

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

**COORDINATION TITLE- 18JDA08 MOC Line 1 Outage/Bushing Replacement in October 2019**

**COORDINATION DATE- 07 November 2018**

**PROJECT- John Day Dam**

**RESPONSE DATE- 21 November, 2018**

**Description of the problem**

JDA line 1 bushing failed in July 2018 due to an oil leak (see 18JDA02 MFR) and the local maintenance crews performed a quick but only temporary fix. At this point the bushing’s condition continues marginal and it needs to be replaced during a relatively warm and dry weather. To avoid impacting the primary period of the fish passage season, April through September, JDA Project proposes to replace this bushing on 1 – 22 October, 2019. This the very first bushing replacement job since the dam’s dedication in 1968 and JDA Maintenance crew has no prior experience with replacing one so it will be a steep learning curve and challenge for them.

**Type of outage required**

Line 1 outage is required in October 2019 as the bushing replacement can’t be done safely and properly during the winter maintenance season.

**Impact on facility operation (FPP deviations)**

The planned Line 1 outage (Turbines 1-4) in October deviate from the JD Unit Priority, No TSWs (see Table 1).

Season	TSWs	Unit Priority Order*
March 1 - November 30 Fish Passage Season	With TSWs	5,1,3,16,14,12,10,8,15,2,11,7,4,13,9,6
	No TSWs	1-4 any order, then 5-16 any order
December 1 - end of February Winter Maintenance Period	n/a	Any Order

\* When a main unit is not available, the paired adjacent unit will be used to comply with requested priority.

**Table 1:** JDA turbine unit priority order

**Impact on unit priority** – JD Turbines 1-4 OOS in October 2018 deviate from the JD Unit Priority, NO TSWs. The primary goal of the JD Priority with No TSWs is to “flush” the JD SMF’ Outfall which aids the downstream egress of bypassed smolts. A secondary goal is to attract adult migrants to the SE (South East) Entrance, JD South Fishway.

**Impact on forebay/tailwater operation - None**

## Impact on spill - None

### Dates of impacts/repairs

1 through 22 October, 2019.

### Length of time for repairs

Approximately 3 weeks.

### Analysis of potential impacts to fish

The JD SMF smolt passage in October is very low/ negligible. October is well outside the primary smolt passage season, which is defined by the SMF sampling season, 1 April through 15 September. Furthermore, the SMF PIT detections' monthly totals are on average in the single digits in October.

The JD Adult Salmon passage is significant in October (see Table 2), but no major impact from the Line 1 outage is expected on the migrating adults. Both JDA adult Fishways, South and North will be operating in criteria and will be readily available to all fish migrating upstream during this timeframe. The adult salmon had continued passing through JD South Fishway unhindered during the past, bi-annual, Line 1 outages for its transformer maintenance occurring in the first two weeks of October, for the last couple of decades and FPOM had continued to approve it without any reservations. (See 13JDA03 Line 1 outage, 100805 JDA line1 outage in October and 081115 JDA line 1 outage) As an additional supporting evidence, an emergency Line 1 outage on 16 -19 July, 2018 didn't result in any significant impact on the migrating adults (see Table 3.) In summary, the impacts on salmonids (upstream or downstream migrants), bull trout and lamprey from the Line 1 outage in October 2019 are expected to be minimal if any.

A benefit of this MOC (bushing replacement in October 2019) will be the more reliable Line 1 performing well without any failures and/or outages during the peak fish passage seasons for many years.

Project	Year	Month	All Chinook	Adult Chinook	Jack Chinook	All Steelhead	Clipped Steelhead	Unclipped Steelhead	All Coho	Adult Coho	Jack Coho	Sockeye	Chum	Pink
JDA	2017	Oct	37,922	33,532	4,390	17,871	12,033	5,838	8,648	7,491	1,157	19	0	
JDA	2016	Oct	25,691	20,642	5,049	28,196	19,009	9,187	4,995	4,490	505	0	0	0
JDA	2015	Oct	117,289	104,801	12,488	34,382	20,021	14,361	4,010	3,557	453	38	0	9
JDA	2014	Oct	67,520	52,249	15,271	34,088	19,723	14,365	20,160	18,975	1,185	0	0	0
JDA	2013	Oct	68,664	56,919	11,745	29,179	15,833	13,346	8,279	7,816	463	2	0	13
JDA	2012	Oct	28,448	15,444	13,004	27,893	16,966	10,927	3,631	3,333	298	3	0	0
JDA	2011	Oct	37,924	27,765	10,159	35,477	23,589	11,888	25,751	25,084	667	0	0	137
JDA	2010	Oct	34,179	27,807	6,372	40,740	25,176	15,564	8,761	8,402	359	4	0	0
JDA	2009	Oct	20,051	13,904	6,147	100,180	70,569	29,611	37,909	35,988	1,921	3	0	0
JDA	2008	Oct	13,890	11,693	2,197	35,538	24,503	11,035	14,637	14,283	354	0	0	0

