

## **Fish Passage Plan (FPP) Change Request Form**

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**Change Form # & Title:** 18JDA001 – March 1 JBS Start  
**Date Submitted:**  
**Project:** John Day Dam  
**Requester Name, Agency:** Lisa Wright, Corps RCC; Miro Zyndol, JDA Fisheries  
**Final Action:**

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### **FPP SECTION:**

Chapter 4 – John Day Dam:

- 2.3.1 (Juvenile Facilities - Winter Maintenance Period)
- 2.3.2 (Juvenile Facilities - Fish Passage Season)
- 4.2.1 (Routine Maintenance)

**JUSTIFICATION FOR CHANGE:** Revises the FPP as necessary to incorporate a March 1 start for the John Day Dam juvenile bypass system, as recommended by the Joint Technical Staff Memorandum on October 10, 2017.<sup>1</sup>

By March 1, 2018, JDA will install STSs in the top four priority units and begin every-other-day sampling. Additional units will have screens installed earlier than April 1 if maintenance schedules allow.

**PROPOSED CHANGE:** *[see pages below with edits to existing FPP in track changes]*

### **COMMENTS:**

### **RECORD OF FINAL ACTION:**

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<sup>1</sup> [pweb.crohms.org/tmt/documents/FPOM/2010/2017\\_FPOM\\_MEET/2017\\_OCT/Early%20Start%20Up%20letter.pdf](http://pweb.crohms.org/tmt/documents/FPOM/2010/2017_FPOM_MEET/2017_OCT/Early%20Start%20Up%20letter.pdf)

### **2.3.1. Juvenile Facilities - Winter Maintenance (December 1 – March 31\*).**

***\*In 2018, the JBS and SMF will begin operations on March 1, as described below in sections 2.3.1.7 and 2.3.1.14.***

**2.3.1.1.** Submersible traveling screens (STS) will remain in place and the juvenile bypass system (JBS) channel will operate through December 15 to prevent adult salmonids from falling back through turbine units, thereby shortening some aspects of the winter maintenance period by two weeks. Priority units will be screened during this period to the extent practicable (barring operational failure); STSs will only be removed from non-priority units when necessary to begin maintenance. After December 15, all STSs may be removed.

**2.3.1.2.** Dewater DSM channel only when required for inspection, maintenance, or structural modifications (**section 5**). Minimize the outage period to the extent practicable.

**2.3.1.3.** All units are available to meet power demands.

**2.3.1.4.** Remove debris from the forebay, all trash racks, and gatewell slots so these areas are debris-free by April 1.

**2.3.1.5.** Inspect all VBSs for damage, holes, debris accumulations, or protrusions (video inspection acceptable). Clean and repair when necessary.

**2.3.1.6.** Inspect and operate each STS.

**2.3.1.7.** ***\*In 2018, install screens by March 1 in at least the first four operational units in the priority order defined in Table JDA-6. Additional units may be screened prior to April 1 if maintenance schedules allow.*** By April 1, STSs will be installed in each intake slot of all operational units unless otherwise coordinated with the fish agencies and tribes.

**2.3.1.8.** Inspect all gatewell orifices and orifice lighting systems. Clean and/or repair where necessary such that these systems are debris-free and operable on April 1.

**2.3.1.9.** Check automatic control calibration/operation for the DSM tainter gate and other necessary sensors weekly. Recalibrate as necessary and report summaries of equipment recalibration in the weekly SMF operation monitoring reports.

**2.3.1.10.** Inspect and maintain DSM conduit tainter gate. Repair where necessary.

**2.3.1.11.** Inspect walls and floor of DSM conduit, raceway, and outfall. Correct any deficiencies.

**2.3.1.12.** Inspect spillbay gates and associated control system. Repair where necessary. Spillbays must be able to achieve FPP spill patterns on April 10, unless otherwise coordinated.

**2.3.1.13. Avian Lines.** See the *Avian Monitoring & Deterrence Action Plans* in **Appendix L**. Avian abatement measures shall be in place by April 1, or as soon as weather permits.

**2.3.1.14. Smolt Monitoring Facility (SMF).** Ensure all following items are fully operational. *\*In 2018, the SMF will begin operations on March 1.*

**2.3.1.14.a.** Dewatering facilities, including weir gates, perforated plates, screens (free of holes or gaps), and screen cleaner brush system;

**2.3.1.14.b.** All valves and auxiliary water systems;

**2.3.1.14.c.** Flushing water valves and their perforated plates;

**2.3.1.14.d.** All gates, including the crest, tainter, switch, and rotating gates;

**2.3.1.14.e.** Fish/debris separator, including perforated plates and adult passage chamber;

**2.3.1.14.f.** PIT-tag detectors;

**2.3.1.14.g.** All sampling building systems, including holding tanks, valves, and conduits (see specific list in the *SMF Operation & Maintenance Manual*).

## **2.3.2. Juvenile Facilities - Fish Passage Season (April 1\* – November 30).**

*\*In 2018, the JBS and SMF will begin operations on March 1, as described below in sections 2.3.2.1 and 2.3.2.15.*

**2.3.2.1.** *\*In 2018, STSs will be installed by March 1 in at least the first four operational units in the priority order defined in Table JDA-6. Additional units may be screened prior to April 1 if maintenance schedules allow.* STSs will be in place prior to the beginning of the juvenile fish passage season and will remain in operation through December 15 for adult fallbacks, even though the juvenile passage season officially ends November 30.

**2.3.2.2.** Units without a full complement of rotating STSs will not operate except to be in compliance with other coordinated fish measures.

