# Fish Passage Plan (FPP) Change Request Form

**Change Form # & Title**: 17IHR003 – Turbine unit operational testing

**Date Submitted**: December 15, 2016; Revised/Resubmitted January 26, 2017

**Project**: Ice Harbor

**Requester Name, Agency**: Brian Vorheis, Ice Harbor Dam, USACE

**Final Action:** **APPROVED 2/16/17**

**FPP SECTION**: Ice Harbor 4.3.2. Operational Testing.

**JUSTIFICATION**: When taking a unit out of service or returning a unit to service following a 6 year overhaul, more than 30 minutes is needed to perform Pre and Post maintenance operational checks.

**PROPOSED CHANGES**:  (edits to existing FPP text in track changes)

**4.3.2.1. Pre-Maintenance:** Units may be operationally tested for up to 30 minutes (or up to 1 hour for 6-year overhaul) before going into maintenance status by running the unit at full load, speed-no-load, and various loads within the 1% range for pre-maintenance measurements and testing, and to allow all fish to move through the unit. The unit will be run continuously during the testing. Prior to installing stop logs for unwatering, the unit will be operated to flush fish as described in **section 4.3.3. Unwatering Units**.

**4.3.2.2. Post-Maintenance**: Units may be operationally tested after maintenance or repair while remaining in maintenance or forced outage status. Operational testing may consist of running the unit within the 1% range for up to 30 minutes (or up to 2 hours for 6-year overhaul) before it is returned to operational status. The unit will be run continuously during the testing in order to get the unit up to operational temperature.

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

1/26/17 FPOM FPP Meeting: Fredricks asked if testing requires operating above the 1% range - as written, it doesn’t. Bettin thinks they do need to test above 1% and the language is a mistake – should be “outside” 1% instead of “within”. Fredricks noted if testing is within 1%, then the only real impact is to unit priority order, potentially, so it’s not really an issue. Fone will check with Vorheis to confirm and revise/resubmit for the next FPOM. PENDING Feb FPOM.

1/26/17 emails from Ken Fone and Brian Vorheis:

From: Fone, Kenneth R CIV CENWW CENWD (US)   
Sent: Thursday, January 26, 2017 17:55

Here is the change form with the added information that FPOM was asking for. Operation outside the 1% range will only be necessary to help flush fish out of the unit prior to installing stop logs.

-----Original Message-----

From: Vorheis, Brian P CIV USARMY CENWW (US)

Sent: Thursday, January 26, 2017 4:23 PM

I'm good with it. Thanks.

-----Original Message-----

From: Fone, Kenneth R CIV CENWW CENWD (US)

Sent: Thursday, January 26, 2017 1:10 PM

I modified the attached change form to answer FPOM's questions. Also I added "full load" to the pre-maintenance testing paragraph, because in section 4.2.1.ii it says full load if possible to help get fish out of the draft tube prior to installing stop logs. Please review to make sure you are good with my changes.

-----Original Message-----

From: Vorheis, Brian P CIV USARMY CENWW (US)

Sent: Thursday, January 26, 2017 12:19 PM

No will not involve running out of the 1% range. Requires constant run time to get unit up to running temperature.

-----Original Message-----

From: Fone, Kenneth R CIV CENWW CENWD (US)

Sent: Thursday, January 26, 2017 10:58 AM

Brian,

FPOM asked if the pre and post-maintenance operational testing for units involves running the unit out of the 1% range. Also does the testing involve many starts and stops of the unit over a period of days up to the cumulative total of 1 or 2 hours, or is it pretty much continuous running the unit up to the 1 or 2 hours?

2/9/17 FPOM: Fone went over the revisions he made to the change form per FPOM’s request. Conder recalled that it was Lorz who had concerns with the language, so need to make sure he signs off on it. Fredricks wondered what the issues were and was generally fine with the change form as long as it’s consistent with the Load Shaping Guidelines in Appendix C. Conder doesn’t see any red flags but wants to confirm Lorz is, too. PENDING review by Lorz.

2/16/17 email from Tom Lorz: as long as they are going to run continuously and if they need to deviate come talk to us, no worries here.

**RECORD OF FINAL ACTION**: APPROVED at FPOM 2/9/17 and email from Lorz 2/16/17