OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE – 17TDA27 TDA AWS Backup System Commissioning
COORDINATION DATE – 06 November 2017
PROJECT – TDA-E AWS Backup
RESPONSE DATE- 20 November 2017

Description of the problem

The TDA-E AWS PDT recommends that the flow test portion of the commissioning of The Dalles AWS backup system be conducted without the operation of the fish units. During the commissioning, the contractor will be operating the system components and will need to address any deficiencies that arise. If fish units are attempted to be operated simultaneously, there may arise serious seiching within the AWS and fish ladder[1].

If fish units are run simultaneously during the AWS penstock commissioning, it could cause complications and unanticipated problems in the AWS system, the result of which either the test would have to be terminated or some damage occurs in the system. Therefore the PDT believes the cleaner solution is to have the AWS penstock flow test commissioned as designed, so that the contract can be closed out without additional complications. The PDT would like to reserve a later time (perhaps during FY 19 In-water work period) to test a concurrent AWS penstock and fish unit operation to determine the viability of such an operation.

The normal operation of the fish units would continue through commissioning up until the AWS backup system is fully charged and ready for the flow test. The flow test would occur March 30, 2018 evening through March 31 AM (Night testing). Estimated time for flow testing is seven hours.

Type of outage required - Both fish units will be out of service. The south and west entrances will be closed.

Impact on facility operation – Adult Fish Facility Operating Criteria for TDA East ladder system during adult fish passage season.

Configuration during testing –

1. Provide lighting at East Entrance area, AWS conduit, forebay intake area and both valve rooms.

[1] This occurred at Bonneville A Branch fish ladder decades ago when they attempted to open FV3-8 while simultaneously feeding the A Branch AWS and powerhouse conduit from both ends: FV1-1 and FV3-7. Since those tests, FV3-8 remains closed to assure that the AWS conduits for the Powerhouse and A Brach are hydraulically separated.

2. Allow fish units to operate 1 hour past sunset so that most fish may evacuate the south and powerhouse channels.
3. Shut down fish units and close entrance gates at South & West entrances
4. East entrance remains open in FPP criteria.

Impact on unit priority - None

Impact on forebay/tailwater operation - None

Impact on spill - None

Dates of impacts/repairs – March 30-31, 2018

Length of time for repairs – Approximately seven hours overnight.

Analysis of potential impacts to fish

10-year average and 2017 spring chinook passage during March and April are in Figure 1. Chinook passage tends to build in April. 2017 was well below the 10-year average through April. Trends in Chinook passage suggest low numbers will be present during the work period overnight March 30-31, however, large numbers are possible with early arrival as recorded in 2003.

