# Fish Passage Plan (FPP) Change Request Form

**Change Form # & Title**: 17JDA005 – Turbine Dewatering Gatewell Dipping

**Date Submitted**: May 3, 2017; Revised May 18, 2017

**Project**: JDA

**Requester Name, Agency**: Miro Zyndol, JDA Fisheries

**STATUS**: **APPROVED 7/13/17**

**FPP Section**: JDA 6.5.1. Dewatering – Turbine Units.

**Justification**: Unit 12 was taken out of service May 1, 2017, for annual maintenance and the STSs removed. Turbine dewatering criteria in FPP sections 6.5.1–6.5.2 were followed correctly – the unit was spun to flush fish immediately prior to installing tail logs and before closing the orifices. Gatewell dipping is not required when STSs have been removed.

As described in Memo for the Record (MFR) *17JDA07*, emailed to FPOM May 3, 2017, a total of 3,417 smolts died after being stranded on top of bulkheads that were installed in Unit 12 gatewells B and C for the dewatering. The mortalities were comprised of: 3,183 steelhead (2.8% of passage index on 5/2), 232 Chinook (0.2% of passage index on 5/2), 1 sockeye, and 1 coho.

This is the first mortality incident of this kind. To prevent future mortalities, JDA Fisheries proposes to change FPP criteria to require gatewell dipping every time a turbine is dewatered April 1 through December 15, whether or not STSs are installed.

**Proposed Change**:

6.5. Dewatering – Turbine Units.

**6.5.1. Gatewell Dipping:** Remove juvenile fish from gatewell(s) that will be drained by use of a special dipping basket. Gatewell dipping is mandatory during fish passage season, April 1–December 15, whether or not fish screens are installed. Dipping is not required during winter maintenance, December 16–March 31, when fish screens have been removed. To minimize the number of fish contained in the gatewell:

* 1. Shut down the turbine the previous evening/night and leave idle with all orifices open overnight if power demand allows;
  2. Keep orifices open during the removal of screens/STSs, during turbine spinning, and while gatewell dipping is performed;
  3. Close orifices only after gatewell dipping/fish removal has been completed and immediately before installing the bulkhead;
  4. It is strongly preferred that, if possible, two roller gates and one bulkhead are deployed to isolate a turbine for dewatering.

**Comments**: (listed oldest to newest)

FPOM May 11, 2017: This operation needs preventive measures other than just gatewell dipping, especially during peak passage when dipping could be harmful to fish. Can just one bulkhead suffice? Leave orifices open overnight or for a day, then dip immediately prior to installing the bulkhead.

May 18, 2017: Wright and Zyndol revised the Change Form to incorporate FPOM feedback from the May meeting.

FPOM June 8, 2017: Zyndol will update the [JDA Dewatering Plan](http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Plans%20lists%20charts/) to be consistent with this new FPP criteria.

FPOM July 13, 2017: Fredricks, Lorz, and Kiefer support these changes. Maybe overkill but could be pared back later if necessary. Good to make sure orifices stay open as long as possible for fish to move out, minimizing salvage.

**Record of Final Action**: APPROVED at FPOM 7/13/17