. Gate 2 needs rehabilitation and painting as soon as practical. The other tainter gates have scattered rust spots, and the 25-year-old paint has broken down, so all four gates should be painted.

Repair Cost Estimate: $3.3 million

10 Pearson-Skubitz Big Hill Lake, Kansas

Repair and Paint Intake Tower Service Gates

The well gates and service gates in the intake have not been painted since construction of the intake tower and are now extremely rusted. Some rust blisters have caused deep corrosion pits into the steel. The gate frames and guides are also in need of repairs and painting.

Repair Cost Estimate: $1 million

11 Tenkiller Lake, Oklahoma

Replace Butterfly Valves

The butterfly valves no longer fully cut off the water to the turbines. When the turbines are dewatered to perform maintenance, jets of water strong enough to knock a man off his feet continue to come around the valves.

Repair Cost Estimate: $800,000

12 Hulah Lake, Oklahoma

Rehab Tainter Gates, Sluice Gate Bulkhead and Debris Removal

The 2009 Periodic Inspection indicated that the tainter gates had critical deficiencies, including rusty tainter gate chains, rusty critical areas on the tainter gates, rusty tie-back beams, and shallow spalls in piers and weirs. These gates are more than 50 years old and require immediate attention to ensure the gate system does not further deteriorate. A $960,000 contract for partial repair was awarded in FY10, and construction work has been completed for replacing the tainter gate chains. The gate chains were a critical element in ensuring continual operation of the gates. A modification to that contract was awarded in FY11 to rehabilitate the brake drum system, and that work is complete. The gates and hoist equipment still need to be painted. If additional funding is not available, this will result in increased future costs and the increased probability of structural failure. Additionally, a new sluice gate bulkhead is required in order to perform needed repairs on the sluice gates.

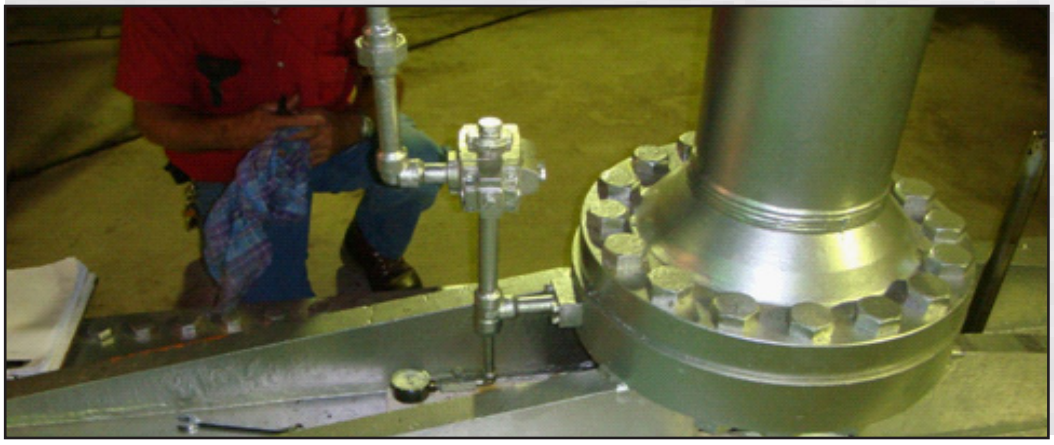
Repair Cost Estimate: $6.5 million

13 El Dorado Lake, Kansas

Repair Emergency Gates and Bulkhead

Both service gates still slowly drift downward when in an open position. This means personnel from Marion have to constantly re-set the gate openings back to positions required for releases. The service gates also occasionally vibrate when they are open between two to four feet and the lake level is above 1346.0. The vibrations have caused damage to the shafts and Service Gate 1. In an effort to stop the drifting of the gates, the gate cylinders were honed out and new pistons and seals were installed in April 2003. The rehabilitation work did not stop the drift but did slightly decrease it. The gate vibration still occasionally occurs.

Repair Cost Estimate: $1 million



14 Skiatook Lake, Oklahoma

Repair and Paint Service Gates and Liners and Low-Flow Valves

Severe corrosion and pitting were originally reported on these gates, liners, and valves in 2003. This project provides for the repair and painting of two service gates, two emergency gates and a low-flow valve, as well as cleaning, repairing and painting two service gates, two emergency gates, and the low-flow valve and associated metal gate liner plates, frames, air vents, and bonnets. Also, rehabbing gate babbitt sill on service gates and welding repair and machining the bottom sealing surface of the service gates. Skiatook Lake makes continuous water releases through the low-flow valve to meet water quality standards for the City of Tulsa. In addition to flood waters, these water quality releases have taken their toll on all gates and the low-flow valve. Skiatook Lake provided two billion gallons of water supply releases in 2008.

Accelerated wear and corrosion will result if funding is not provided. Continued deterioration to key structural members and surrounding conduit will result.

Repair Cost Estimate: $2 million

15 W. D. Mayo Lock and Dam

Repair Tainter Gates

Now that the weirs have been repaired, we can rehabilitate the gates without jets of water blasting the paint off. Several of the gates have problems. Gate 11 at W.D. Mayo had several cracks in it, and the fleet repaired the major ones in 2009. Gate 10 has some minor cracks. The torque rods are too thin and some have slung themselves apart. New brakes are needed.

Repair Cost Estimate: $12 million

Augusta Levee Local Flood Protection Project

Section 205 of the Flood Control Act of 1948, as amended (Continuing Authority - Flood Control)

Pre-Construction Engineering & Design

Augusta is about 19 miles east of Wichita, Kansas. The Whitewater River runs through Augusta to its confluence with the Walnut River.

The original levee was constructed in the 1920s and '30s through private and public sponsorship, and was incorporated into the Federal Levee Inspection Program in the 1940s.

