

**OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE**

COORDINATION TITLE- 18JDA05 MOC Spillway Gate Maintenance

COORDINATION DATE- 7/26/18

PROJECT- John Day Dam

RESPONSE DATE- No later than 8/09/18 (FPOM meeting)

Description of the problem

JDA has funding available for spillway maintenance work. The work entails repainting and repairing the spillway gates. This work needs to be completed during dry weather. In an effort to complete this activity within fiscal year 18, JDA requests a two week early outage of spillbays that have historically been closed in the second half of August.

Type of outage required

The following is an approximate work schedule for the spillbays to be OOS in August 2018:

- 10 thru 15 August – bay 6 OOS for work, with adjacent bays 5 & 7 closed for safety and elimination of water spray. Bays 4 & 8 continue to be available.
- 16 thru 21 August - bay 5 OOS for work, with adjacent bays 4 & 6 closed for safety. Bays 7 & 8 continue available.
- 22 thru 27 August - bay 4 OOS for work, with adjacent bays 3 and 5 closed for safety. Bays 6, 7 & 8 continue available.
- 28 thru 31 August – bay 7 OOS for work, with adjacent bays 6 & 8 closed for safety. Bay 4 & 5 continue available.

Impact on facility operation (FPP deviations) – The proposed OOS spillbays 4 - 8 are typically closed in the second part of August except for an occasional, short duration power peaking periods.

	10-Year Average (2008-2017) - AUG 10-31	
	Avg08-17:JDA: Outflow	Avg08-17:JDA: Spill
	(kcfs)	(kcfs)
10-Aug	144.6	43.2
11-Aug	147.6	44.4
12-Aug	150.8	45.2
13-Aug	148.4	44.0
14-Aug	141.8	42.5
15-Aug	139.9	42.0
16-Aug	138.2	41.4
17-Aug	138.9	41.6
18-Aug	139.2	41.7
19-Aug	144.5	43.4

<http://www.cbr.washington.edu/dar>

20-Aug	143.8	43.1
21-Aug	131.7	39.4
22-Aug	140.0	41.9
23-Aug	138.9	41.8
24-Aug	139.6	41.8
25-Aug	136.5	41.0
26-Aug	132.4	39.7
27-Aug	130.1	39.1
28-Aug	125.4	37.6
29-Aug	131.4	39.4
30-Aug	124.6	37.3
31-Aug	127.7	38.1

This year’s forecast for August is slightly below the 10 year average which further supports less impact to the normal spillway operations:

(JDAO3) COLUMBIA - JOHN DAY DAM Inflow

<https://www.nwrfc.noaa.gov/stp/s>

Extended inflow forecast as of 8/1/2018

Daily Inflow (kcfs) from 08-10 to 08-31

mm-dd	FORECAST	Historical Observations			30% Spill (kcfs)
		90%	50%	10%	
10-Aug	128.1	100.0	151.3	220.1	38.4
11-Aug	128.0	94.1	153.7	212.5	38.4
12-Aug	129.7	94.8	142.9	204.4	38.9
13-Aug	133.2	103.1	145.2	197.9	40.0
14-Aug	134.4	96.1	138.9	187.7	40.3
15-Aug	134.3	109.6	138.6	183.0	40.3
16-Aug	134.2	102.4	136.4	190.5	40.3
17-Aug	132.8	96.0	138.4	172.2	39.8
18-Aug	124.6	89.9	132.2	177.0	37.4
19-Aug	119.7	94.9	128.0	174.0	35.9
20-Aug	118.0	87.6	132.9	174.4	35.4
21-Aug	116.6	98.5	127.4	181.6	35.0
22-Aug	116.1	96.5	127.6	159.0	34.8
23-Aug	116.1	92.9	129.0	157.7	34.8
24-Aug	116.0	89.8	127.0	151.0	34.8
25-Aug	116.1	91.0	123.6	159.2	34.8
26-Aug	116.2	92.3	125.0	163.1	34.9
27-Aug	116.3	90.5	123.6	157.9	34.9

28-Aug	113.3	93.8	121.6	155.3	34.0
29-Aug	111.8	90.2	125.9	161.3	33.5
30-Aug	111.7	83.8	120.7	153.2	33.5
31-Aug	111.5	86.9	121.0	154.8	33.5

Should flows exceed the spill pattern's capacity without those bays, their flows will be diverted to open adjacent bays 2, 3, 4 & 9, 10, 11 etc. There is no impact to the total volume of spill or TSW operation, which will remain unchanged. Per JDA spill pattern table, the following gates are closed at the given spill volumes:

- 51.4 kcfs, bay 6 closed
- 44.6 kcfs, bays 5 & 6 are closed
- 42.6 kcfs, bays 4, 5 & 6 are closed
- 41.0 kcfs, bays 4, 5, 6 & 7 are closed
- 39.4 kcfs, bays 4, 5, 6, 7 & 8 are closed
- 37.8 kcfs, bays 4, 5, 6, 7, 8, 9 are closed

Impact on unit priority – N/A

Impact on forebay/tailwater operation – N/A

Impact on spill – Minor spill pattern modification as one or two bays (marginal positions around the spill pattern gap, where the gates are closed) at one time, could be OOS during the power peaking periods. No impact to spill volume and TSWs' discharge which will remain unchanged at all times.

Dates of impacts/repairs - August 09 through 31, 2018.

Length of time for repairs – approximately 4 days when the gate with two adjacent gates have to remain closed for the necessary maintenance work. See the work schedule above.

Analysis of potential impacts to fish

1. 10-year average passage by run during the period of impact for adults and juvenile listed species, as appropriate for the proposed action and time of year:
All spring out-migrants have passed. Median passage date for 90% of subyearling passage is July 28 (Per FPP). If spill increases during power peaking periods, the missing discharge from the required gates will be redistributed to the closest gates in the spill pattern.
2. Statement about the current year's run (e.g., higher or lower than 10-year average);
Average
3. Estimated exposure to impact by species and age class (i.e., number or percentage of run exposed to an impact by the action);
The remaining ~10% of sub-yearling run will be exposed to this impact.

4. Type of impact by species and age class (increased delay, exposure to predation, exposure to a route of higher injury/mortality rate, exposure to higher TDG, etc.);
Piscivorous predation could increase with the slower egress conditions.

Summary statement - expected impacts on:

Downstream migrants

A change in the spill pattern could cause an eddy in the tail race and increase predation. However, most of the sub yearlings will have passed by then. This action could impact less than 10% of the sub yearling run.

Upstream migrants (including Bull Trout)

No impact to the adult salmonids is expected since adult fishways won't be impacted at all. There is no data available for the Bull Trout presence at JD.

Lamprey

No impacts to either adult or juvenile lamprey are expected since they are not migrating downstream this time of year and this action is not expected to impact adult ladders.

Comments from agencies

Final coordination results – This MOC was approved at the August FPOM meeting.

After Action update – This work was completed as coordinated.

Please email or call with questions or concerns.

Thank you,

Erin

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