

MEMO FOR RECORD

TITLE: 14 LWG 07 MFR prototype weir turbine priorities

NOTIFICATION DATE – 16 June 2014

PROJECT- Lower Granite Lock and Dam

Description of the problem

As described in Section 9.2.2 of Appendix A in the 2014 Fish Passage Plan (2014 FPP), the prototype overflow weir and enlarged 14” orifices structures connecting gatewell 5A and the juvenile collection channel are currently undergoing biological testing at Lower Granite Dam. On 7 June 2014, the prototype overflow weir began experiencing level sensor control problems and was temporarily closed so the Corps could diagnose the issues. During this period, the 14” orifice in gatewell 5A was operated to provide continued fish egress from the 5A gatewell. Upon exploration of the problems with the prototype weir during the week of 9 June 2014, it was determined that the level sensor controlling the overflow weir gate is malfunctioning and would need to be replaced in order to continue automated operations of the prototype overflow weir. Due to the physical location of the broken parts, full dewatering of the collection channel and juvenile bypass system will be required to return the prototype overflow weir to full operational condition. As it is not feasible to dewater the Juvenile Bypass System (JBS) at this time due to current fish passage operations at Lower Granite, operation of the prototype overflow weir will be discontinued for the remainder of the 2014 biological study and fish passage season. In order to complete the remaining portions of the biological evaluation for the 14” orifice portions of the study, the Corps will continue operation of the 14” orifice through 8 am on 17 June 2014 and for 24 hour periods starting at 8 am on 22 June 2014 and 29 June 2014. In order to support the remaining portion of the biological evaluation, the Corps proposes to continue modified unit priorities as described in Section 9.2.2 of Appendix A (FPP 2014) only for these specific periods while returning to standard FPP turbine unit priorities during the remainder of June.

Type of outage required – Unit priorities are currently being operated as described in Section 9.2.2 of Appendix A in the 2014 Fish Passage Plan:

Table LWG-1. Lower Granite Dam Turbine Unit Operating Priority Order.

Season	Duration	Unit Priority
March 1 – December 15 Fish Passage Season	Start Units	2, 3, then 4-6 any order, then 1 ^a
	Stop Units ^b	4-6 any order, then 3, 2, 1 ^b
April 15 – June 30 Study of Unit 5 Prototype Bypass Structures ^c	Start Units	2, 5, 3, then 4 or 6 any order, then 1 ^a
	Stop Units ^b	4 or 6 any order, then 3, 5, 2, 1 ^b
December 16 – February 28 Winter Maintenance Season	Stop/Start Units	Any Order

a. Unit 1 has fixed Kaplan blades (non-adjustable) and can only operate in the upper 1% range. The priority order minimizes Unit 1 starts/stops and allows for the longest runtime once Unit 1 is started.

b. Stop units in reverse Start order, except run Unit 1 as long as BPA load request and required spill rate can be met.

c. From April 15–June 30, 2014, unit 5 will be operated at the upper end of the 1% range, or at an alternative fixed discharge if possible, during each test block to provide consistent testing conditions.

Impact on facility operation – As a result of no longer needing modified turbine unit priorities for all of June, Lower Granite Dam will revert to standard 2014 FPP turbine unit priorities for the following periods:

- 17 June 2014 at 8 am to 22 June 2014 at 8 am
- 23 June 2014 at 8 am to 29 June 2014 at 8 am
- Starting 30 June 2014 at 8 am for the remainder of the fish passage season

Dates of impacts/repairs – 17 June 2014 at 9 am through 30 June 2014

Length of time for repairs – Not Applicable

Expected impacts on fish passage – No negative impacts are expected by returning to standard 2014 FPP priorities. No negative impacts have been observed to date with the modified turbine unit priorities as described above; if any issues are observed with the modified turbine priorities, discussions will be held with FPOM.

Comments from agencies

Final results

Please email or call with questions or concerns.

Thank you,