The November 1998 flood damages were caused primarily by the Whitewater River breaching the city's levee system at several locations along the west side of Augusta. The recommended plan is to raise and extend the existing levee to provide a 500-year level of flood protection. On March 3, 2008, the Project Cooperation Agreement for construction of this important project was executed.

On September 30, 2011, the contract for construction of the Augusta Levee Project was awarded to Terra Construction, Inc., Oklahoma City, Oklahoma, for $6,661,374. Construction efforts are currently underway with completion expected in August 2013.

Augusta Levee

Canton Lake, Oklahoma (Dam Safety)

Flood Control Act approved June 28, 1938 (Public Law 761); Flood Control Act approved July 24, 1946 (Public Law 526) (irrigation storage); Flood Control Act approved June 30, 1948 (Public Law 858); and the Water Resources Development Act of 1990 (Public Law 101-640) (water supply storage)

Under Construction

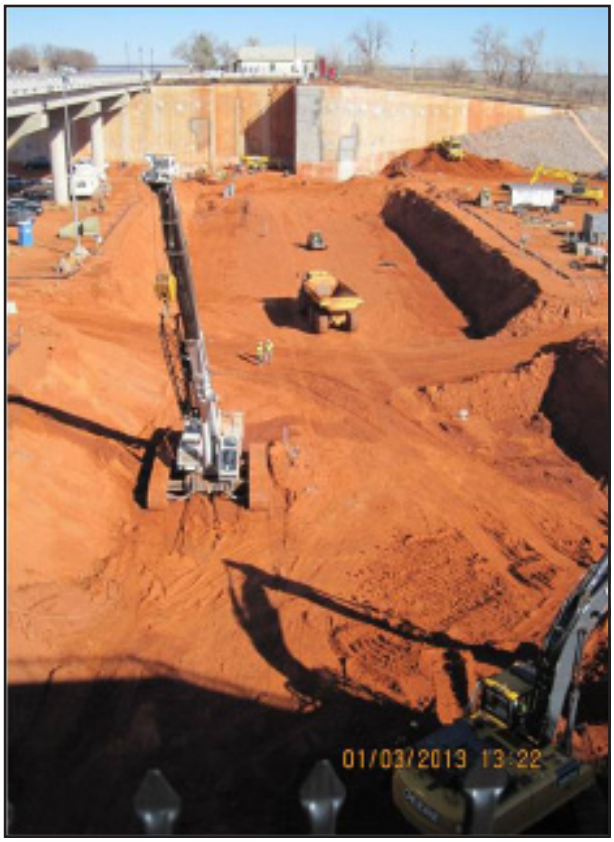
This $167 million, multi-phase Dam Safety project is to correct deficiencies related to stability (movement of the existing spillway), seepage under the existing embankment, a hydraulic deficiency of not being able to pass the probable maximum flood event, and new seismic requirements.

Construction started in 2006 with a $4.5 million contract to stabilize the existing spillway with 64 anchors drilled into the downstream spillway weir. In 2007, work commenced to resolve the remaining deficiencies with the construction of a new auxiliary spillway channel with the excavated material being used for a seepage berm on the downstream face of the existing embankment. Construction of the auxiliary spillway channel required two preliminary contracts to facilitate the excavation. These included relocating Highway 58A for $3.1 million and reconfiguring the current project office for $900,000. In 2008, a $41.1 million contract for the first phase of the auxiliary channel excavation was awarded. This contract included 1.3 million cubic yards of excavated material being used to construct a seepage berm on the downstream toe of the existing earth embankment. In addition to the excavation, concrete diaphragm walls and aprons, channel riprap, a channel cut-off wall, new piezometers, and extension of the current relief wells were included in the contract. This contract was substantially completed in December 2010.

The next phase of the project was constructing a new Highway 58A bridge, which spans the newly constructed Phase 1 auxiliary channel. The bridge is a 540-foot long, six-span concrete bridge. The contract was awarded in August 2010 for $4.1 million and was completed in January 2012.

In September 2011, the weir and hydraulic structures contract was awarded. This contract includes a reinforced concrete weir, intake conduit, wet well, upstream and downstream concrete aprons, and fuse gates. The contract was awarded to ASI Construction for $37.5 million with a contract completion date of October 2014. The weir is 481 feet long, 65 feet wide, and 36 feet deep while the nine fuse gates are 53 feet long, 21 feet wide, and 32 feet tall. The concrete structures total 65,000 cubic yards of concrete and 1,250 tons of reinforcing steel.

Along with the weir and hydraulic structures construction activities in 2012, engineering and design was completed



for a bridge rehabilitation project on the existing spillway structure. This bridge rehabilitation project was awarded in October 2012. Engineering and design continues on the Phase 2 excavation contract, which is scheduled for award in August 2014. The entire dam safety modification project is scheduled for completion in December 2016.

Eufaula Lake EIS for Update of the Shoreline Management Plan and Supplement to the Master Plan

The purpose of the Environmental Impact Statement (EIS) is to address alternatives and environmental impacts associated with an update of the Shoreline Management Plan (SMP) and supplement to the Master Plan (MP), Eufaula Lake, Oklahoma. The EIS would likewise evaluate alternatives and environmental impacts associated with specific proposals for recreational development facilities on federal lands at Eufaula Lake as identified through the SMP update and MP supplement process.

Eufaula Lake is a multi-purpose reservoir about 12 miles east of Eufaula, Oklahoma, in McIntosh County. At Eufaula Lake, private shoreline uses including private boat docks and vegetation modifications managed under a permit system dependent upon shoreline allocation classifications specified in the SMP. Reviews and updates to SMPs are periodically provided, and the last update to the Eufaula Lake SMP occurred in 1998. Similarly, land resources at Eufaula Lake are managed in accordance with MP requirements. In the land allocation portion of the MP, all project lands are assigned categories that are used for determination of appropriate uses for these lands. The last update to the Eufaula Lake MP occurred in 1977. Owing to the elapsed time since last updated, changed conditions, and the need to assess lake-wide cumulative effects, the Tulsa District seeks to update the Lake Eufaula SMP and supplement the MP by updating the land allocation portion. Actions appropriate for updating these plans and preparing the EIS will occur concurrently.