**Table 2:** October Monthly fish passage totals through JDA fishladders (2008-2017)

Date	All Chinook			All Steelhead			All Sockeye			
	JD South	JD North	Percentage Using SFL	JD South	JD North	Percentage Using SFL	JD South	JD North	Percentage Using SFL	
7/1/2018	857	331	72.1%	54	51	51.4%	4175	2364	63.8%	
7/2/2018	736	431	63.1%	38	92	29.2%	4148	2378	63.6%	
7/3/2018	405	325	55.5%	38	80	32.2%	2696	2234	54.7%	
7/4/2018	426	261	62.0%	37	109	25.3%	1932	1769	52.2%	
7/5/2018	450	127	78.0%	46	43	51.7%	2870	1214	70.3%	
7/6/2018	352	238	59.7%	25	73	25.5%	3157	1387	69.5%	
7/7/2018	325	492	39.8%	41	105	28.1%	2405	2112	53.2%	
7/8/2018	312	495	38.7%	37	134	21.6%	1852	1602	53.6%	
7/9/2018	524	371	58.5%	88	115	43.3%	2840	1073	72.6%	
7/10/2018	557	237	70.2%	116	110	51.3%	2660	734	78.4%	
7/11/2018	240	356	40.3%	49	176	21.8%	748	882	45.9%	
7/12/2018	144	272	34.6%	53	135	28.2%	718	666	51.9%	
7/13/2018	177	181	49.4%	39	149	20.7%	649	334	66.0%	
7/14/2018	195	253	43.5%	122	135	47.5%	961	404	70.4%	
7/15/2018	92	304	23.2%	91	238	27.7%	503	414	54.9%	
7/16/2018	176	389	31.2%	113	226	33.3%	473	451	51.2%	
7/17/2018	119	218	35.3%	48	196	19.7%	302	262	53.5%	
7/18/2018	84	391	17.7%	82	213	27.8%	299	286	51.1%	
7/19/2018	126	305	29.2%	74	280	20.9%	246	252	49.4%	
7/20/2018	89	230	27.9%	81	202	28.6%	186	175	51.5%	
7/21/2018	254	56	81.9%	128	62	67.4%	228	86	72.6%	
7/22/2018	59	96	38.1%	69	64	51.9%	156	80	66.1%	
7/23/2018	183	62	74.7%	136	58	70.1%	203	70	74.4%	
7/24/2018	84	188	30.9%	76	97	43.9%	205	113	64.5%	
7/25/2018	101	136	42.6%	72	80	47.4%	162	92	63.8%	
7/26/2018	110	181	37.8%	63	95	39.9%	164	103	61.4%	
7/27/2018	79	148	34.8%	73	87	45.6%	95	94	50.3%	
7/28/2018	53	180	22.7%	71	91	43.8%	84	79	51.5%	
7/29/2018	44	132	25.0%	61	71	46.2%	60	90	40.0%	
7/30/2018	51	102	33.3%	102	88	53.7%	36	44	45.0%	
7/31/2018	39	123	24.1%	42	69	37.8%	34	29	54.0%	
Average % excluding outage dates			46.8%				40.1%			59.8%

**Table 3:** Daily percentage of adult salmon passage (July 2018) at JDA (South fishladder vs. North fishladder). Gray highlighted dates represent passage during the line 1 outage. All other salmon species not listed had 0 total passage during the month of July. The average totals at the bottom of the table represent the average percentage for all days in July excluding the 4 days when line 1 was OOS.

**Comments from agencies**

**From the November FPOM minutes –**

Lorz would like more spill to attract fish to the north ladder since this action is in October and unit 5 will be out of service. Bettin is looking to see if this outage can be added to another long outage. **Pending.**

**From the 2019 September FPOM minutes-**

Lorz requested 3.2Kcfs spill if unit 5 is out of service. Bettin needs to talk to his superiors before agreeing.

**Final coordination results** – The outage could not be moved to another time. The action will move forward and if MU5 is out of service then bay 2 will spill 3.2Kcfs instead of 1.6Kcfs to help attract fish to the north ladder.

**After Action update** – Line 1 returned back to service as originally scheduled on 23 October 2019. However, due to newly discovered complexities/difficulties the bushing hasn't been replaced and the work will be rescheduled to a suitable time in the next year or so.

Please email or call with questions or concerns.

Thank you,  
Erin

Erin Kovalchuk  
NWP Operations Division Fishery Section  
Columbia River Coordination Biologist  
[Erin.H.Kovalchuk@usace.army.mil](mailto:Erin.H.Kovalchuk@usace.army.mil)

Miro Zyndol  
Chief of Fisheries  
John Day Dam  
[Miroslaw.A.Zyndol@usace.army.mil](mailto:Miroslaw.A.Zyndol@usace.army.mil)