# Fish Passage Plan (FPP) Change Request Form

**Change Form # & Title**: 17 LGS 007 – Position of Operating Gates

**Date Submitted**: June 29, 2017

**Project**: Little Goose Dam

**Requester Name, Agency**: Charles Chamberlain, USACE - NWW

**Final Action:**

**FPP Section**: Subsection xiii of section 2.3.2.2 and section 4.3.3.

**Justification**: At Little Goose Dam, operating gates have been raised from their originally designed stored position to allow greater flow through the gatewell to increase the guidance of juvenile salmon into the juvenile bypass system. This action does not allow for the 10 minute standard gate closure time in the case of an emergency. With the present configuration, the additional time it takes to close the operating gates from the raised position is a safety risk for the project.

Since the gates were raised, additional improvements in fish guidance efficiency at Little Goose Dam have been implemented. In 2016, a study (Ham et al. 2016)[[1]](#footnote-1) was conducted to determine if there were still significant differences in fish guidance between gates in the raised position and those in the original stored position. Study results suggest that operating the gate in the raised position does not improve fish guidance into the Juvenile Bypass System.

In addition, a study to determine differences in fish guidance between raised and stored gates was also conducted at McNary Dam (similar gate configuration) in 2013 (Ham et al. 2013)[[2]](#footnote-2). Findings from that study also suggests that fish guidance efficiency was not significantly different between the two gate positions.

Consequently, we recommend lowering gates at Little Goose Dam to their designed stored position to reduce risk to the project.

**Proposed Change**:  Changes are proposed for two sections:

1. Subsection xiii of section 2.3.2.2 shall be deleted.

**2.3.2. Juvenile Passage Facilities – Fish Passage Season (April 1 – December 15).**

**2.3.2.2. ESBS, VBS, and Operating Gates.**

1. Section 4.3.3 shall be changed as below and all subsections deleted.

**4.3. Turbine Unit Maintenance.**

**4.3.3. Operating Gates.** Turbine units are to be operated with operating gates in the stored position, as originally designed, to ensure the safety of project personnel and facilities.

**Comments**: (listed oldest to newest)

***6/29/17 USACE*** – Little Goose Lock and Dam currently has 4 cylinders that are usable. They are looking at repairing 3 more for a total of 7. They would propose lowering the gates for one priority unit (3 cylinders) during the first already scheduled outage (no new outage requested). Installation of three cylinders would take approximately half a day and would require the turbine to be out of service for that time. Additional gates would be lowered as cylinders are repaired or purchased.

**Record of Final Action**:

1. Ham K.D., P.S. Titzler and R.P. Mueller. 2016. Evaluation of Juvenile Salmon Fish Guidance Efficiency at Little Goose Dam – The Effect of Operating Gate Position. PNNL-25829, prepared for the U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington, by Pacific Northwest National Laboratory, Richland, Washington. [↑](#footnote-ref-1)
2. Ham KD, PS Titzler and DM Trott. 2013. Evaluation of the Effect of McNary Dam Operating Gate Position on Fish Guidance Efficiency. PNNL-22857, prepared for the U.S. Army Corps of Engineers, Walla Walla District, Walla Walla, Washington, by Pacific Northwest National Laboratory, Richland, Washington. [↑](#footnote-ref-2)