As the SMP and MP update processes involve public participation and input, it is possible that specific proposals for recreational or other development features involving project shorelines and/or lands may be received by the Tulsa District. For proposals that have advanced to a planning stage of sufficient detail to allow for proposal-specific alternatives and impact analysis, the EIS would include these analyses. For reasonably foreseeable development proposals that have not advanced to the point where proposal-specific analyses are possible, these will be assessed under cumulative impacts but will require additional analysis under the National Environmental Policy Act (NEPA) prior to their implementation at Eufaula Lake.

Issues being addressed include, but are not limited to: (1) socioeconomic impacts associated with allocation classifications and specific development proposals; (2) matters pertaining to shoreline impacts; (3) potential impacts to cultural and ecological resources; (4) public access and safety; (5) impacts to lake use, public parks, and recreation; (6) aesthetics; (7) infrastructure; (8) lake water quality; (9) traffic patterns; (10) terrestrial and aquatic fish and wildlife habitat; (11) federally listed threatened and endangered species; and (12) cumulative impacts associated with past, current, and reasonably foreseeable future actions at Eufaula Lake.

The Draft EIS evaluates the potential impacts of a range of alternatives on recreation and natural resources. The range extends from Alternative 1 that emphasizes natural resource protection to Alternative 4 that emphasizes private exclusive uses such as opportunities to construct private docks. The USACE needs to have the results of this evaluation, as well as input from the public and agencies about the alternatives before selecting a preferred alternative. It is expected that the preferred alternative will be a combination of features selected from several of the alternatives evaluated and that, consistent with the purpose and need statement, the preferred alternative will provide a balance between conservation of natural resources, private shoreline uses, and recreational development opportunities. A preferred alternative will be selected and presented in the Final EIS.

The Draft EIS was completed on December 7, 2012. A subsequent Notice of Availability was published in the Federal Register announcing Draft EIS completion and soliciting public comment. The Tulsa District held a public workshop for the Draft EIS on December 19, 2012. The public comment review period ended January 22, 2013. The Final EIS is expected to be completed on March 31, 2013, and a Record of Decision will be issued on May 30, 2013. The Shoreline Management Plan update and Mater Plan supplement will be completed on June 6, 2013.

Grand Lake Comprehensive Study

Section 449 of the Water Resources Development Act of 2000

Study

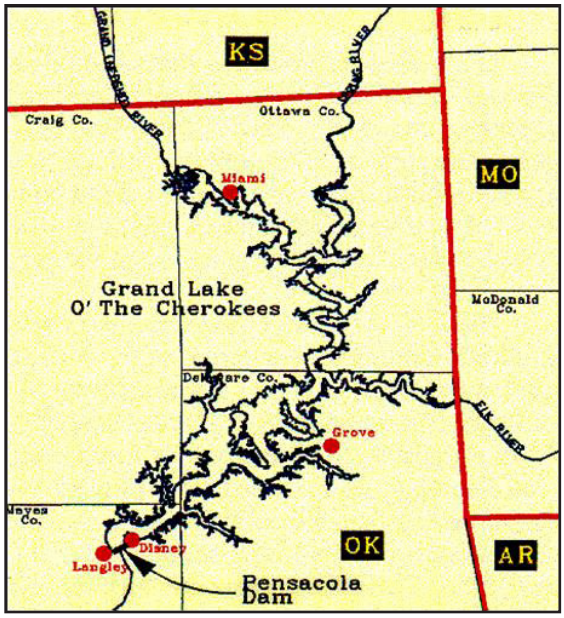
Grand Lake was designed and constructed by the Grand River Dam Authority and initially had the single purpose of hydropower production. In order to include Grand Lake as part of a comprehensive multipurpose plan for the Arkansas River, the Flood Control Act of 1941 authorized the Corps to manage the flood risk management features. The flood risk management pool limits were established from elevation 745.0 to 755.0 (Pensacola datum). Flowage easements were acquired up to elevation 750.0 by the State of Oklahoma.

Other federal agencies acquired flowage easements from elevation 750.0 ranging up to 760.0. The administrative jurisdiction of the flood risk management flowage easements was transferred to the Corps in October 1959.

In response to public concerns, Congress established Section 560 of the Water Resources Development Act of 1996 that authorized the Corps to conduct a study that considered the combined operating purposes of flood risk management and hydropower. The September 1998 Grand Lake, Oklahoma, Real Estate Adequacy Study report documents that areas were found around the lake where, using current criteria and based on current lake operations, additional flowage easements would be recommended if Grand Lake were a "new" Corps project.

A letter report was prepared by the Tulsa District to document an initial technical evaluation of historical and theoretical flood events. Based on review of the letter report, the Assistant Secretary of the Army for Civil Works concurred on September 14, 2007, that further detailed study is warranted. With that decision, and in accordance with the provisions of Section 449 of the Water Resources Development Act of 2000, the feasibility study could be conducted at full federal cost. However, this provision makes the study totally dependent on available annual funds specifically provided by Congress because it is not consistent with Administration budgetary policy. If a non-federal cost-sharing partner can be identified, the study could become more competitive in the Corps' budget process and the likelihood of future funding would increase.

