Statement on Condition of

Turbine Intake Extensions and Options

Bonneville Powerhouse II Turbine Intake Extensions (TIES) were fabricated and delivered to Bonneville Project in two phases with the last six TIES delivered and installed prior to the juvenile fish out migration season 1993.

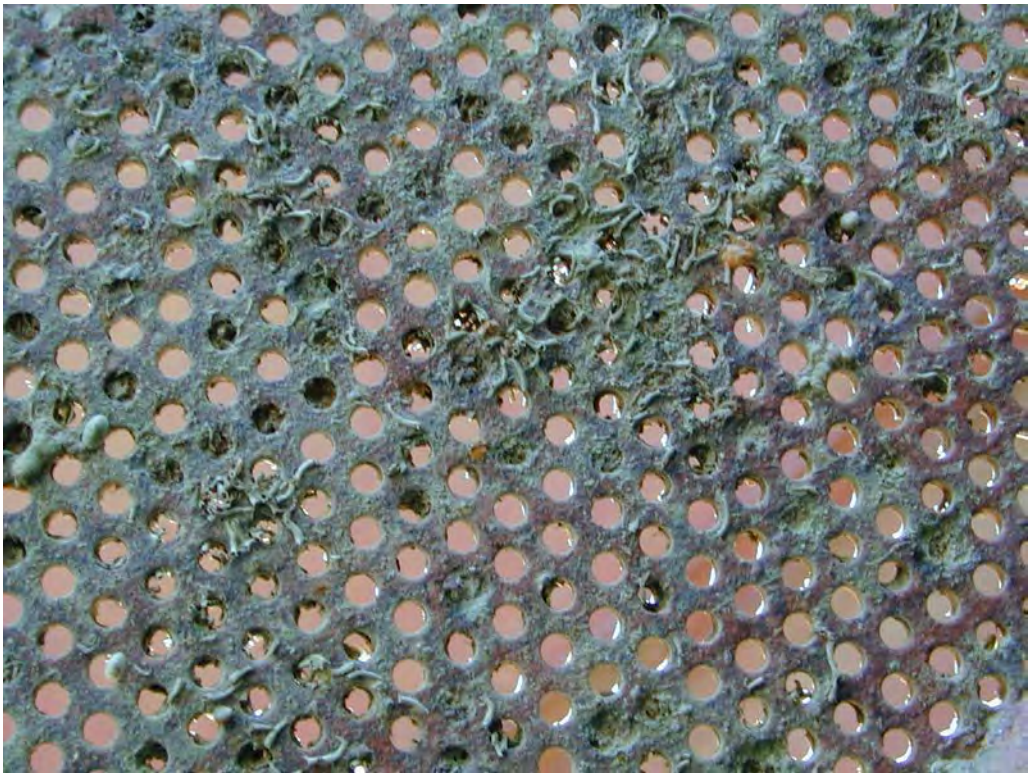
The first delivery of six TIES were coated with a primer only while the second set of six were both primed and painted. The primer on all twelve TIES tested positive for the presence of lead. The TIES were not provided with any cathodic protection.

In the 10-12 years the TIES have been in service, some degradation of the coating has occurred resulting in large portions of exposed metal which has oxidized causing pitting up to .32 cm in depth. In addition, oxidation on the perforated plate siding along with plant life accumulations restrict natural flow characteristics through the device.

Picture 1

Picture 2

Picture 3



Picture 4

Restricted flow through the perforated plate may have contributed to the plate failure shown below although the primary reasons are weld failure and flow generated vibration.

Picture 5

Based on the condition of the existing TIES, some action should be taken to maintain functionality and structural integrity. Assuming the TIES will continue to be utilized indefinitely, the project offers the following options for consideration:

OPTION 1:

Award a contract to remove the existing TIES for scrap and replace with new equipment.

Based on the price shown in the 1993 contract which provided six phase two TIES and delivered them to the project; adjusted for inflation at a rate of 3% per year:

- Construct 10 new TIES..... $2,233,226
- Deliver 10 TIES to project..... $ 124,581
- E & D..... $ 80,000
- Contracting..... $ 7,000
- S & A..... $ 10,000
- PM..... $ 15,000
- Project support..... $ 5,000

Total..... $2,474,807

OPTION 2:

Award a contract to blast and repaint 10 TIES. The estimate assumes the TIES have to be removed from the project and transported to an off site location for blasting and painting because there is insufficient facilities on site to contain lead dust that results from the blasting operation. Price estimates are based on project experience performing similar work on spillway gates by contract.

- Blast and repaint 10 TIES..... $2,500,000
- Transport TIES..... $ 125,000
- E & D..... $ 10,000
- Contracting..... $ 7,000
- S & A..... $ 25,000
- PM..... $ 15,000
- Project Support..... $ 5,000

Total..... $2,687,000

OPTION 3:

Construct a blasting and painting facility at the project large enough to contain the TIES and include all the necessary environmental and safety equipment for hazardous materials handling. Blast and paint TIES on site using project personnel.

- Construct blast/paint structure....$1,500,000
- E & D.....$ 80,000
- Contracting.....$ 7,000
- S & A.....$ 80,000
- PM.....$ 15,000
- Project Support.....$ 10,000

Sub Total.....$1,682,000

- Blast and paint 10 TIES.....$1,311,560
- Dispose of Lead Waste.....$ 300,000

Total.....$3,293,560

Options 1 and 2 are less expensive in the short term. However, options 1 and 2 share the common problem in that in 10-15 years, new or refurbished TIES will be in the same condition that presently exists.

Option 3 makes possible long term solution for maintaining the condition of the TIES. If project personnel is used to rehab the TIES, the cost of blasting, painting and waste disposal would be spread across several years. Additionally, O & M costs for rehabilitating other larger equipment such as STSs will be reduced since the blast/paint facility is large enough to accommodate blasting and painting without disassembly/reassembly of the structural parts.