

FPP Change Form

Change Request Number: 10LMN001

Date: April 28, 2009

Proposed by:

John Bailey – NWW – Operations

(O&M coordination request: LMN Clarification Turbine Unit Priority Table)

James Gale – Lower Monumental Chief of Operations

(FPP Change form, replaces original coordination request form)

Proposed Change (underlined):

4.1. Turbine Unit Operation. When in operation, turbine units will be operated to enhance adult and juvenile fish passage from March 1 through November 30. During this time period turbine units will be operated as needed to meet generation requirements in the priority order shown in **Table LMN-5**. Unit operating priority may be coordinated differently to allow for fish research, construction, or project maintenance activities. If a turbine unit is taken out of service for maintenance or repair, the next unit on the priority list shall be operated. Flows listed in Table LMN-5 are based upon hourly average flows. Also see **Section 2.1, Spill Management.**

Table LMN-5. Turbine unit operating priority for Lower Monumental Dam.

Season	River Flow	Spill Level	Unit Priority
Mar 1 – Nov 30	Less than 70 kcfs	Bulk Spill Gas Cap	2, 5*, 3, 4, 6 then 1
	Over 70 kcfs	Bulk Spill Gas Cap	1**, 5*, 2, 3, 4, then 6
	Any River Flow	No Spill	2, 3, 4, 5, 6 then 1***
Dec 1 – Feb 28	Any River Flow	Any Spill Level, Including No spill	Any Order

*If U5 is OOS, run U4. **If U1 is OOS, run U2. ***If no spill is occurring, U1 may be operated at any priority level at the discretion of project personnel.

NOTE: U1 has fixed-pitch blades and can operate only at about 130 megawatts.

Turbine Unit 1 was the Fish Priority unit prior to the failure of blade linkages. Temporary repairs included blades being welded in fixed positions. Operating turbine unit 1 improves juvenile fish passage by eliminating the eddy at the fish loading dock. Tubine unit 1 operation is also preferred as operation attracts adult fish to the North fish ladder. Since this turbine unit has fixed blades and a narrow operation window, starts and stops can cause excessive wear and tear. Turbine unit 1 should be turned on and left on for extended periods to minimize starting and stopping the unit. The operation of turbine unit 1 in first priority position should be initiated when flows are in an increasing trend, and flows are over 70kcfs. Turbine unit 1 may be turned off at the power plant operator's discretion, when the flows are between 55kcfs-70kcfs.

Reason for Change:

Under the current Fish Passage Plan, Lower Monumental Dam is required to operate turbine unit 1 whenever river flow exceeds 70 kcfs and spill is in progress. Otherwise when river flows are under 70 kcfs, turbine unit 1 is last in operational priority. When total river flow fluctuates above and below 70 kcfs, operator workload is increased as frequent detrimental “on and off” cycling of turbine units 1 and 6 occurs within a short time frame.

Comments from others:

Bob Johnson, Planning Division, Walla Walla District: Research activities will not be affected by proposed change.

Martin Ahmann, Engineering Division, Walla Walla District: This change will reduce the cycling on and of turbine unit 1. This turbine unit was temporarily repaired to fixed blade status 4 years ago. Turning a turbine unit on and off increases stress, wear and tear on equipment and increases the likely maintenance problems.

Tammy Mackey, Portland District Operations Division: Special operations request should be resubmitted on fish passage plan change form.

Bill Hevlin, NMFS: Daytime tailrace conditions would be better for fish passage if unit one was operated as much as possible, (1) to provide stronger sweeping flow along the tailrace north shore for the juvenile outfall, and (2) to provide better adult attraction to the adult ladder entrance on the North end of the powerhouse. So why not prioritize unit one operation until flow drops to the point when full day time operation of unit one is no longer a sure bet, then switch to unit 2 daytime priority. Nighttime priority could be either unit one or two.

Mark Plummer, Ice Harbor Fishery Biologist: What if Unit 1 was first in priority? Then it would run all the time providing attraction to the fish ladder and omitting the need to turn it off and on?

Fredricks is concerned about the fixed blade state since the long term plan is to not have priority units as fixed blade. Unit 1 needs to be returned to Kaplan as soon as possible.

Record of Final Action: approved at May 2009 FPOM.