FY08-11 activities included the preparation of a Hydrology and Hydraulics Geographical Information System (GIS) Needs Assessment Report, meetings with City of Miami officials, development of a Project Management Plan (PMP), mapping, and Geographical Information Systems support. FY12 activities included the development of mapping products to complement adjacent area maps created by the Federal Emergency Management Agency. The mapping products are now available to help Ottawa County and the City of Miami, Oklahoma, in making short-term floodplain management decisions. A related effort that will be completed in FY13 utilizes the Grand Lake mapping, in conjunction with the USACE Silver Jackets Pilot Project Program, to develop various interim risk reduction flood inundation mapping products for the Miami, Oklahoma, area.



Potential future feasibility phase activities would be dependent upon annual funding and focus on priority flooding issues in the vicinity of Miami, Oklahoma. The purpose of the feasibility study would be to identify cost-effective solutions to reduce the risk of flooding and consistent with current federal policies. Categories of alternatives to consider include structural measures (such as levees and bridge modifications), nonstructural measures (such as flood proofing and buyouts of flood prone structures), changes in the system operation, and combinations of measures.

In the short-term, a strategic activity conducted by the Corps is the management of flood risk management pool releases, consistent with the current system operating plan, to potentially reduce impacts of minor flood events. While there is only limited and preliminary data at this time to confirm the effectiveness, it is likely that this approach reduces flooding related to the more frequent (minor/moderate) flood events. It is important to note, however, that large flood events overwhelm available flood storages, significantly limit the ability to transfer flood waters to downstream lakes quickly, and cause significant flooding with or without operational modifications.

Joe Creek Ecosystem Restoration Project, Tulsa, Oklahoma

Section 1135, Water Resources Development Act of 1986 (Continuing Authority -- Habitat Restoration)

Feasibility Study

Joe Creek is a tributary to the Arkansas River at Tulsa, Oklahoma. The Joe Creek Local Protection Project was constructed under the authority of Section 205 of the 1948 Flood Control Act. A majority of the improved channel is concrete lined.

This project focused on improvements to the riparian stream corridor habitat that was impaired when the original flood control project was constructed.

Project construction efforts were initiated in April 2011, at a cost of $4,905,750 to Coast to Coast, LLC, and were completed in October 2012.

Efforts are underway to transfer the completed project to the City of Tulsa for operation and maintenance.

John Redmond Reservoir Reallocation Study

Section 208, Flood Control Act of 1956 and Resolution of the 110th Congress 1st Session, United States Senate, Committee on Environment and Public Works, adopted July 31, 2007

Watershed Study

John Redmond Reservoir is located on the Neosho River in Coffee County, Kansas. The reservoir is located in the lower unit, in a system of three projects in the upper Neosho River Basin. The original design for the project included storage in the reservoir to capture an estimated 50 years of sedimentation. Sedimentation has occurred at a higher rate than was originally anticipated and has had a greater impact on the water supply storage. Storage available for water supply purposes in John Redmond has been steadily depleted by sediment deposition, such that the State of Kansas water supply obligations are being infringed upon.

The study and subsequent report are being done in response to Congressional Senate Report 106-58 to study raising the conservation pool at John Redmond Dam and Reservoir to meet the terms of two existing water supply agreements with the State of Kansas.

Based on the evaluation of several alternatives, the preferred alternative is to increase the top of the conservation pool elevation from 1039.0 feet National Geodetic Vertical Datum (NGVD) to 1041.0 feet NGVD to meet current water supply agreements and water quality demands.

Corps Headquarters reviewed and provided comments on a draft final report in 2008. The Corps determined that because water supply is the primary reason for the reallocation, all replacement costs will be paid by the beneficiary, the Kansas Water Office (KWO). The KWO asked Tulsa District to hold the report rather than send it for approval with the recommendation that they pay all replacement costs. The District has held the report since November 2008, and during that time encountered another obstacle.

Since Hurricane Katrina, the Corps has increased focus on dam and levee safety. A national team has been inspecting structures and found risks at Hartford Levee, which is part of Redmond Reservoir. Resolution for Hartford Levee risks is nearing completion.

The Tulsa District is drafting comments to the submitted Project Guidance Memorandum. Additional flood storage reduction analysis has been conducted. Also, a more detailed hydrologic and hydraulic analysis of downstream impacts and related increases in risk of economic damages have been evaluated. The Environmental Analysis is currently being updated to include these results. Documentation will be coordinated with the vertical team, and analysis will undergo Agency Technical Review prior to reallocation approval by the ASA. Final approval is expected to occur on April 30, 2013.

Consequently, one positive aspect from this study is that several of the replacement actions identified as KWO actions are occurring on Corps-owned property. This land is leased to the U.S. Fish and Wildlife Service (USFWS). Because of this, Tulsa District has been able to partner with KWO and USFWS to complete partial replacement of wetlands and bottomland hardwoods.

Lawton Wastewater Infrastructure

Section 219(f)(40), Water Resources Development Act of 1992 as amended

Under Construction

Lawton is located approximately 100 miles southwest of Oklahoma City in Comanche County, Oklahoma.

The project consisted of constructing wastewater infrastructure for the City of Lawton, Oklahoma. Facilities constructed include approximately 9,600 linear feet of sewer pipe and associated manholes. Also constructed was a boring approximately 350 feet in length under Interstate 44.

McClellan-Kerr Arkansas River Navigation System, Arkansas and Oklahoma, 12-Foot Navigation Channel

Section 136, Energy and Water Development Appropriations Act, fiscal year 2004 (Public Law 108-137)

Authorized (Not Started)

The McClellan-Kerr Arkansas River Navigation System is approximately 445 miles long, consists of 18 locks and dams, and provides nine-foot deep inland navigation from the Mississippi River to Catoosa, Oklahoma.

This project will deepen the navigation channel to a minimum depth of 12 feet, thereby increasing the efficiency of the system. Deepening of the channel will be performed by a combination of techniques including altering the flow management, constructing dikes and jetties, and dredging the channel. This project also includes a significant environmental component to include creation of bottomland hardwood forests and high quality wetlands, as well as other environmental enhancements.