**2.3.2.3.** Inspect each STS, VBS, and orifice once per month or every 720 hours run-time. Video inspections are acceptable. More frequent inspections may be required under the following conditions: deterioration of fish condition, increased debris load in JBS, or other indications of STS or VBS malfunction or failure. If STS or VBS damage or plugging is detected, follow procedures in **section 3** below. Inspection records will be reported in weekly fishway status reports and provided to FPOM. Unit 2 will operate when Unit 1 is out of service for STS inspections.

**2.3.2.4.** Observe each STS amp and/or watt meter readings at least once per shift. If an STS failure occurs, then follow procedures in **section 3** below.

**2.3.2.5.** Inspect all STS gatewells daily. Clean gatewells before the gatewell water surface becomes 50% covered with debris. If due to the volume of debris it is not possible to keep

the gatewell surfaces at least 50% clear, clean gatewells at least once daily. Do not operate turbines that have a gatewell fully covered with debris except to be in compliance with other coordinated fish measures, and then only on a “last-on/first-off” basis. Close the powerhouse gatewell orifices during cleaning. After gatewell de-barking, cycle the orifice in that gatewell. Check gatewell drawdown.

**2.3.2.6.** Measure gatewell drawdown across trashrack a minimum of once per week. Remove debris from forebay and trashracks as required to maintain gatewell drawdown < 1.5 ft. If VBS drawdown reaches 1.2 ft, inspect the screen and prepare to clean as necessary.

**2.3.2.7.** Open all gatewell orifices April 1\*–December 15. *[\*In 2018, STSs will be installed by March 1 in at least the first four operational priority units – see section 2.3.2.1].* Inspect orifice lights daily to ensure lights are operating. Replace all burned out orifice lights within 24 hours. Close and open each orifice three times daily, or more frequently as determined by the Project Biologist due to heavy debris accumulation in gatewells. If a unit goes out of service, orifices are to remain open in associated gatewells unless that gatewell is dewatered.

**2.3.2.8.** From April 1\* through August 1, rake Units 1–5 monthly and Units 6–10 or 11–16 every other month. *[\*In 2018, STSs will be installed by March 1 in at least the first four operational priority units – see section 2.3.2.1].* After August 1, rake units as determined necessary by ROV inspection, or as needed to maintain gatewell drawdown in criteria.

**2.3.2.9.** Debris accumulations in the forebay of 300 ft or more in any direction from the face of the dam will be removed within 48 hours. Debris removal efforts should continue until the debris load has been removed.

**2.3.2.10.** If debris loads are obvious in the forebay, trash will be raked in front of the affected units weekly until the debris load has been removed.

**2.3.2.11.** Additional raking will occur whenever trash accumulations are suspected because of increased differential ( $\geq 1.5$  ft) across the trash racks, or as determined by the Project Biologist in response to increased juvenile fish descaling at the dam, deteriorating fish condition observed at the SMF, or increased accumulation of tumbleweeds in the forebay. Gatewell orifices of the unit being raked must be closed during the raking operation.

**2.3.2.12.** When using a dip basket for gatewell cleaning, coordinate with SMF personnel.

**2.3.2.13.** Make best efforts to keep all petroleum out of gatewells. Project environmental section will determine cleanup efforts if needed. Regardless of unit operating status, oil accumulations will be dealt with promptly.

**2.3.2.14.** Maintain water level in bypass conduit between 4.0’–5.0’ as measured at Unit 16.

**2.3.2.15. Smolt Monitoring Facility (SMF).** From April 1\*–September 15, the SMF will be monitored 24 hours/day, 7 days/week by Project fish personnel to ensure proper functioning and to provide quick response to an emergency. *[\*In 2018, the SMF will begin operations on March 1.]* On-duty staff will perform a walking inspection of the entire SMF system every two hours to ensure safe passage conditions. The system will be fully staffed while the SMF

is in operation (i.e., crest gate deployed and secondary dewatering structure receiving fish-laden flow). To ensure proper function of sampling systems, particular attention will be directed to the following:

- i. Dewatering facilities, including screens, being free of holes or gaps, and the screen cleaner brush system;
- ii. All valves and auxiliary water systems;
- iii. Flushing water valves and perforated plates;
- iv. All gates, including crest, tainter, switch, and rotating gates;
- v. Fish/debris separator (FDS), including perforated plates and adult passage chamber;
- vi. PIT-tag detectors;
- vii. All sampling building systems, including holding tanks, valves, and conduits;
- viii. During low to normal debris loads, cycle the Primary Dewatering Screen (PDS) sweepers twice per shift (six times per day). If higher debris loads, increase frequency of screen sweeper cycling as determined by Project Fisheries inspection.
- ix. Pay particular attention to the fish/debris separator (FDS) that needs to be visually inspected every 30 minutes to prevent injury and/or mortality to fish. During high debris loading periods (likely during spring runoff), additional personnel may be required to keep the FDS free of any obstruction to fish passage. The Project Biologist will decide to assign a person to remove debris from the FDS on a shift basis (possibly 24 hours/day presence) for as long as necessary to assure the safety of passing fish.
- x. When river temperatures are  $\geq 70^{\circ}\text{F}$ , all fish handling to remove adult fish from the PDS area will be coordinated through FPOM.

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#### **4. FISH FACILITIES MAINTENANCE**

##### **4.2. Maintenance – Juvenile Fish Facilities.**

###### **4.2.1. Routine Maintenance.**

**4.2.1.1. Submersible Traveling Screens (STS).** The STS system may receive preventive maintenance or repair any time of the year as necessary. Most maintenance will occur during the winter maintenance period when all STSs may be removed from intakes. From April 1\*–December 15, a turbine unit cannot operate without a full complement of functioning STSs.

***\*In 2018, STSs will be installed by March 1 in the first four operational priority units - see section 2.3.2.11.***