

EPP PROPOSALS 2007 BIENNIUM

DIVISION: Water Resources Division DP # 2409 2411

REPORTING LEVEL: 5706-24-01-04-00-00-00

 NEW PROPOSAL X PRESENT LAW ADJUSTMENT

TITLE: Broadwater Bridge

EPP REQUEST DESCRIPTION: This request is for a one-time only, biennial appropriation of \$650,000 in state special revenue to replace the Broadwater spillway bridge structure. Replacement of the existing spillway bridge structure is necessary to address public and worker safety, to provide access for maintenance equipment, and to comply with current engineering design criteria and building codes. In addition, the Federal Energy Regulatory Commission (FERC) has identified one safety concern that needs to be addressed and others may follow. The division can face fines or potentially revocation of the hydropower dam license if the structure is not brought up to code.

SUPPORT JUSTIFICATION:

The 2003 legislature approved \$350,000 in state special revenue to address the primary concerns of public and worker safety at the Broadwater Power Project, specifically the rehabilitation of the existing spillway bridge structure. A small amount has been expended for an engineering assessment of the existing bridge structure and preparation of preliminary design options and cost estimates. That assessment concluded there to be more structure rehabilitation of the existing structure needed to achieve the project's goals than originally thought. The 2003-funding request for \$350,000 was based on the assumption the existing structure could be rehabilitated, which is one of the options studied in the engineer's report. The other primary option studied was complete replacement of the existing structure. It is now believed that complete replacement of the existing structure is the most cost effective and preferred alternative based on useful life estimates and other considerations.

The original dam structure and spillway bridge structure was completed in 1940 for irrigation. In 1989 with the hydropower retrofit, the operating level of the reservoir was raised 2.5 feet to maximize power generation without increasing the height of the existing dam structure. The spillway bridge structure was not raised to reduce project cost and as a result, during spring runoff when the spillway bays are passing river flow, debris such as trees and logs frequently become lodged on the underside of the bridge structure due to the lack of adequate vertical clearance to the water surface. The task of removing this debris to prevent eventual blockage of a spillway bay is hazardous to the power plant workers and there is a risk of bay blockage that could lead to overtopping of the dam

structure with serious ramifications. Increasing the vertical clearance by raising the bridge structure is a major feature of the proposed project.

Due to its age and present condition, the existing structure presents a number of problems that require resolution. First, the structure was completed in 1940 and is experiencing localized severe corrosion that is beginning to reduce its load bearing capacity. The bridge structure is unique in that it must resist both vertical loads typical of bridges, but also must resist horizontal loading from the upstream reservoir when flashboards are installed during maintenance of the spillway gates. Currently, the structure will not support the weight of a maintenance vehicle without significant rehabilitation and strengthening. Access by maintenance vehicles is necessary to perform emergency maintenance and/or repairs to the spillway gates. Second, the existing timber decking material was replaced in 1978 but has reached the end of its useful life. Wood rot has made the decking material unsafe for public access and must be replaced.

Other considerations in determining the most cost effective option for addressing the problems previously stated include the presence of lead-based paint that will require extensive hazard control measures during rehabilitation. If rehabilitation is the selected option, there will be complications and unknowns resulting from the difficulty, cost, and success at removing damaging corrosion and repainting the existing structure. Finally, if the existing structure is rehabilitated, the construction period will be longer, final load capacity will be marginally improved, and overall results will be somewhat questionable.

The primary considerations when evaluating rehabilitation of the existing structure versus complete replacement is total cost and estimated useful life. The estimated useful life of a new structure is 75+ years compared to 40 years for rehabilitation. The project cost for replacement is roughly 16% higher than that for rehabilitation.

IS THERE AN ALTERNATE FUNDING SOURCE? YES NO
IS THERE PENDING LEGISLATION BEHIND THIS? YES NO

FUNDING INFORMATION:

AMOUNT:	FY2006	FY2007
Personal Services		
Contracted Services	\$650,000	\$0
Supplies & Materials		
Communications		
Travel		
Rent		
Utilities		
Repair & Maintenance		
Other		
Equipment		
Local Assistance		
Grants		
Transfers		
Debt Services		
TOTAL	\$650,000	\$0
FUND:	FY2006	FY2007
01100		
02147	\$650,000	
03XXX		
TOTAL	\$650,000	\$0
FTE:	FY2006	FY2007
	<u>0.00</u>	<u>0.00</u>