The projected cost estimate of $185.5 million is cost-shared with the Inland Waterway Trust Fund, and is jointly managed by Little Rock and Tulsa Districts. To date, $7 million have been provided through an FY05 congressional add to complete the feasibility study and the Environmental Impact Statement, as well as to start dredging activities and construction of dikes and jetties.

During FY06, dredging commenced and was completed at mile 348 in pool 15 in Oklahoma, which also included construction of a Least Tern island with rock protection that was accomplished in conjunction with the dredging activities. Design of river structures was accomplished for Pools 2, 7, and 5. Stone structures were constructed in Arkansas to improve self-scour of the river, and design of upland dredge disposal sites was also completed in Oklahoma. Mitigation activities, including aquatic and terrestrial surveys, were performed in both Oklahoma and Arkansas. A five-year project plan has been developed that includes an integrated project break-

down of activities and associated costs that has been vetted through the navigation stakeholders.

This project has not been in the budget since FY05, and all funds have been exhausted resulting in no further work on the project.

Oklahoma Comprehensive Water Plan

Study

The Oklahoma Water Resources Board (OWRB) is working with multiple federal, state, tribal and other stakeholder organizations to update the Oklahoma Comprehensive Water Plan (OCWP). Tulsa District is providing technical planning assistance for this effort through the Planning Assistance to States Southeast Oklahoma General Investigation Study and the Washita River General Investigation Study authorities. The data, tools, and prioritization of needs information associated with the OCWP update are shared resources of the studies and will be used, contingent on approvals and funding, for future phase detailed investigations.

Additionally, the Water Resources Development Act of 2007 authorizes the expenditure of $6.5 million in federal funds for completion of the Oklahoma Comprehensive Water Plan. It further specifies that this effort will be completed with a 75-percent federal and 25-percent non-federal cost-share. To date, no funding has been appropriated. Implementation Guidance is at Corps Headquarters for review, at which point it will be submitted to the Assistant Secretary of Army for Civil Works for approval.

The OCWP update process has three phases. Currently, the Corps is authorized to participate only in the studies.

The first phase of the update includes the development of water demand projections by county and region throughout forecast year 2060, as well as a comprehensive inventory and analysis of the state's water supplies.

Phase two of the water plan update identifies the local and regional problems and opportunities related to the use of water for public supply, agricultural, industrial, recreational, and environmental uses. This particular segment of the planning process, involving close partnerships with both municipal and rural water system representatives, identified infrastructure needs, management options, and other measures to maximize the efficiency of Oklahoma's public water suppliers.

The third phase of the state water planning process involves the implementation of planning initiatives and tools derived from the issues, problems, and needs identified during phase two. The Oklahoma Water Resources Board is drawing upon the expertise of Oklahoma's foremost water experts from various water use sectors; local, state and federal governments, as well as universities, to develop policy recommendations for consideration by the state legislature.

In 2008, we developed a programmatic work plan and developed and distributed a pilot Geographic Information System project and an infrastructure survey for municipalities and rural water districts. Coinciding with these integrated efforts was an extensive public participation program to create a transparent and open planning process.

In 2009, we completed assessments of water demand and ground and surface water supplies. The results of these two assessments were compared to define gaps where supply is inadequate.

In 2010, conservation assessments, refinements to demand projections, and regional supply alternative assessments were completed.

In 2011, we completed production of Watershed Planning Regional Reports/ Basin Technical Appendices; identification of potential measures for use in future formulation of hot spot and infrastructure needs alternative solutions; developed a wastewater infrastructure Capital Needs Assessment and Provider Planning Guide; and prepared/submitted final draft reports.

In 2012, we awarded contracts to develop potential alternatives for addressing specific future gaps; making revisions to final draft reports; and complete model documentation and training for the Oklahoma Gap Tool, Reservoir Yield Model, and Climate Demand Model.

Oologah Lake Watershed Feasibility Study, Oklahoma and Kansas

Section 208 of the Flood Control Act of 1965 and Resolution of the 110th Congress 1st Session, United States Senate, Committee on Environment and Public Works, adopted July 31, 2007

Watershed Study

The focus of this ongoing watershed study is the approximately 2,350 square-mile subset of the 4,300 square-mile Verdigris River watershed upstream of the dam at Oologah Lake in Oklahoma to the dams at the four federal reservoirs in the Verdigris River Basin in southeastern Kansas. The purpose of this watershed study is to assess the existing conditions in the watershed and identify the problems contributing to impairment of the aquatic resources, as well as potential solutions to restore aquatic habitat and quality on a regional basis. The City of Tulsa, as the local partner and sponsor, has worked proactively with the Corps to engage representatives from over 30 federal, state, and local agencies, universities, special interest groups, and individuals throughout the watershed in both Oklahoma and Kansas. Through this collaborative planning process, the stakeholders have identified issues and potential solutions for application on a regional basis to improve the quality of water resources in the watershed. This approach provides the opportunity to achieve sustainable water resources solutions on a regional basis.

The watershed study was completed in May of 2012. This study presents various management strategies that can be implemented throughout the watershed on a regional basis. Since the majority of the land in the Oologah Lake watershed and study area is privately owned, the potential solutions are those that can be implemented by individual landowners in the basin. Although this effort is

led by the Corps and the City of Tulsa, implementation of the many strategies established in the report as a result of the collaborative planning process will occur by other federal, state, and local agencies with authorities to assist the individual landowners in the watershed. Additionally, the report includes appendices with water quality data, water quality analysis, and outputs from the modeling effort that have served as the primary planning tool throughout the study.

