Northwest **Power** and **Conservation** Council



December 5, 2017

**MEMORANDUM**

**TO: COUNCIL MEMBERS**

**FROM: JOHN SHURTS, LESLIE BACH**

**SUBJECT: UPDATE ON SPILL PROPOSAL**

On Wednesday morning, we have tentatively scheduled a short update item on the plan for spring spill in 2018. The parties in the Biological Opinion litigation have promised Judge Simon that they would file something on December 8 that describes the agreement on spring juvenile passage spill and any associated elements. The filing will be either a joint proposed order or something that describes what's been agreed to and what issues still remain for the Court to resolve in getting to a final order.

We understand that the parties have agreed to the basic concept of spill to the gas caps at each project, with some minor tweaks at a project or two and some flexibility in implementation. But we will not know for certain, nor know the precise details, until something is filed.

If something does indeed get filed, we will report briefly for the benefit of the Council and the public on the contents of that filing and the plan for spill next spring. If the filing gets delayed again, we will take this item off the agenda.

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December 12, 2017

# Council Meeting
# Wednesday, December 13, 2017

## Update on 2018 Spring Juvenile Spill: John Shurts, general counsel
## Leslie Bach, senior manager

**2018 spring juvenile spill - proposed order jointly filed with court:**
Proposed order + spill chart + 2018 Spring Fish Operations Plan (FOP)

**Spill:** Gas cap at all eight lower Columbia and Snake projects – chart (attached)
Constraints/concerns/comments on chart – esp. adult delay concerns at a few of the projects

**Dates:** April 3-June 20 for Snake projects; April 10-June 15 for Columbia projects

**Flexibility - in proposed order:**

In-season adaptive management to address unintended biological consequences

In-season adjustments to address conditions in Section 4.1 of FOP:

Planned and Routine Operational Adjustments:
1. High flow conditions that exceed powerhouse hydraulic capacity and require spilling more than the target spill level.
2. Low flow conditions that require adjustments in spill level while maintaining project minimum generation requirements (see section 4.3.1. below).
3. Lack of power demand (load) resulting in increased spill.
4. Scheduled turbine unit and/or transmission outages that reduce powerhouse hydraulic capacity and require spilling more than the target spill level.
5. Standard operations for transmission reliability (see section 4.4.1. below)
6. Navigation safety concerns (see section 4.6. below).*

Non-routine or Unplanned Operational Adjustments:
1. Contingency operations for transmission reliability (see section 4.4.2 below).
2. Fish emergencies (e.g., high river temperatures that exceed levels safe for fish).

3. Conditions related to project safety (e.g., erosion), health and human safety, navigation, or other unforeseen events that require spilling more or less than the target spill level.
4. Other circumstances including human or programming error, unscheduled maintenance or outage, operational limitations (e.g., physical limitations of gate settings and spill patterns outside of the level of precision defined in section 3 above, forebay elevations), and other unanticipated events or emergencies.
5. In-season adjustments following adaptive management coordination through the existing regional coordination process (see section 4 & footnote 9).

**PIT-tag monitoring**: Little Goose Dam, John Day Dam, and Bonneville Dam to begin on March 1

**2018 Spring FOP transport:** begins May 1 at collector projects in the Snake

**Federal government's separate filing:**

Detail process; describe complexities; preserve appeal

Complexities - summarized:

Technically complex operation that will present significant challenges to implement

Operation requires balancing numerous obligations (human health and safety; reliability of the integrated power and transmission system; ensure safe navigation; perform maintenance; respond to high or low river flows) which will influence implementation

Uncertainties with biological consequences; especially concern with adult passage; implement with in-season monitoring and adaptive mgmt

**Positions in court:**

Federal/state/tribal entities agreed to proposed spill operation through RIOG process. NWF Plaintiffs agreed. None of these entities oppose proposed order. Parties that appealed original order preserve appeals.

Northwest RiverPartners did not oppose; expressed no opinion on specifics of proposed order because not part of technical process; reserved appeal

Columbia-Snake River Irrigators Assn object – ask for argument

**Reminder about appeal:**

Court agreed to expedite
Briefing complete by end of January
Assigned to panel that heard appeals before ("comeback case")
Oral argument? Decision?

## Summary of Current 2017 Fish Operations Plan Spring Spill and Spill Operations Team Recommendation to RIOG on Proposed 2018 Spring Spill Operations

## October 31, 2017

| PROJECT | 2017 FISH OPERATIONS PLAN SPRING SPILL (day/night)[2] | 2018 ESTIMATED 120/115% TDG SPILL CAP RANGE (SYSTDG) | CONSTRAINT/CONCERN /COMMENT | 2018 PROPOSED SPRING SPILL[1, 2] |
|---|---|---|---|---|
| LOWER GRANITE | 20 kcfs/20 kcfs | 20-60 kcfs (28-51%) | Constraint: None<br>Concern: Potential for adult delay with day spill >40–45% due to powerhouse eddy[3].<br>Comment: FPP patterns are adequate. | 120/115% Gas Cap[4, 5] |

[1] Uncertainty remains about how the system will respond to these new operations, therefore existing adaptive management processes will be employed to help address any unintended consequences that may arise in-season as a result of implementing these proposed spill operations.

