# Fish Passage Plan (FPP) Change Form

**Change Form # & Title**: 21LGS006 – ASW Spill Rates

**Date Submitted**: 2 September 2021

**Project**: Little Goose Dam

**Requester Name, Agency**: Lisa Wright, Corps

**Final Action: APPROVED 14-October-2021**

**FPP Section**:

Chapter 8 LGS, section 2.3.2.7. ASW Operating Criteria.

**Justification for Change**:

FPOM approved adding Lower Granite RSW spill rates vs forebay elevation in Change Form 21LWG006 on 9/9/21 and requested adding the same information for the other Snake projects.

**Proposed Change**: *(see following pages for edits to existing FPP in track changes)*

**Comments**:

14-OCT-2021 FPOM: Van Dyke asked if the lower Columbia surface passage routes also have data for flow versus forebay that could be added. Wright will look into that. Van Dyke also asked whether the GDACS data reported on the website were based on these half-foot increments or more on a curve. Wright and Peery were uncertain but think it’s more on a curve.

Bettin asked whether “high” and “low” crest should be defined as a number of feet below forebay, rather than a set elevation. For example, define “high crest” as 11-12 feet below forebay (spill rate of 7-8 kcfs). Peery said this would need more conversation. Van Dyke and Morrill agreed it’s worth looking into.

**Record of Final Action**: APPROVED at FPOM 14-OCT-2021.

Proposed Change:

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

**2.3.2.7.a.** Little Goose has one adjustable spillway weir (ASW) in spillbay 1 that provides a surface route for fish passage. The ASW can be operated from the control room and the crest elevation can be adjusted lower or higher to pass more or less water, respectively, according to the flow criteria below. The ASW spill rate is a function of the crest elevation and forebay elevation – as the pool elevation over the crest increases, more water is spilled over the ASW:

|  |  |  |
| --- | --- | --- |
| **LGS Forebay Elevation**  **(ft)** | **ASW Elevation 622 ft**  **Spill Rate (kcfs)** | **ASW Elevation 618 ft**  **Spill Rate (kcfs)** |
| 633 | 6.8 | 10.9 |
| 633.5 | 7.3 | 11.4 |
| 634 | 7.8 | 12.0 |
| 634.5 | 8.3 | 12.5 |
| 635 | 8.8 | 13.1 |
| 635.5 | 9.3 | 13.7 |
| 636 | 9.8 | 14.3 |
| 636.5 | 10.3 | 14.9 |
| 637 | 10.9 | 15.5 |
| 637.5 | 11.4 | 16.1 |
| 638 | 12.0 | 16.7 |

**2.3.2.7.b. High Crest (ASW-Hi):**

The ASW high crest is at elevation 622 feet msl and spills approximately 7–8 kcfs when the forebay elevation is in the MOP range. High crest spill patterns are in **Table LGS-7** (Spring Spill) and **Table LGS-8** (30% Spill).

*Unless flow conditions defined below are met, ASW spill for fish passage will occur with the ASW at high crest (approximately 7-8 kcfs spill)*.

**2.3.2.7.c. Low Crest (ASW-Lo):**

The ASW low crest is at elevation 618 feet msl and spills approximately 11–12 kcfs when the forebay elevation is in the MOP range. Low crest spill patterns are in **Table LGS-7** (Spring Spill) and **Table LGS-9** (30%).

Change the ASW to low crest to pass more water during high flow (i.e., spring freshet) when both of the following flow criteria are met: 1) day average total project outflow above 85 kcfs, and 2) NWRFC inflow forecast above 85 kcfs for at least the next 3 days. When day average outflow drops below 85 kcfs and is forecasted to stay below 85 kcfs for at least the next three days, change back to high crest.