

**Title:** S&T Project 8121 & 21104

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**Purpose**: This research explores techniques to detect and map erosive cavitation through on-line monitoring and frequent physical inspections, so that the true cost of operating in specific costly cavitation zones can be better defined. The research also explored the benefits of using air injection to mitigate particularly violent hydraulic pressure pulsations. The research was conducted through a unique collaboration between a prominent turbine designer and manufacturer and Reclamation, the second largest federal hydroelectric entity in the United States.

**Data Source**: In-house testing during unit operation.

**Definitions:** FFT – Fast Fourier Transform, TBX – Turbine Bearing X-Probe, TBY – Turbine Bearing Y-Probe

**File Descriptions:**

|  |  |
| --- | --- |
| TBX-FFT | FFT Data for Turbine Guide Bearing X-Probe |
| TBY-FFT | FFT Data for Turbine Guide Bearing Y-Probe |

**Key to Column Headings**

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| --- | --- | --- |
| **Tab** | **Column Name** | **Description** |
| TBX-FFT | FFT | FFT Magnitude of X Probe |
| TBX-FFT | MW | Power Output of Unit |
| TBX-FFT | Freq | Frequency of FFT of X Probe |
| TBY-FFT | FFT | FFT Magnitude of Y Probe |
| TBY-FFT | MW | Power Output of Unit |
| TBY-FFT | Freq | Frequency of FFT |