



Navajo-Gallup Water Supply Project Newsletter

4th Quarter, July 2020

Cutter Lateral Reach 21 Water Treatment Plant Start up and Commissioning

By Barbara Crockett, P.E., Jacobs

The Cutter Lateral Water Treatment Plant is currently in the final major project phase – Startup and Commissioning. The purpose of this phase is to test equipment, controls and process performance (i.e. confirm the finished water quality meets Federal Safe Drinking Water Act requirements) before any water is delivered to customers. A startup and commissioning team is responsible for completing this six-month phase of the project, which began this spring and will be completed late this summer.

In addition to confirming the facility operates as intended, the startup and commissioning phase provides an opportunity for extensive training of operations and maintenance staff who will be running the facility. These staff members may be trained on the plant equipment, treatment processes, operational constraints and controls.

The following Startup and Commissioning steps include:

- **Startup and Equipment Testing** – This step includes mechanical checks, instrument calibration, electrical circuit tests, and vendor training.
- **Functional Testing** – Equipment is operated in wet and dry runs, software logic tested, the control system is tuned, hands-on training provided to operators, and a continuous seven-day test is performed.
- **Process Startup** – During this step operations and maintenance staff are trained, the treatment facility is cleaned and disinfected, and water production begins so the control system can be fined tuned.
- **Acceptance Test** – This test involves the final demonstration of the plant functionality and ability to treat water. The results of the tests are submitted to Reclamation to demonstrate the treatment plant is meeting performance requirements and will produce safe drinking water.

Once completed, the water treatment plant will provide drinking water to the eastern Navajo Nation and the southwestern corner of the Jicarilla Apache Nation beginning with initial phased deliveries in early fall 2020. The water treatment process is designed to remove inorganic, organic, and microbial contaminants in accordance with Federal SDWA regulations for the protection of public health.



The Cutter Lateral 21 Water Treatment Plant construction is nearing completion and undergoing testing and performance verification.



If you would like to learn more visit our website at <https://www.usbr.gov/uc/progact/navajo-gallup/>.





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Navajo Chapters Receive Funding for Regional Water Projects

By: Natanya Garnenez, Navajo Nation Water Management Branch

The Navajo Nation Water Management Branch hopes to find everyone in good health and in good spirits. WMB wanted to take this time to thank all Navajo Chapters for participating in the Regional Water Projects in 2019. This effort allowed the WMB Team to initiate three Regional Water Projects with Navajo Chapters along the NGWSP San Juan Lateral. The goal for the Regional Water Projects was to demonstrate to the State of New Mexico, the Nation's cooperative efforts among Navajo Chapters to connect all existing water systems to the NGWSP. By July 2019, the following 3 Projects were developed and submitted by the Chapters in the Infrastructure Capital Improvement Plan for FY 2021-2025:

Regional San Juan Lateral Water Project

- Sanostee Chapter
- Two Grey Hills Chapter
- Newcomb Chapter
- Sheep Springs Chapter
- Naschitti Community Governance
- Tohatchi Chapter
- Mexican Springs Chapter

Regional Beacon-Bisti N9 Sublateral Water Project

- Coyote Canyon Chapter
- Standing Rock Chapter
- Nahodishgish Chapter
- Crownpoint Chapter
- Littlewater Chapter
- Becenti Chapter
- White Rock Chapter

Regional Navajo Code Talkers Sublateral Water Project

- Rock Springs Chapter
- Tsayatoh Chapter

As a result of your Chapter's participation and support, a handful of Chapters were selected to receive Capital Outlay Funds for 2020 under NM House Bill 349. However, due to the worldwide pandemic crisis, the State and the Nation are experiencing some delays and setbacks. The WMB team will continue to follow-up with the State offices.

The WMB team would like to remind all Navajo Chapters to update their ICIPs for FY 2022-2026. WMB Team will be more than happy to assist your Chapters to update your ICIPs on water-related projects. For more information, contact Natanya at ngarnenez@navajo-nsn.gov or Jesse Hillis at jrhillis@navajo-nsn.gov.

Please continue to support the Regional Water Projects! More importantly, please follow all the safety protocols to keep you and your loved ones safe and healthy during this time. We look forward to seeing everyone soon!

Cutter Lateral Water Delivery System Blending Study

By John Leeper, Senior Project Manager, John Wood Group, PLC

The Cutter Lateral will divert water from the Cutter Reservoir to supply six public water systems:

- Carson Huerfano,
- Dzilth-Na-O-Dith-Hle,
- Nageezi,
- Ojo Encino North,
- Torreon/Ojo Encino, and
- Whitehorse Lake.

These Navajo Tribal Utility Authority systems currently utilize groundwater. NTUA has contracted Wood Environment and

Infrastructure Solutions to study the blending or replacement of groundwater with surface water. Steps that must be taken before delivery can begin include:

1. Testing to prove that the water meets regulatory requirements and is fit to drink.
2. Completion of a blending water study.
3. Final construction inspection and transfer to NTUA.

Water in a water system tends to either dissolve parts of the conveying infrastructure into the water – corrosive conditions – or

precipitate minerals out of the water onto the infrastructure's surface forming scale – scaling conditions. Water is rarely neutral between corrosive and scaling conditions. Cutter Reservoir water may change the water chemistry within the NTUA distribution systems causing corrosion or scaling. Corrosion might adversely affect pipelines, destabilize minerals built up over the years, or dissolve parts of the infrastructure impacting the water quality. Fortunately, with appropriate analysis, problems can be avoided. Metal corrosion can be reduced by adjusting the pH and alkalinity, reducing dissolved carbon, and adding common chemicals.

Reclamation studied the corrosion potential in these systems caused by the partial replacement of groundwater in the systems with surface water. Wood focused on completely replacing the groundwater with surface water.

Wood confirmed that surface water will only have minimal corrosive impacts. The water users should enjoy high quality, safe drinking water. For instance, the surface water has lower total dissolved solids than current sources. In the coming months, NTUA will be providing more information about this exciting transition.