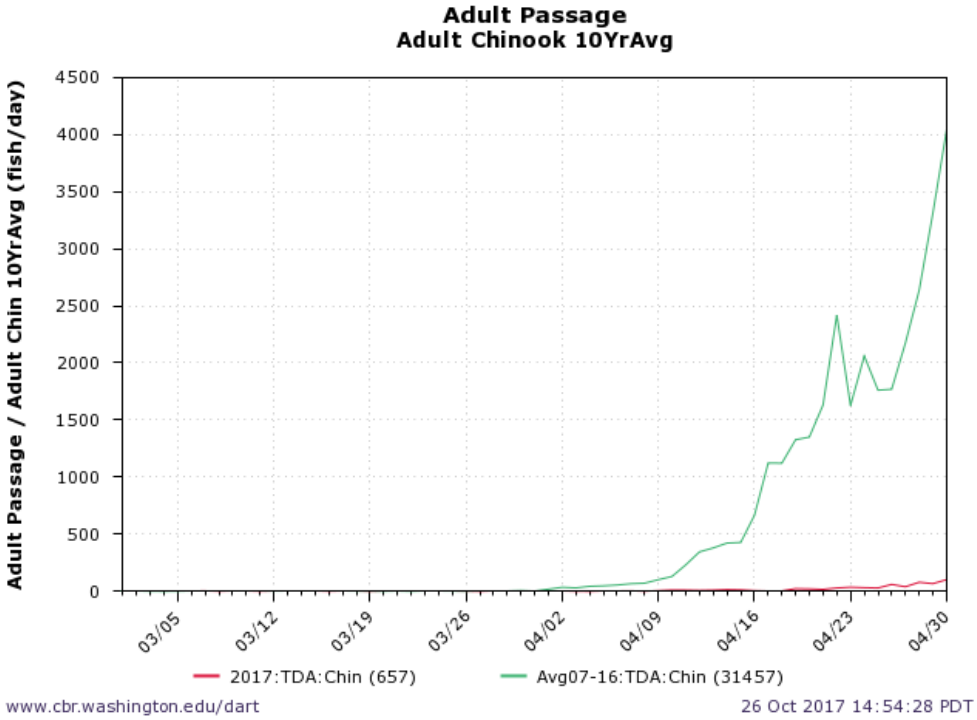

Figure 1 – Adult chinook passage 10-year average and 2017 during March and April.

DART Data Citation

Columbia River DART, Columbia Basin Research, University of Washington. (2017). Adult Passage Graphics & Text. Available from http://www.cbr.washington.edu/dart/query/adult_graph_text

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26 Oct 2017 14:54:28 PDT. Columbia River DART (Data Access in Real Time) www.cbr.washington.edu/dart.

Adult Steelhead – Passage of steelhead during March of 2003-2007 and 2012 was similar at TDA-E with variability in daily passage though the month and averaged less than 100 fish per day (Table 1).

Table 1 - TDA-E March daily passage and averages for all steelhead, 2003-2007 and 2012

Date	2003	2004	2005	2006	2007	2012	**Average**
1-Mar	16	0	15	2	19	13	11
2-Mar	67	1	12	7	28	14	22
3-Mar	25	8	22	8	31	16	18
4-Mar	99	12	33	11	31	21	35
5-Mar	105	124	16	9	25	27	51
6-Mar	65	40	9	7	20	17	26
7-Mar	82	32	14	0	20	34	30
8-Mar	50	83	27	20	27	25	39
9-Mar	112	120	35	23	38	16	57
10-Mar	74	130	27	25	25	19	50
11-Mar	71	121	33	23	32	10	48
12-Mar	33	74	17	16	43	19	34
13-Mar	56	85	28	18	45	18	42
14-Mar	32	60	28	20	43	26	35
15-Mar	27	60	25	22	38	23	33
16-Mar	55	56	27	4	22	21	31
17-Mar	39	22	28	23	40	32	31
18-Mar	57	26	17	16	38	26	30
19-Mar	23	38	19	19	44	29	29
20-Mar	24	29	14	21	34	27	25
21-Mar	23	41	20	25	36	27	29
22-Mar	33	30	11	25	37	32	28
23-Mar	46	40	26	25	49	35	37
24-Mar	44	53	25	17	51	31	37
25-Mar	100	39	16	24	44	33	43
26-Mar	93	67	14	19	68	39	50
27-Mar	76	0	22	38	97	30	44
28-Mar	60	0	16	47	110	41	46
29-Mar	45	38	31	59	123	33	55
30-Mar	55	30	28	54	220	33	70
31-Mar	34	0	11	57	153	34	48

10 year average daily project passage (TDA-E and TDA-N) of steelhead for March and April showed a trend in passage building toward the end of March and into the beginning of April. The 2017 trend did not follow the 10 year average pattern in daily passage near the end of March suggesting this work window could be a better time to reduce risk to steelhead and spring chinook passage if trends in passage follow recent history. (Figure 2)

