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

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| **Change Form # & Title**: | 15MCN005 – South Shore AWS Ops |
| **Date Submitted**: | December 29, 2014; Revised Jan 22, 2015 |
| **Project**: | MCN |
| **Requester Name, Agency**: | Dave Benner, FPC |
| **Final Action:** | APPROVED as revised – January 22, 2015 |

**FPP Section**: MCN Section 3.2.2.3. Adult Passage Facilities – Unscheduled Maintenance.

**Justification for Change**: Under limited auxiliary water, typically entrances at spillway end of powerhouse would be closed before bulkheading off the collection channel. This is also the case at: JDA 4.3.3.1 a.7. IHR 3.2.2.3. LMN 3.2.2.2.

REVISED 1/22/15: Recognizes the 450 cfs contribution from juvenile collection channel that enters the south fishway near the north powerhouse entrances and that as long as it is operational, the collection channel should not be bulkheaded at the junction pool and all north powerhouse entrances should not be all closed.

Acknowledges the difficulty of closing SFE2 as long as the lamprey passage structure is in place. This structure prevents the weir from being fully sealed and blocks the stoplog slots, so there is no ability to place stoplogs in SFE2 when lamprey structure is in place. As long as this structure is in place, SFE1 should be first closed. Also acknowledges there are currently enough bulkheads to close 8 of 12 FOGs, so if the collection channel was bulkheaded at the junction pool, even with the north entrances closed, 4 of the 12 FOGs would remain open, allowing access to the collection channel.

**Proposed Change**:

**3.2.2.3. South Shore Auxiliary Water Supply System.** The south shore auxiliary water is made up of a combination of gravity flow from the forebay, pumped water from the tailrace and 450 cfs of water from the juvenile collection channel. The gravity flow supplies the diffusers above weir 253 (diffusers 7 through 14) and the pumps supply diffusers below weir 253 (diffusers 1 through 7 and main unit diffusers). Diffuser 7 is where both systems meet and is supplied by either gravity flow or pumped flow. Gravity flow diffusers are regulated by rotovalves and pumped flow diffusers by sluice gates. Water from the juvenile collection channel enters the south fishway near the north powerhouse entrances.

**3.2.2.3.a-c.** *no changes…*

**3.2.2.3.d.** If two pumps fail and are expected to be out of service short-term (five days or less), then NFE3 will be closed and SFE1, SFE2, and NFE2 will be operated as deep as possible while ~~to~~ maintaining a ~~the~~ 1–2' head differential at both the north and south PH entrances.

**3.2.2.3.e.** If two pumps fail and are expected to be out of service long-term (six days or more), then the middle eight of twelve open floating orifices (4,8,14,21,26,32,37,41) should

be closed and monitored before closing main entrances. If extra water is still needed, NFE3 will be closed and SFE1, SFE2, and NFE2 will be operated as deep as possible to maintain the 1–2' head differential at both the north and south PH entrances.

**3.2.2.3.f.** If all three pumps fail and the outage is expected to last five days or less, CENWW-OD-T will be notified and in turn will coordinate with NOAA Fisheries and other FPOM participants.

**3.2.2.3.g.** If all three pumps fail and the outage is expected to last six days or longer~~, the powerhouse transportation channel will be bulkheaded off at the junction pool~~ close NFE3 and the middle eight of twelve open floating orifices (4,8,14,21,26,32,37,41)~~,~~ ~~-~~and operate SFE1 and SFE2 ~~operated a~~s deep as possible while~~and to ~~~~maintain~~ing the 1–2' head differential at the south PH entrances. If a depth of 6' on both gates cannot be maintained, SFE1~~2~~ will be closed as long as the lamprey passage structure is in place at SFE2, if the lamprey structure is not in place then close SFE2.

**3.2.2.3.h.** If both the ~~gravity flow and~~ pumped auxiliary water supply systems and juvenile collection channel is closed or in emergency bypass (eliminating the 450 cfs contribution from the juvenile system) ~~fail~~, close north powerhouse entrances and~~-~~ eight of twelve open floating orifices starting at the north end of collection channel~~, the powerhouse transportation channel will be bulkheaded off at the junction pool~~ and operate SFE1 and SFE2 as deep as possible while maintaining the 1–2' head differential at the south PH entrances. If a depth of 6' on both gates cannot be maintained, SFE1 will be closed as long as the lamprey passage structure is in place at SFE2, if the lamprey structure is not in place then close SFE2.

**Comment [LSW1]:** Comment from Bobby Johnson, MCN Fisheries, 22-Jan-2015: "You could put in a transverse log north of the four remaining orifices since the 450 cfs is gone."

**Comments**:

1/13/15 Carl Dugger, MCN: "MCN Fisheries denies this change for the following reasons: **3.2.2.3.g.** If you bulkhead off the powerhouse channel at the north end, there will be NO place for the 450 CFS flow from the juvenile collection channel to go. If you bulkhead it off at the south end, the 450 CFS from the juvenile channel will go out the 12 floating orifices, creating attraction flow into a dead end channel. That is why you can't bulkhead off the powerhouse channel as long as the juvenile channel is in any mode other than emergency bypass or dewatered for the season. In all other cases, the 450 CFS it produces has to have somewhere to go, and this proposal leaves it nowhere to go. **3.2.2.3.h.** You can't close SFEW2 effectively because the new lamprey passage structure prevents the movable weir from getting a decent seal – water will just flow under it. Also, the lamprey structure blocks the stoplog slots, so placing stoplogs there is also not an option. If you need to close one of the south entrances, close SFEW1 – it has none of those problems."

1/16/15 NOAA memo: "This one isn't clear. If the entrances are typically closed before bulkheading the channel, as stated in the justification, then what is the change in FPP text trying to accomplish? If this is just stating the sequencing that already occurs, we see no problem with it, but the justification/explanation should be clearer."

1/22/15 FPOM: Change form revised per coordination between Benner and MCN Fisheries.

**Record of Final Action**: 1/22/15 FPOM: APPROVED as revised.