Spavinaw Lake Watershed Feasibility Study

Section 208, Flood Control Act of 1965 (Public Law 89-298)

Study

Spavinaw Creek and its downstream impoundments, Eucha and Spavinaw Lakes, are severely impacted by nutrient loading and excessive algae growth as a result of agricultural practices in Arkansas and Oklahoma. Degradation of water quality has led to taste and odor problems, increased treatment costs, and the lakes' decreased recreational and aesthetic value. Together, Spavinaw and Eucha Lakes provide 47 percent of the water supply for the Tulsa metropolitan area. The Tulsa Metropolitan Utility Authority entered into the feasibility cost-share agreement in June 2004.

Because of extensive ecosystem restoration work being done by the poultry industry in the watershed, this study is focused on in-lake solutions.

In FY08, the alternative analysis and selection was completed.

In 2009, we completed cost estimates that identified project implementation could be done through the Continuing Authorities Program. This means the reports do not have to go to HQ and Congress for approval.

In 2010, the CE-QUAL-W2 modeling that models how the recommended plan would affect water quality in Spavinaw and Eucha Lakes, was completed. The modeling results show that the recommended plan would achieve its objectives. The model(s) and model documentation were submitted for agency technical review and were approved.

The final Revised Feasibility Report is scheduled to be submitted to SWD on or before February 28, 2013. The recommendations in the report include implementing the project under Section 206 of the Continuing Authorities Program.

Tribal Support Program

10 USC 3036(d)(2)

Continuing

Oklahoma is home to 38 federally recognized Tribes. Tulsa's program has traditionally consisted of grant application support, contract administration support, and construction oversight for HUD Indian Community Development Block Grant (ICDBG) projects. These projects include independant elder living centers, wellness centers, food distribution centers, medical clinics, substance abuse centers, and many more. The impact these projects have on quality of life for an often underserved demographic is tremendous.

In FY12, Tulsa's Tribal Support Team assisted with the completion of a unique project in Miami, Oklahoma involving the collaboration of five Tribes and the Northeastern Tribal Health System (NTHS). In an effort to provide high quality medical care, five Tribes combined grants, and the NTHS matched the money to construct a $8.4 million medical facility with multiple specialties.

Oklahoma Tribes have also found an interest in our planning expertise. In FY12, Tulsa District worked on three water resource studies for four Tribes. One was with the Fort Sill Apache Tribe. This master planning effort will be completed in FY13. The Choctaw and Chickasaw Nation and the District completed a study to begin to develop sustainable river flow and infrastructure assessment methodology. Both of these studies used the Planning Assistance to States and Tribes Authority. Another study the District completed was a navigation study of the impact that hydropower on WD Mayo Dam may cause. This was sponsored by the Cherokee Nation in support of their 1986 WRDA authority to construct a hydropower plant adjacent to that dam. In FY13 the District will be reviewing a preliminary and partial 408 application for modification to WD Mayo Dam.

In FY12, we assisted 15 Tribes with grant applications. Of those, eight were selected to receive funding. We have been contacted by Tribes to assist with non-granted projects such as a USDA wastewater project, a housing project, a travel plaza, and more. We are currently providing technical support for more than 20 tribal construction projects.

In FY13, Tulsa's Tribal Team will continue to provide much needed technical expertise for construction and water resource issues. We expect to participate in about two dozen construction projects and to complete Phase II of the Cherokee WD Mayo Hydropower Study.

Quapaw Fire and Emergency Medical Services

Webbers Falls Powerhouse Major Rehabilitation, Oklahoma

River & Harbor Act, approved July 24, 1946; Project Document HD 758, 79th Congress, 2d Session

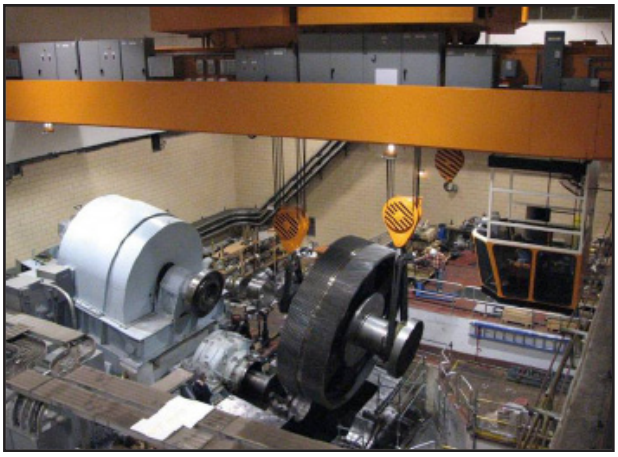
Under Construction

The run-of-river power plant contains three 23,000 kilowatt (kW), inclined-axis, Kaplan-type generating units with a total rated generating capacity of 69,000 kW. These turbines were the first tube turbines of this magnitude ever built and placed into operation. As a result, the design did not consider all of the factors specific to the operation of slant-axis turbines, and the project has been plagued with mechanical reliability problems during its operation. The major rehabilitation project will replace all three turbines resulting in $1.32 million of net benefits per month to the Nation. In addition to rehabbing the turbines, the generators will be rewound and upgraded, which will increase the capacity of the plant by 8.5 percent.

In February 2001, the Corps of Engineers Hydroelectric Design Center (HDC) recommended that the Ozark and Webbers Falls turbine replacements be combined into one contract for a savings of more than $5 million to the government and power customers. The Webbers Falls Turbine Replacement contract was subsequently included as an option under the Ozark contract that was awarded in May 2005.

The Webbers Falls Powerhouse Rehabilitation project's current cost is $72.7 million with a scheduled completion date of December 2015. The project scope includes the turbine rehabilitation, generator rewind, rehabilitation of the intake/tail race gantry cranes, the bridge cranes, the intake gates and bulkheads, and installation of new 13.8KV breakers.

In 2008, the three turbine runner options were awarded to Andritz Inc. for $39.1 million. This contract is currently under construction with Unit 3 successfully beginning commercial operation in September 2012. Unit 1 has been disassembled and the water passage is curretnly being rehabiliated.