[2] Spill may be temporarily reduced at any project if necessary to ensure navigation safety.

[3] Not unanimous regional consensus.

[4] 120/115% Gas Cap spill is spill up to the maximum level that meets, but does not exceed, the Total Dissolved Gas (TDG) criteria allowed under state law.

[5] If adult delay at Lower Granite is observed, existing adaptive management processes will be used to address the issue (e.g. reducing daytime spill to 40–45% for eight hours daily (0400-1200 hours)).

| PROJECT | 2017 FISH OPERATIONS PLAN SPRING SPILL (day/night)[2] | 2018 ESTIMATED 120/115% TDG SPILL CAP RANGE (SYSTDG) | CONSTRAINT/CONCERN /COMMENT | 2018 PROPOSED SPRING SPILL[1, 2] |
|---|---|---|---|---|
| LITTLE GOOSE | 30%/30% | 8-45 kcfs (29-43%) | Constraint: Higher risk of adult delay with day spill >30% under current FPP unit priority order. Concern: Proposed operation has not been implemented and uncertainty remains concerning adult delay. Comment: Model observations show that north unit priority may alleviate concerns with hydraulic conditions that often are associated with adult delay[3]. Unit 5 will be out of service for repair in spring 2018[6]. | 120/115% Gas Cap[4, 7] (modified north unit priority[6]) |
| LOWER MONUMENTAL | Gas Cap/Gas Cap (app. range 20-29 kcfs) | 30-44 kcfs (uniform spill pattern) (31-50%) | Constraint: None Concern: None Comment: FPP uniform spill patterns adequate. | 120/115% Gas Cap[4] (uniform spill pattern) |
| ICE HARBOR | **April 3-28:** 45 kcfs/Gas Cap; **April 28-June 20:** 30%/30% and 45 kcfs/Gas Cap (app. range: 75-95 kcfs) | 65-105 kcfs (59-82%) | Constraint: None Concern: None Comment: FPP spill patterns adequate, although some modification to patterns at low flow may improve tailwater hydraulics/egress. | 120/115% Gas Cap[4] |

[6] Additional modeling of Little Goose unit priority and spill patterns will occur December 4-8, 2017 at ERDC.

[7] If adult delay at Little Goose is observed, existing adaptive management processes will be used to address the issue (e.g., reduce daytime spill to 30% for 8 hours daily (0400-1200 hours) to provide adequate adult passage).

| PROJECT | 2017 FISH OPERATIONS PLAN SPRING SPILL (day/night)[2] | 2018 ESTIMATED 120/115% TDG SPILL CAP RANGE (SYSTDG) | CONSTRAINT/CONCERN /COMMENT | 2018 PROPOSED SPRING SPILL[1, 2] |
|---|---|---|---|---|
| MCNARY | 40%/40% | 145-190 kcfs (40-68%) | Constraint: None<br>Concern: None<br>Comment: FPP patterns adequate. | 120/115% Gas Cap[4] |
| JOHN DAY | **Apr 10-28:** 30%/30% **Apr 28 to June 15:** 30%/30% and 40%/40% | 95-145 kcfs (33-60%) | Constraint: None anticipated[8]<br>Concern: None anticipated[8]<br>Comment: Pending ERDC model observations. | 120/115% Gas Cap[4] |
| THE DALLES | 40%/40% | 65-135 kcfs (37-45%) | Constraint: Gas Cap spill will be contained within spillbays 1-8 (north of spillwall).<br>Concern: None.<br>Comment: FPP spill patterns adequate. Gas Cap spill likely to be contained within the wall. | 120/115% Gas Cap[4] |

[8] Unless constraints/concerns identified during physical model observations.

| PROJECT | 2017 FISH OPERATIONS PLAN SPRING SPILL (day/night)[2] | 2018 ESTIMATED 120/115% TDG SPILL CAP RANGE (SYSTDG) | CONSTRAINT/CONCERN /COMMENT | 2018 PROPOSED SPRING SPILL[1, 2] |
|---|---|---|---|---|
| BONNEVILLE | 100 kcfs/100 kcfs | 85-130 kcfs (40-56%) | Constraint: Corps constraint not to exceed 150 kcfs spill during Gas Cap spill operation to avoid pulling rocks into stilling basin and causing erosion. Gas Cap spill expected to be below 150 kcfs.<br>Concern: None.<br>Comment: FPP spill patterns adequate; patterns at 150-200 kcfs spill are under review and may be modified to improve egress. | 120% Gas Cap[4, 9] (no downstream forebay) |

[9] Spill to the 120% Gas Cap, not to exceed 150 kcfs.