

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

**COORDINATION TITLE- 16TDA10 Back up AWS COORDINATION**

**DATE – Aug 10, 2016**

**PROJECT - The Dalles Dam**

**RESPONSE DATE – Prefer comments at August FPOM meeting but requested no later than August 24.**

**Description of the problem:** The east fish ladder (TDA-E) backup AWS construction requires the entire In Water Work (IWW) period for completion of phase 1 construction activities. The east ladder is required to be dewatered starting on 1 December 2015 and remain dewatered through 26 February 2016. The east ladder will be watered up 27-29 February and return to normal FPP operation by 1 March 2016. Having the east ladder out the full IWW window creates additional impacts to being able to perform normal maintenance on the north ladder. **15TDA04 was coordinated and approved in June of 2015.**

Dewatering the north ladder in November was originally coordinated in 15TDA04, however after further review of historic monthly fish passage numbers, overlapping 2 weeks in January has much less potential for passage impact. The north ladder will be dewatered January 2 – 15, 2017. **Please see approved coordination 16TDA05 for more information.**

The 2015 coordination included construction activities during March 2016 near the east fishway in the parking area on the downstream side of the dam where the AWS pipe will be routed.

**UPDATE:** NWP Operations coordinated additional work outside the IWW period through e-mail with FPOM on June 25, 2015. Approval from Operations for the modified contract language was distributed to the TDA AWS PDT on June 30, 2015. The contract language and an excerpt from the FPOM e-mail coordination are as follows (and also included at the end of the MOC):

#### *1.8.1 In-Water Work Periods*

*The Government has established periods, described as "in-water work periods," that coincide with the annual cycle of fish migration and corresponding maintenance periods. In general, this is a work period that allows for work in the water, on the water, and adjacent to the water where the work might affect fish passage (usually a 50-foot rule from the work site to the water or fish passage structure). All in-water work must be completed during the dates indicated in Section 00800, Contract Clause, 52.211-10, COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984). The general the IWW period established for this Contract is: December 1st through February 28th of the designated work seasons.*

#### *1.8.2 In-Water Work Activities*

##### *1.8.2.1 Definition*

*For purposes of this Contract, all heavy construction (rock excavation, concrete placement, underwater construction, diving and/or backfilling operations) on or adjacent to the river at the Project Site, all work within 100 feet of any fishway entrance or exit, and within 50 feet of a fishladder shall be restricted to the IWW period. During the IWW period the contractor has no restrictions to noise and vibration impacts to fish or fish structures caused by heavy construction or diving. Outside the IWW work window in the month of November, the Contractor may use heavy equipment and dive but only at night from 5pm to 6am; in the month of March the Contractor may*

*use heavy equipment and dive but only at night from 7:30pm to 6am. Work activities outside the IWW period and the night time durations stated above, within 50' proximity to the ladder structures shall be limited to light construction (hand tools), material movements, common earth disturbance, utility relocates, welding, painting, electrical and other activities that will not produce loud noises or vibration loading to the ladder structure. Diving outside of the IWW or the months of November and March at night will not be allowed.*

**The following is the general schedule for the first IWW period and project diagram.**

**General Initial Schedule for 1<sup>st</sup> In-Water Work Season (2016-2017) at The Dalles AWS**  
(as of 2 Aug 2016)

- Mobilization
  - Dive equipment Aug 2016
- Forebay Intake (Work Area 1)
  - Sawcut and coring (above water) Nov 2016
  - Sawcut and coring (below water) Dec 2016 to Jan 2017
  - Underwater Concrete Dec 2016 to Feb 2017
    - Remove sediment, pour leveling slab and concrete slab
  - Install precast erection frame Feb 2017 to Mar 2017
- 10-foot Penstock (Work Area 2)
  - Sawcut and Mine Penstock (STA 10+00 to 10+50) Dec 2016 to Jan 2017
- 10-foot Valve Room and Thrust Block (Work Area 3)
  - Temporary utilities Dec 2016
  - Common excavation Nov 2016 to Feb 2017
  - Rock excavation Dec 2016 to Mar 2017
- 10-foot Penstock Trench (Work Area 4)
  - Line Drill Dec 2016 to Jan 2017
  - Excavation Jan 2017 to Feb 2017
  - Backfill Mar 2017
- 7 foot Valve Room and Thrust Block (Work Area 5)
  - Sawcut asphalt and install temp. utilities Nov 2016
  - Excavate Fill Material Nov 2016 to Dec 2016
  - Line Drill and Excavate Rock Dec 2016
  - Concrete Jan 2017 to Feb 2017
  - Install 7-foot penstock and valve spools Jan 2017
  - Install New Utilities Feb 2017
- AWS Chamber and Diffuser (Work Area 6)
  - Remove concrete deck and gates at diffusion pool Dec 2016
  - Sawcut concrete wall at junction pool Dec 2016
  - Install pipe across junction pool and pipe diffuser Dec 2016 to Jan 2017
  - Concrete Jan 2017 to Feb 2017
- Control Room (Work Area 7)
  - No work in 1<sup>st</sup> season
- Precast Area (Work Area 8)
  - Site setup Aug 2016
  - Precast Aug 2016 to Dec 2016