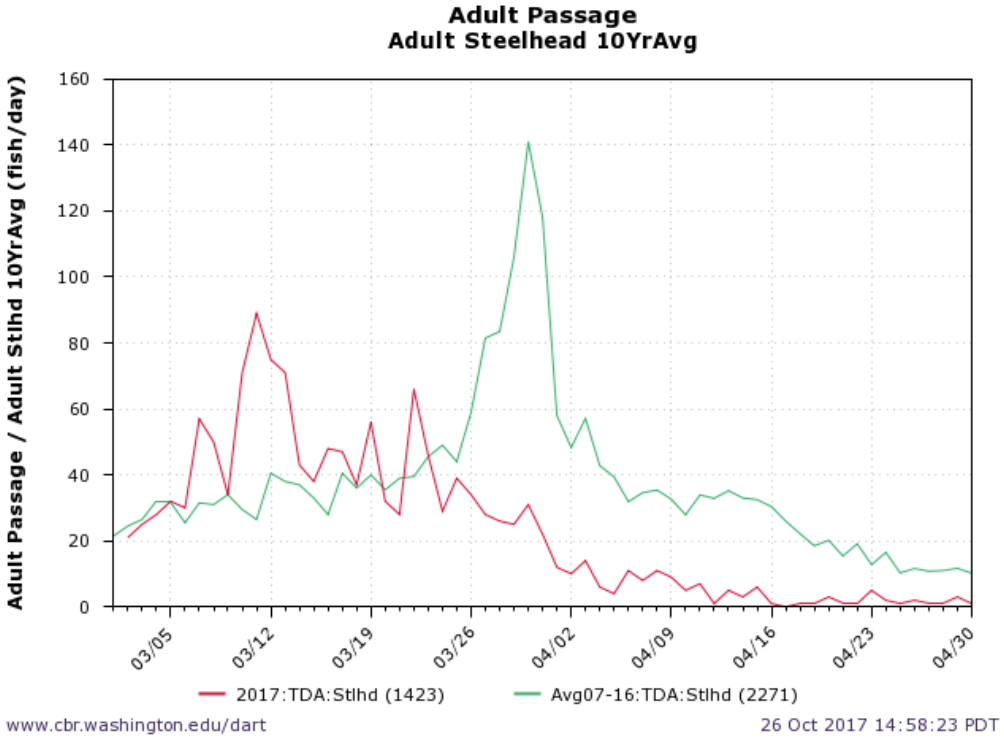

Figure 2 - Adult steelhead passage 10-year average and 2017 during March and April.

DART Data Citation

Columbia River DART, Columbia Basin Research, University of Washington. (2017). Adult Passage Graphics & Text. Available from http://www.cbr.washington.edu/dart/query/adult_graph_text

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26 Oct 2017 14:58:23 PDT. Columbia River DART (Data Access in Real Time) www.cbr.washington.edu/dart.

Summary statement - expected impacts on:

Upstream migrating salmon – Steelhead and spring chinook may be present in the area during night testing. Stopping flow at the fish units does not have any effect on the main ladder operation upstream of the collection channel. Impacts from shutting down the fish units overnight, closing the west and south entrances, temporarily halting flow to the east entrance area, and providing lighting may result in movement of fish out of the area (upstream or downstream) until the ladder is started back up in normal operation the next morning. Effects to adult salmonids would be temporary, minimal, and non-lethal.

Downstream migrants - There are no expected impacts since there are likely no downstream migrants near this location.

Upstream migrants Bull Trout – No impact. Very few bull trout have been counted at TDA in the last 10 years.

Lamprey - This work will occur outside the normal adult lamprey migration season. USACE counts of daily passage at TDA-E in March from 2003-2007 and 2012 recorded zero lamprey passing over the entire period. Larval and juvenile lamprey may migrate during this time but will not be affected by the work near TDA-E.

Comments from agencies

Final coordination results

After Action update (After action statement stating what the effect of the action was on listed species. This statement could simply state that the MOC analysis was correct and the action went as expected, or it could explain how the actual action changed the expected effect (e.g., you didn't need to close that AWS valve after all, so there was no impact of the action). List any actual mortality noted as a result of the action)

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

Jon Rerecich
CENWP-PM-E

503-808-4779
Jonathan.g.rerecich@usace.army.mil