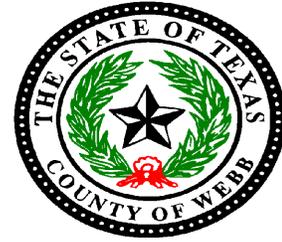


# UV DISINFECTION PROJECT UPDATE



Issue 1

May 13, 2016

## Project Funded and Submitted for TCEQ approval.

The UV Disinfection Project continues to progress. We have had several set backs in the process regarding everything from funding allocation, engineering, and even finding a contractor wanting to take on the project.

But as directed to us by our Judge and Commissioners, failure is not an option.

We are up to the final stages of the entirety of the project with consists of installing the approved units. The Texas Commission on Environmental Quality (TCEQ) is affording its due diligence to make sure our proposed method of installing the units meets all requirements and expectations to treat the water as required.

We understand this process and will not proceed with critical elements of the construction until we receive the approval. Expectations of an approval continues to be by end of May 2016.

## Project Costs

- UV Disinfection Unit Reactors, Wedeco, \$190,000
- UV Installation Engineering, LNV Engineering, \$72,000
- UV Installation, Environmental Improvements Inc., \$429,000

*“We understand there has been delays with this project, but it is important that our customers understand we are doing everything in our power to move quickly and correctly ...”*

*Luis Perez-Garcia,  
County Engineer*



Two of four old reactors fully connected to power and controls

## UV Room

### Previously

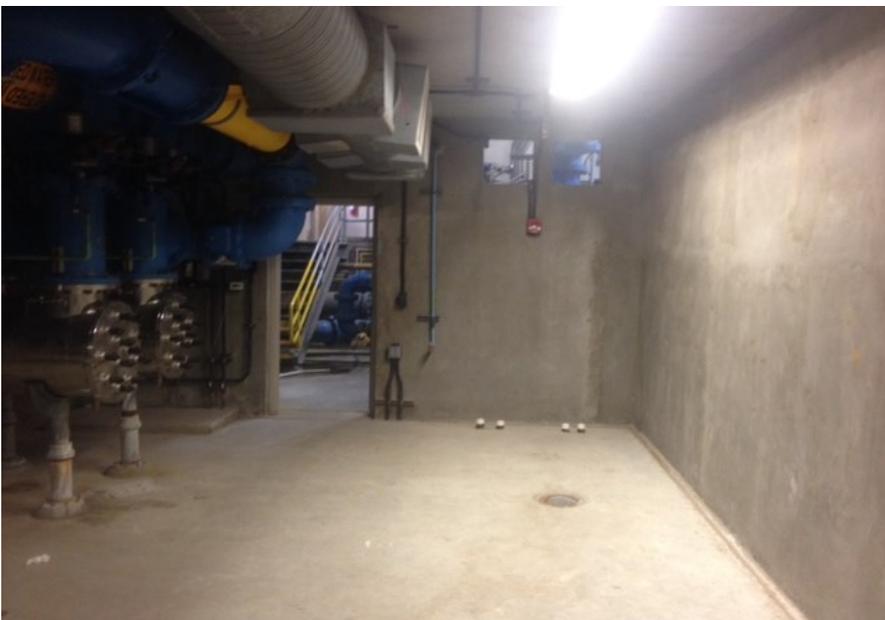
- Previous and now obsolete UV Disinfection Reactors, Electrical Panels, and Chemical Cleaning equipment is shown.



Above is a similar view of the UV Room from prior Page.



Above shows the many feet of cabling removed. Below is a view of the rooms entry.



## Demo of Existing UV Equipment.

We as well as the electrical contractor have completed the preliminary stages of the demolition up to the point of disengaging the piping.

All previous cleaning materials have been removed.

Old electrical panels have been removed as well as all cable and wires used in power as controls for the previous units. These items will not be reused.

We are unable to remove the existing piping until a bypass of this system is installed temporarily where water production can continue while construction commences.

Changes in these parts of the overall reactors usually leave many parts available; however, we are not only changing the reactors, but also improving the control methods, such as consistent electric actuators instead of the older air equipment that continued to fail in the past.

Staff is excited to use the multiple operational control improvements to be used in the near future.