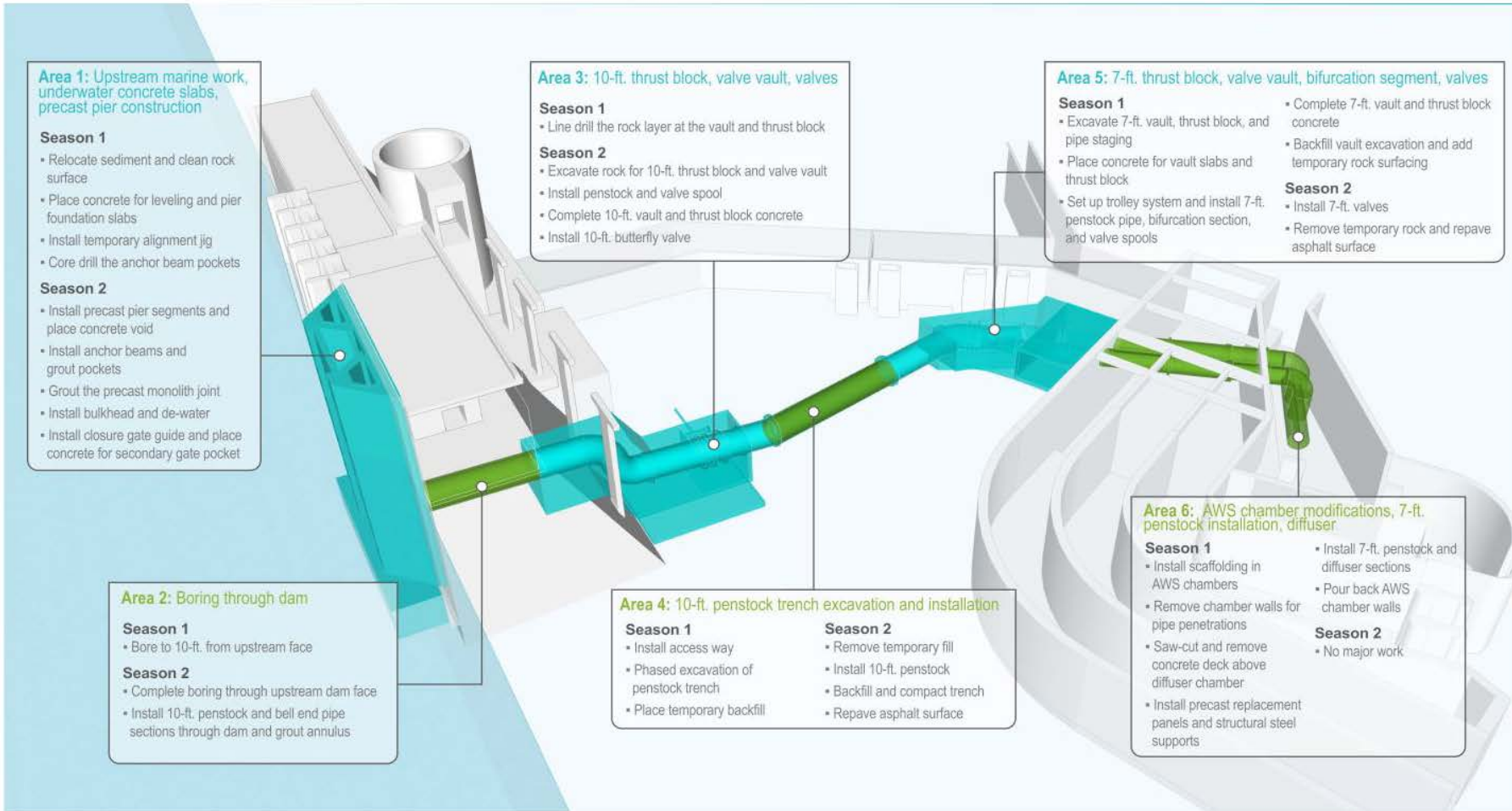


Figure 1 -TDA AWS Worksite

Work for phase 2 during the second IWW period during 2016/2017 will also require TDA-E dewatered for the entire winter maintenance period. The Corps team expects that the contractor will make additional requests for the second IWW season that will need full FPOM coordination at a later date. Until the contractor submits their plan, equipment and/or work hours, no additional FPOM coordination can occur for the second IWW at this time. The Corps team will work closely with the selected contractor to ensure fish impacts are kept to a minimum and coordinate with FPOM as appropriate.

