CENWW-ODL **5/16/2017**

MEMORANDUM FOR RECORD: 17 LWG 06

Subject: Emergency Spill Operation to Clear Lower Granite Forebay Debris and a Log from RSW

Forebay debris at Lower Granite has been increasing from an estimated 70 square yards on 5 May to about 2,700 square yards on 10 May, and over 5,000 square yards on 14 May (see Figure 1). In addition, a log became jammed between the corner of the debris boom and the Removable Spillway Weir (RSW). Additional debris accumulated behind the log on the south side of the RSW decreasing the RSW passage width to only about 15 feet of debris free water flowing over the RSW.

In response to increased debris in the forebay and the wedged log in the RSW preventing debris from passing over the RSW, Lower Granite performed an emergency debris spill from 1043-1206 hours on 15 May 2017. During the debris spill the spill pattern was changed however the spill volume remained unchanged. Modification to the spill pattern included closing the RSW at 1043 hours, opening spillbay 2 to full, opening spillbay 3 to 12 stops, and reducing spillbays 4 through 8 to approximately 1 stop. The spill pattern was returned to normal operation at 1206 hours. The powerhouse mechanical crew pulled debris from the navigation lock area and released it in front of the RSW prior to the emergency debris spill to maximize the benefit.

The bypass orifices are being back flushed hourly to minimize debris issues. No orifice blockages or fish mortalities have occurred. The incline screen is being cleaned a minimum of once per hour and the pneumatic bubbler system is being used as well. Maintenance staff are assisting with cleaning the incline screen and orifice back flushing. On 14 May at about 1300 hours, the supply to the kelt collection flush water was decreasing and the water level in the separator increasing due to debris blockage to the incline screen. The bypass facility was switched to primary bypass mode from about 1530-1608 to remove a thick mat of fine debris from the incline screen. Based on the hourly sample data approximately 597 fish were bypassed during this time.

Debris loads have also been increasing in the tailrace with wood collecting in the stoplog area. A log became stuck in fish ladder collection channel (see Figure 2) on the morning of 15 May 2017 and was subsequently cleared.

Figure 1. Lower Granite Dam forebay debris before the emergency debris spill on 15 May 2017.

Figure 2. Lower Granite Dam tailrace debris on 15 May 2017.

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