# Fish Passage Plan (FPP) Change Request Form

**Change Form # & Title**: 18LGS007 – Updates for new ASW

**Date Submitted**: January 31, 2018

**Project**: Little Goose Dam

**Requester Name, Agency**: Corps NWW

**Final Action:** **APPROVED 2/9/18**

**FPP Section**:

LGS Chapter 8:

* Project Info table
* Section 2.3.2.7. ASW Criteria
* Spill Pattern Tables

**Justification for Change**: The new adjustable spillway weir (ASW) will be in operation for the 2018 spill season and will allow the project operator to change the crest elevation and close the ASW from the control room, rather than requiring a crew.

 **Proposed Changes**:

* Change all acronyms from “SW” to “ASW”.
* Edit project info table and ASW criteria section as shown below in track changes.
* Modify the title of Table LGS-11, which closes both bays 1 and 2 for worker safety during the crest change (no longer relevant), from “*Alternate Uniform Patterns during SW Crest Change*” to “*Alternate Uniform Patterns if necessary for Worker Safety*”.

**Comments**:

2/8/18 FPOM: Considering the new ASW can be changed from the control room and doesn’t require a crew (no longer weather/staffing dependent), FPOM recommended the following revisions:

* decrease the duration of the inflow forecast from 7 to 3 days;
* delete language regarding allowing 3 days to do the work and not going back to low crest even if flows increase above the trigger.

2/8/18 Erick VanDyke via email: “The attached comments make LGS change forms consistent and update the expected functionality of the new ASW.”

**Record of Final Action**: Approved as revised at FPOM and via email 2/9/18.

**Chapter 8 - Little Goose Dam**

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| **Project Acronym\*** | LGS |
| **River Mile (RM)** | Snake River - RM 70.3 |
| **Reservoir** | Lake Bryan |
| **Minimum Instantaneous Flow (kcfs)** | Dec–Feb: 0 kcfs \ Mar–Nov: 11.5 kcfs |
| **Forebay Normal Operating Range (ft)** | 633’ – 638’ |
| **Tailrace Rate of Change Limit (ft)** | 1.5’/hour |
| **Powerhouse Length (ft)** | 656’ |
| **Powerhouse Hydraulic Capacity (kcfs)** | 130 kcfs |
| **Turbine Units (#)** | 6 (Units 1-3 BLH Kaplan; Units 4-6 Allis Chalmers Kaplan) |
| **Turbine Generating Capacity (MW)**  | Rated: 810 MW (Units 1-6 @ 135 MW) \ Maximum: 930 MW (Units 1-6 @ 155 MW) |
| **Gatewell Orifice Diameter (in)** | 35 gatewells w/ 12” orifice; 1 gatewell w/ 14” orifice |
| **Spillway Length (ft)** | 512’ |
| **Spillway Hydraulic Capacity (kcfs)** | 850 kcfs |
| **Spillbays (#)** | 8 |
| **Spillway Weirs (#)** | 1 Adjustable Spillway Weir (ASW) in Bay 1 w/ high crest (el. 622 ft) or low crest (el. 618 ft). |
| **Navigation Lock Length x Width (ft)** | 650’ x 84’ (Usable Space) |
| **Navigation Lock Max. Lift (ft)** | 101’ |
| **FISH STRUCTURE/OPERATION START DATE** |
| **Juvenile Bypass System (JBS)** | 1970 (1st Generation) \ 1989 (2nd Generation) \ 2010 Outfall Flume Relocation |
| **Submersible Traveling Screens (STS)** | 1971 (Prototype Mesh) \ 1994 (Complete) |
| **Extended-Length Submersible Bar Screens (ESBS)** | 1997 |
| **Transportation Research Program - NMFS** | 1971-1975 |
| **Juvenile Fish Transportation Program - Corps** | 1981 \ 1991 (3rd Generation) |
| **Adjustable Spillway Weir (ASW)** | 2009 \ 2018 (replaced with Adjustable Spillway Weir) |

**2.3.2.7. Adjustable Spillway Weir (ASW).**

**2.3.2.7.a. ASW-Hi:** Spring spill for fish passage will start with the ASW in Bay 1 in high crest elevation 622 msl (approximate discharge 7 kcfs) and spill distributed in patterns for “Spring Spill” (**Table LGS- 8**) or “30% Spill” (**Table LGS-9**). High crest will be maintained the entire spill season unless conditions described below are met.

**2.3.2.7.b. ASW-Lo:** If flow increases above 85 kcfs (i.e., during the spring freshet) and the criteria in **b.1** below are met, the ASW will be changed to low crest elevation 618 msl (approximate discharge 11 kcfs) and spill distributed in patterns for “Spring Spill” (**Table LGS-8)**.

**b.1.** The crest change from ASW-Hi to ASW-Lo will occur when the most recent STP forecasts daily average inflow above 85 kcfs for at least 3 consecutive days, or if observed conditions indicate flow will exceed 85 kcfs before the next STP is issued, as determined by NWW Water Management. The crest change will be further based on the following:

Review of juvenile fish passage at Lower Granite and Little Goose dams to avoid negative impacts to migrating fish associated with the crest change;

Coordination with regional fish managers via FPOM.

**b.3.** The crest will be changed back to ASW-Hi when daily average project outflow drops below 85 kcfs and forecasted inflow is below 85 kcfs for at least 3 consecutive days. The change will also be based on criteria in **sections** **i** and **ii** above.

**2.3.2.7.c. Close ASW:** On or after August 1, when daily average project discharge drops below 35 kcfs and forecasted inflow is below 35 kcfs for at least 3 days, the ASW will be closed for the remainder of the spill season and spill will be distributed in “Uniform” patterns with no ASW (**Table LGS-10**). The ASW will be closed after RCC issues the teletype and coordinated through CENWW-OD-T.

**c.1.** The ASW will be closed no earlier than August 1 to avoid impacts to subyearling migration even if the low flow criteria are achieved prior to August 1, unless an adult passage delay is observed or if necessary due to unit operational constraints at low flow. Closing the ASW prior to August 1 will be coordinated through FPOM by CENWW-OD-T.