



# Monitoring of Tainter Valve Strain Sensors at The Dalles Lock & Dam

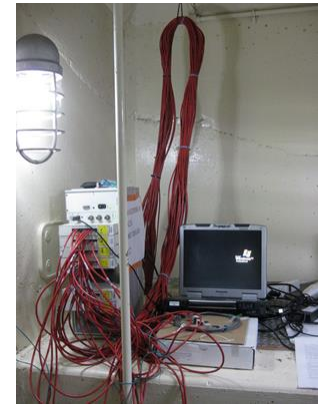
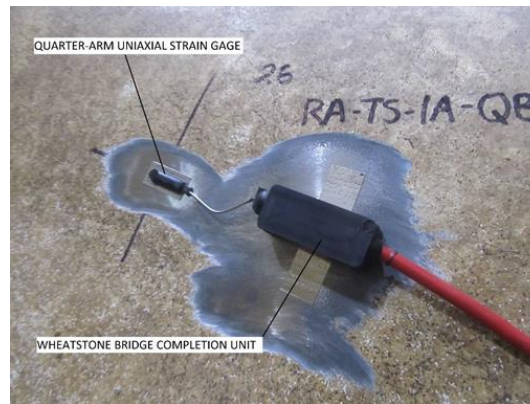
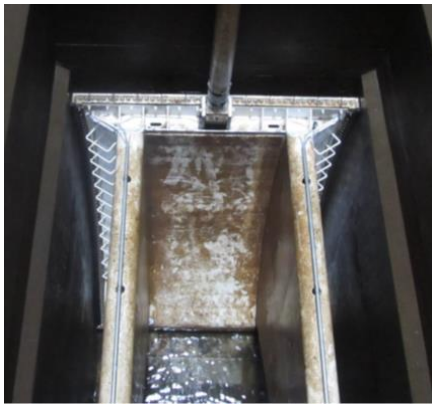
## ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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### Response Summary:

The U.S. Army Corps of Engineers (USACE) Portland District (NWP) installed strain sensors on a Tainter valve located at the downstream end of the main chamber lock at The Dalles Lock & Dam. NWP requested ERDC-ITL to provide a data acquisition system (DAQ) to connect to the sensors on a temporary basis that would allow them to continue to monitor the stresses on the valve when it is in use.



### Period of Performance:

Start Date: 5/12/2019 – Finish Date: 11/15/2019.

### Benefits of the Response to the USACE Dredging/Navigation Program:

Data collected and analyzed from this effort will benefit the USACE Navigation program as it will be used by USACE engineers to identify problems with the existing Tainter valves and pin connections, to evaluate safe operating conditions, and to aid in the design of new valves or rehabilitation of the existing valves.

### Deliverable:

The data collected will be used to perform a fatigue analysis of the Tainter valve after the valve has been in service to determine if the stresses have changed. The deliverable will be an appendix to the DDR which is currently being drafted.



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers Operations and Maintenance navigation and dredging missions

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