In addition to the turbine runners, the turbine and generator bay bridge crane rehabilitation contract was awarded and completed in 2008 for $2.3 million, and the intake and tail race gantry crane rehabilitation contract was awarded in 2009 and completed in 2010 for $3.8 million using American Recovery and Reinvestment Act funds. In September 2010, a $3.1 million contract was awarded to rehabilitate four intake gates, four tailrace bulkheads, and three intake bulkheads. The gate and bulkhead job is anticipated to be completed in 2013.

In December 2010, a $4.9 million contract was awarded for the rewinding of all three generators. This project is currently ongoing and is integarated with the turbine rehab work to minimize plant outages.

All work, with the exception of the gantry cranes, is funded by customer funding sub-agreements through the Southwestern Power Administration.

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In December 2010, a $4.9 million contract was awarded for the rewinding of all three generators. This project is scheduled for completion in November 2016.

Red River Basin

Chickasaw/Choctaw Water Resource Study

Section 22 WRDA 1974, as amended

The Chickasaw and Choctaw Nations are endeavoring to complete a regional water plan. One of the first steps in this plan is to establish an in-stream flow methodology and a process for gathering and managing infrastructure data. This small effort in the overall plan is a 12-month, $180,000 study, that is being cost-shared at 50 percent between the Tulsa District and the two Nations. This portion of the study was completed.

The in-stream flow methodology is of great importance in establishing what minimum flows are needed to support all water needs. To accomplish this, the study team has created a panel of experts from six disciplines and five states. The result of this activity will be a guidance document that scientists, appointed by the Nations, will be able to use to address the specifics of in-stream flows in the region.

The infrastructure activity will involve development of a methodology that considers what data will need to be gathered, how it will be gathered, and how it will be managed. It is complex, as the information will come from Tribes, municipalities, counties, rural water districts, and others in the region that employ a multitude of consultants.

In FY13, the Nations would like to continue their partnership with the Tulsa District as they move to complete their 5-7 year study.

Denison Land Conveyance (WRDA 2007)

Water Resources Development Act of 2007 Section 3182, (j) and (k)

Conveyance of Land at Lake Texoma, Texas

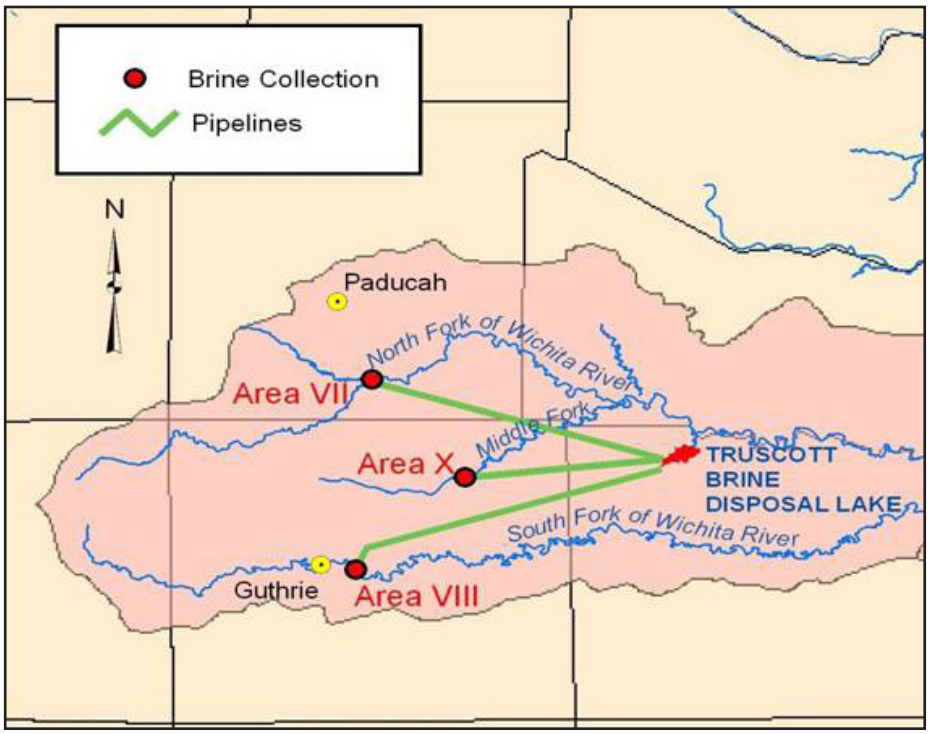
The Water Resources Development Act of 2007 authorized the Secretary of the Army to convey to the City of Denison up to 900 acres of land at Lake Texoma, which were included in a 2005 lease application. The conveyance is to be at fair market value and is subject to completion of National Environmental Policy Act (NEPA) documentation and other real estate requirements such as survey and appraisal. All costs are to be funded by the city.

A Notice of Intent to prepare an Environmental Impact Statement (EIS) was published in the Federal Register on August 6, 2008. A public information meeting was held September 11, 2008, as a part of the NEPA EIS scoping process. Public comments were accepted and summarized in a scoping report, which is posted to the Tulsa District website.

The draft EIS is complete. A Notice of Availability (NOA) was published in the Federal Register on November 4, 2011. The NOA officially started the 45-day public review period. A public workshop was held in Denison, Texas, on November 15, 2011. The Public Review period ended on December 21, 2011.

The Final EIS was filed with the U.S. Environmental Protection Agency on July 20, 2012. A Notice of Availability for the Final EIS was published in the Federal Register on July 27, 2012. The 30-day Public Review Period concluded on August 28, 2012. A Record of Decision was issued on October 22, 2012.