Removed materials from UV Room

## Actuator and Valves

A important part of the operation of the equipment deals with the ability to control when flow is routed through and stopped in the UV reactors and released for consumption.

An actuator is essentially the electronic gears that can be initiated remotely from the control room by our SCADA control or operator controlled at the actual process room.

This actuator connects to the actual valve that is installed into the pipe itself.



## We continue to receive equipment and materials ready for use by installing contractor.

As was described earlier we ordered the actual instruments called UV Reactors first and received these several months ago. They currently still stand in their crates in our chemical bay safe and sound.

Although we and our contractors are waiting for TCEQ approvals that may have changed construction requirements on equipment that is critical like all bypass piping and piping prior to reactors, the contractor has placed order and we have receive several items such as some non-design critical valves and actuators.

Room is becoming scarce; however, we keep making room for materials as they arrive.

We have identified that critical equipment that we are waiting for TCEQ approval should not take any more the four (4) to six (6) weeks to be manufactured and delivered to our location

# Project Updates and Construction Sequence

After discussions as to the project completion expectation, and due to prior misses regarding construction expectations, both the Citizen Action Committee's of Rio Bravo and El Cenizo, and Webb County Engineering felt there would be value in developing a method of project updating our customers.

Webb County Utilities agreed to develop a bi-weekly update that could be posted onto our Department website for viewing by all customers as to the progression of the project .

This newsletter type of production is our first issue demonstration of the projects status, and although the current delay in our construction remains with the TCEQ's normal review of plans for the installation, we wished to initiate a means of communication.

We expect to establish a video posting of the project progression in the near future as actual hands on construction commences.

WEBB COUNTY

WATER UTILITIES DEPARTMENT

## ULTRA-VIOLET DISINFECTION PROPOSED CONSTRUCTION SEQUENCING

Sequence	Action	% Complete
1	Ordering of Instruments for UV Disinfection <ul style="list-style-type: none"> <li>UV Disinfection Reactors are to be ordered preliminarily to assure equipment is received timely.</li> </ul>	100%
2	Ordering of Non-specific Materials and Equipment <ul style="list-style-type: none"> <li>Actuators, Valves, Pipe Support Materials as an example have been ordered and due for delivery.</li> </ul>	75%
3	TCEQ Construction Submittal Request <ul style="list-style-type: none"> <li>We have submitted the second information request from TCEQ and awaiting either an approval or additional information requests.</li> </ul>	99%
4	Issuance of "Notice to Proceed" to Contractor	0%
5	Ordering of Specific Materials and Equipment <ul style="list-style-type: none"> <li>Completion of full Supplies order is finalized such as specific measured and order materials for this custom installation.</li> </ul>	0%
6	Installation of Temporary Construction Bypass <ul style="list-style-type: none"> <li>Consists of a Pipe supported channel to allow treated water to be routed around existing UV System. This off course will allow contractor to fully work on the installation.</li> </ul>	0%
7	Begin complete demolition of existing equipment	0%
8	Electrical Installation	0%
9	Instrumentation Controls Installation	0%
10	Pipe Installation with Valves and Actuators	0%
11	Installation of Wedeco UV Reactors (Quantity = 3)	0%
12	Installation of Flow Monitoring Equipment	0%

WEBB COUNTY

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11	Installation of Wedeco UV Reactors (Quantity = 3)	0%
12	Installation of Flow Monitoring Equipment	0%

	<ul style="list-style-type: none"> <li>• Continuous Flow Rate for each disinfection channel.</li> </ul>	
Sequence	Action	% Complete
13	Installation of Regulatory Monitoring Equipment <ul style="list-style-type: none"> <li>• Relative Intensities</li> <li>• Transmissivity of UV Light</li> <li>• Number of Hours in Operation</li> </ul>	0%
14	Equipment Calibration and Certification	0%
15	Operator Wedeco Equipment Training <ul style="list-style-type: none"> <li>• Scheduled for Three (3) Complete days of on-site training.</li> </ul>	0%
16	Monthly Operator Report Training <ul style="list-style-type: none"> <li>• TCEQ has agreed to provide additional on-site assistance in confirming the monthly report is completed and submitted corrected.</li> </ul>	0%
17	Operational Trail Period	0%
18	Initiate Live Treatment	0%