Fish Passage Plan (FPP) Change Request Form

Change Form # & Title:	16JDA001 – Two AWS Turbine Operation for SFL
Date Submitted:	February 29, 2016
Project:	JDA
Requester Name, Agency:	JDA Fisheries, Corps JDA
Final Action:	WITHDRAWN – March 10, 2016

FPP SECTION: JDA 4.3.3.1. – Adult Fish Facilities - Non-Routine Maintenance

JUSTIFICATION FOR CHANGE: John Day-South (JD-S) fishway has an auxiliary water supply (AWS) powered by three "turbines" which feed water to the entrance area of the JD-S ladder (Figure 1). Each turbine design is complex and consists of a turbine, gear box, and the pump itself. The bearing of AWS turbine #1 was discovered to have failed by JD Maintenance on 2/08/16 during an "in depth" winter inspection, which occurs every few years. Inspection of turbine #2 started on 2/17/16 and it was discovered that its pump's lower bearing was also in a failed condition. However, JD Maintenance has been working on retrofitting a spare fitting from turbine #3 into turbine #2 temporarily. Therefore the Project believes they will start the fish passage season on 1 March with one functioning AWS turbines. It's unknown how long repairs to turbine #1 will take. Turbine #2 is awaiting parts and should return to service 17 March.

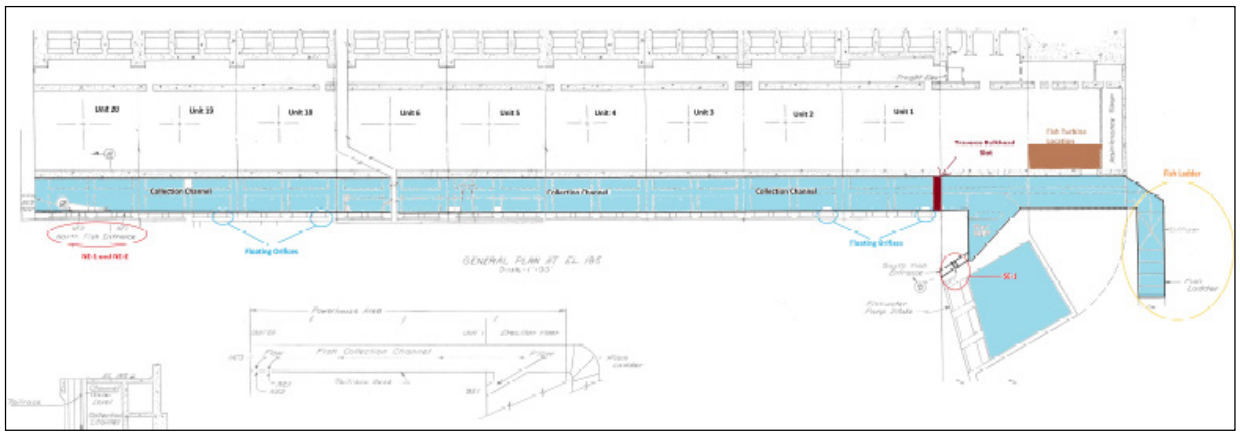

Figure 1. Schematic of the JD-S fishway with the location of the AWS turbine pumps (brown) and the locations of potential operational measures described in the text.

With only two AWS fish turbines available, JDA fisheries proposes to operate the S fish collection channel without floating orifice gates at units 18 & 19. This configuration is identical to South ladder operation during the turbine 3 rehab project from 2008-2011. Closing floating orifice gates at units 18 & 19 will give the project more operational flexibility running the remaining two AWS turbines at lower rpm's while maintaining channel velocities and entrance differentials.

The proposed language will be added into the FPP as follows:

PROPOSED CHANGE:

4.3.3.1. Fishway Auxiliary Water Systems. The fishway auxiliary water systems are mostly automated. If the automatic system fails, the system will be operated manually by project personnel. This will allow the fish facility to operate according to criteria while the automatic system is repaired. When this operation becomes necessary, project personnel will increase the surveillance of the adult system to ensure that criteria are being met. The FPOM will work with the project to determine the best operation in the event of an AWS failure during the adult passage season.

4.3.3.1.a. South Ladder. If one of the three auxiliary water turbines fails, assuming all three turbines are being used to meet criteria, the output of the two remaining turbines will be increased to meet adult fishway criteria. The two floating orifice gates at units 18 & 19 may be closed to meet entrance criteria and will be coordinated through FPOM prior to closure. If a second turbine unit fails, the adult fish facility will be operated as follows until a fishway head of 1' is achieved:

COMMENTS: March 10, 2016, FPOM – Fredricks is fine with the temporary operation in the MOC (16JDA02) but not ok with changing the FPP for something that needs to be prioritized for repair. Three workable pumps are necessary to maintain criteria.

RECORD OF FINAL ACTION: WITHDRAWN – March 10, 2016