

Lower Monumental Dam¹

1. Special Project Operations.

1.1 Spill. Spill for fish passage will be provided during the outmigration season in accordance with spill specifications in Appendix E and as coordinated through TMT. Alternative spill patterns to control dissolved gas levels or change fish passage conditions will be coordinated through the FPOM. During periods of high river flow, spill volumes and the elevation of Lower Monumental reservoir may need to be manipulated on a daily or every-other-day basis to provide safe conditions for loading the fish barge at the juvenile fish facility below the dam.

1.2 Navigation Lock Outage. Scheduled navigation lock outage for 2011 is January 17 – March 13.

1.3 Trilateration Surveys. Dam safety has scheduled the performance of Trilateration surveys at Lower Monumental Lock and Dam, in the February/March/April 2011 time frame. This requires the contracted surveyors to have a direct line of sight across the top of the embankment and roadway deck of the powerhouse, spillway, non-overflow sections, and Navigation lock and that the brass cap survey markers do not have anything set over the top of them.

1.4 Periodic Inspection. The Periodic Inspection at Lower Monumental Lock and Dam is scheduled for June 1, 2011. Most of the inspection is land based, but in March an inspection by boat of the upstream and downstream face of the concrete dam, shore line, and embankment slope protection (RIP RAP) is planned. We will request that the Lower Monumental Pool be lowered to as close to 537 (at that time Lower Monumental will already be operating within the MOP range, 537-538 ft.) as possible as well as having a tailwater as low as possible. Our goal is to get it as low as reasonably possible to expose as much areas of the project to look for damage. These inspections are accomplished once every five years and are very important for monitoring of the overall condition of the dam and equipment. Prior to this inspection date the Lower Monumental spillway emergency generator will be tested. During the test we will raise as many of the spillway gates as possible with emergency power to maximize power usage and then close them.

1.5 Steady State Model Validation Testing. Western Electricity Coordinating Council requires steady state model validation testing on a periodic basis to ensure the generating equipment will meet real and reactive power ratings. All units will be tested on a 1-2 year cycle. Test will involve running the unit out of fish priority sequence and outside the 1% criteria. Testing can take place at any time except from 1 April to 31 August due to fish considerations. Tests will

¹ The purpose of this section is to notify regional interests of planned activities that will or may affect fish passage. Further coordination may occur as needed.

preferably be conducted just after unit annual maintenance, but may happen at other times. Tests will last for a standard of 30 minutes at maximum load with additional time to run the unit along the maximum real/reactive power curve to the minimum settings. Total test time is anticipated to be 90 minutes or less. Test durations will be minimized to the extent possible and will only be run for the purpose of completing the required model validation testing.

1.6 Main Unit 1. Current schedule shows the onsite work starting in Sep 2011 and ending Apr 2013. The unit will be removed from the hole, the hub disassembled and new blade linkages installed, cavitation repair done to the blades and scroll case, and a new discharge ring installed. The unit will then be re-installed and final machining done to achieve proper profiles of the scroll case, blades and hub. There may be other work, not part of this contract, which will occur at this same time such as blade packing replacement, wicket gate inspections and servo-motor refurbishment.

1.7 Intake Deck Crane. The new intake crane at Lower Monumental is slated for installation starting 26 Sep 2011. Load testing of raising and lowering at rated speed will require the use of a STS, intake gate, and spillway stop log. This is scheduled between 26 Oct 2011 to 11 Nov 2011.

2. Studies

2.1 Bull Trout PIT Tag Study. Incidental bull trout passing through the Lower Monumental Juvenile Fish Facility will be collected and held for PIT tag insertion, then released through the Lower Monumental primary bypass outfall. Project duration begins and ends with scheduled juvenile fish facility operations. No special turbine or spill operations will be necessary.

2.2 Developing Half-Duplex PIT Tag Antennas at Fishway Entrances and Exits at Ice Harbor Dam. New lamprey Half-Duplex PIT Tag antennas will be installed near fish way entrances (for both the North and South Shore Fishways) and exits during the winter maintenance period at Lower Monumental Dam. This study will require Lower Monumental to provide power for electronics equipment in the fishways, access for the installation, repair, and testing of electronic equipment and access for the downloading of data from video camera equipment. Some project support may be needed to install video cameras in and near fishways. Maintenance and installation of equipment will occur during the winter maintenance period when adult fishways are dewatered. Work is new in 2011.

2.3 Evaluation of Fish Counting Accuracy Issues at FCRPS Dams, at Ice Harbor and Lower Monumental Dams. Determine if counting slot lighting modifications, video camera location and upgrades, and video monitor placement can improve fish counting accuracy at Ice Harbor and Lower Monumental dams. During daytime, the IHR north counting slot is exposed to direct sunlight, particularly in June and July, when the sun is highest and when the majority of

count discrepancies are seen, and this creates difficult viewing conditions for fish counters. By conducting random visual sampling counts of the video recorded count stations (and sample video recordings periods) and comparing to the visual counter at the other count station, we can determine if there are count accuracy and/or identification issues. Fish counts at IHR are often lower than those at upstream dams, possibly suggesting some issue with fish counting accuracy at IHR. This is particularly frequent in June and July, when the sun is highest and glare may be at its worst at these count windows. At IHR and at LMN, all fish counting is done by video in the IHR north and the LMN south fishladder counting slots. Evaluate effects of modified Ice Harbor and Lower Monumental counting slot lighting and video monitoring equipment on counting accuracy.