With regard to related real estate transaction documents, the survey was completed on June 11, 2012. The appraisal was completed on October 1, 2012. The conveyance of lands to the City of Denison is scheduled to take place on or before March 31, 2013.



Red River Chloride Control Project Elm Fork (Area VI)

This project was authorized for construction by the Flood Control Act of 1966, approved November 7, 1966, Public Law 89-789, SD 110; as modified by the Flood Control Act approved December 31, 1970, Public Law 91-611; and as amended by the Water Resources Development Acts of 1974 and 1976. The Water Resources Development Act of 1986, Public Law 99-662, amended the above authorization to separate the overall project into the Arkansas River Basin and the Red River Basin. Section 3136 of the Water Resources Development Act of 2007 reaffirmed that operation and maintenance responsibilities would be at full federal expense.

Feasibility Study

The Red River Chloride Control Project is authorized to identify and implement measures to reduce naturally occurring brine emissions into several sub-basins within the Red River Basin in northern Texas and southern Oklahoma. The project's primary purpose is to improve water quality for municipal, industrial, and agricultural uses along the Red River within Oklahoma, Texas, Arkansas, and Louisiana.

The State of Oklahoma has expressed renewed interest in the Area VI element of the Red River project, and reevaluation efforts are underway. Area VI is located on the Elm Fork of the North Fork of the Red River in Harmon County, Oklahoma.

Reevaluation efforts at Area VI, Oklahoma, have included progress on the feasibility study. The draft document was completed and includes the following studies without a chloride control in place: municipal and industrial water uses, agricultural uses, recreational analysis, hydrology and hydraulics analysis, and initial array of design alternatives. This document has agency technical review and was submited for Division endorsement prior to Headquarters review. Significant progress has been made on Phase 2 of the studies to evaluate the same studies with a solution for chloride control in place.

Area VI reevaluation feasibility study phase will be concluded with the Feasibility Scoping Meeting to be held with USACE HQ, once reviewed.

Red River Chloride Control Project (Wichita River Basin)

This project was authorized for construction by the Flood Control Act of 1966, approved November 7, 1966, Public Law 89-789, SD 110; as modified by the Flood Control Act approved December 31, 1970, Public Law 91-611; and as amended by the Water Resources Development Acts of 1974 and 1976. The Water Resources Development Act of 1986, Public Law 99-662, amended the above authorization to separate the overall project into the Arkansas River Basin and the Red River Basin and authorized the Red River Basin for construction subject to a favorable report by a review panel on the performance of Area VIII. Section 3136 of the Water Resources Development Act of 2007 reaffirmed that operation and maintenance responsibilities would be at full Federal expense.

Under Construction

The Red River Chloride Control Project is authorized to identify and implement measures to reduce naturally occurring brine emissions into several sub-basins within the Red River Basin in northern Texas and southern Oklahoma. The project's primary purpose is to improve water quality for municipal, industrial, and agricultural uses along the Red River within Oklahoma, Texas, Arkansas, and Louisiana.

Improvements include construction of low-flow dams, pump stations, and diversion pipelines to impoundment facilities.

This project is a select major water strategy of the 2007 Texas Water Plan for the region. The State of Oklahoma has expressed a renewed interest in the Area VI element of the Red River project, and reevaluation efforts are underway. Area VI is located on the Elm Fork of the North Fork of the Red River in Harmon County, Oklahoma.

Portions of the Wichita River Basin Chloride Control element, located in northwest Texas, have been constructed and in operation since 1987. Features include two low-flow collection dams, a pump station, and diversion pipeline to the Truscott Brine Disposal Reservoir.

Southeast Oklahoma Water Resource Study

1983 Supplemental Act (PL 98-63)

Study

This study has been reinitiated to support the Oklahoma Comprehensive Water Plan (OCWP). The Oklahoma Water Resources Board is the sponsor. This is one of three studies that will result in development of watershed management plans. These plans will be integrated into the OCWP.

In 2008, the Corps developed a programmatic work plan and developed and distributed a pilot Geographic Information System project and an infrastructure survey for municipalities and rural water districts. Coinciding with these integrated efforts was an extensive public participation program to create a transparent and open planning process.

In 2009, we completed assessments of water demand and of ground and surface water supplies. The results of these two assessments were compared to define gaps where supply is inadequate.

In 2010, conservation assessments, refinements to demand projections, and regional supply alternative assessments were completed.

In 2011, we completed production of Watershed Planning Regional Reports/ Basin Technical Appendices; identified potential measures for use in future formulation of hot spot and infrastructure needs alternative solutions; developed a wastewater infrastructure Capital Needs Assessment and Provider Planning Guide; and prepared/submitted final/draft reports.

In 2012, we developed a series of potential alternatives for addressing specific future gaps; made revisions to final draft reports; and completed the model documentation and training for the Oklahoma Gap Tool, Reservoir Yield Model, and Climate Demand Model. This information was used for completion of Phase 1 of the Oklahoma Comprehensive Water Plan Update, February, 2012.

Washita Feasibility Study

Red River and Tributaries above Denison Dam, Texas, Oklahoma, and New Mexico, House Resolution dated Feb. 25, 1938; Senate Resolutions dated Feb. 18, 1954 and June 19, 1962

Study

The Washita River is a tributary to the Red River in Oklahoma and flows into Lake Texoma.

The Oklahoma Water Resources Board signed the feasibility cost-share agreement in June of 2008. It was fully executed by the Commander in July 2008. This study is one of three that is being integrated into the Oklahoma Comprehensive Water Plan.

In 2008, the Corps developed a programmatic work plan and developed and distributed a pilot Geographic Information System project and an infrastructure survey for municipalities and rural water districts. Coinciding with these integrated efforts was an extensive public participation program to create a transparent and open planning process.

In 2009, we completed assessments of water demand and of ground and surface water supplies. The results of these two assessments were compared to define gaps where supply is inadequate.

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