**TDA-N dewatering and the updated IWW period are identified in the following sections as items 1 and 2 respectively.**

**Type of outage required**

1. TDA-N dewatering, 02 – 15 January 2017
2. Modified IWW period to minimize steelhead and spring Chinook impacts –

November: The Contractor may use heavy equipment and dive but only at night from 5pm to 6am.

March: The Contractor may use heavy equipment and dive but only at night from 7:30pm to 6am.

**Impact on facility operation**

1. TDA will need to dewater TDA-N in January 2017 while the east ladder is dewatered under construction.
2. No impacts to Project Operations as defined in the 2016 Fish Passage Plan, pp. TDA-6.

**Dates of impacts/repairs**

1. 02 - 15 January 2016.
2. Night work during November 2016 and March 2017.

**Length of time for repairs**

1. 2 weeks
2. Two months at night during November and March.

## Expected Impacts to Fish Passage

1. **TDA-N**: Please see approved coordination 16TDA05 for more information.
2. **IWW period extension**:
3. **Adult passage** – TDA-E and TDA-N average daily passage data for 1-30 November are available for years 2003-2007 and 2012 and are displayed in Table-1. Average daily passage through the north ladder is less numerous than the east ladder. Any fish that are in the East ladder near the work site may experience some reaction or delay in passage at night. TDA-E and TDA-N will be in FPP operating criteria in November and March

**Table 1 - TDA-E and TDA-N November average daily passage, 2003-2007 and 2012**

Date	All Chinook		All Steelhead		All Coho		Total Fish	
	TDA-E	TDA-N	TDA-E	TDA-N	TDA-E	TDA-N	TDA-E	TDA-N
1-Nov	190	18	248	30	159	28	1193	152
2-Nov	148	15	221	21	66	17	871	105
3-Nov	130	14	220	19	49	6	799	77
4-Nov	124	16	254	28	113	27	980	141
5-Nov	111	17	223	24	119	15	905	113
6-Nov	125	17	208	18	70	9	804	86
7-Nov	110	13	180	10	33	8	647	60
8-Nov	71	11	125	9	25	5	444	50
9-Nov	71	10	153	13	17	2	482	51
10-Nov	60	11	138	12	8	3	414	51
11-Nov	54	6	163	15	9	3	452	47
12-Nov	52	7	160	11	18	6	459	47
13-Nov	51	6	198	11	12	7	524	47
14-Nov	46	5	200	10	8	1	510	30
15-Nov	42	5	240	10	8	1	579	32
16-Nov	39	7	207	13	5	1	252	21
17-Nov	34	13	163	39	9	4	206	56
18-Nov	30	4	149	8	16	3	195	15
19-Nov	27	5	140	11	9	4	176	20
20-Nov	23	4	139	7	7	2	170	13
21-Nov	23	6	108	5	4	0	135	11
22-Nov	16	7	106	7	4	1	126	15
23-Nov	19	2	101	4	2	0	121	6
24-Nov	16	3	68	7	3	1	86	11
25-Nov	14	4	77	6	5	1	96	11
26-Nov	15	2	64	8	3	1	82	11
27-Nov	10	1	50	5	4	-1	64	6
28-Nov	9	2	42	3	1	0	52	4
29-Nov	6	2	28	4	0	0	35	6
30-Nov	8	3	26	5	1	0	35	8

**Bull Trout.** Impacts to Bull Trout are expected to be similar to other upstream migrating salmonids. Very few Bull Trout have been counted at TDA in the last 10 years. “WDFW and COE provided a list of anecdotal sightings/captures of bull trout in the mainstem Columbia River. From 2000 through 2012 there were eleven bull trout reported. Three were downstream of Bonneville Dam, with two at the mouth of Hamilton Creek (CRM 143) and one in 2005 at the Bonneville Dam Smolt Monitoring Facility (CRM 144). Upstream of the dam, one bull trout was found at Cascade Locks (CRM 149), two at Drano Lake (CRM 162), two at the mouth of the Klickitat River (CRM 180.5), one in 2002 at the John Day Dam

*Smolt Monitoring Facility (CRM 215), and one sighting at Dog Creek Falls by a reputable WDFW creel sampler who observed 18-24” cuts or dollies working old redds below the splash pool over the course of two weeks.”*

**Juvenile salmonids** – Summer spill operations will conclude on 31 August. TDA does not have a juvenile bypass facility so it is anticipated that juvenile passage will not be impacted by an early TDA-N dewatering.

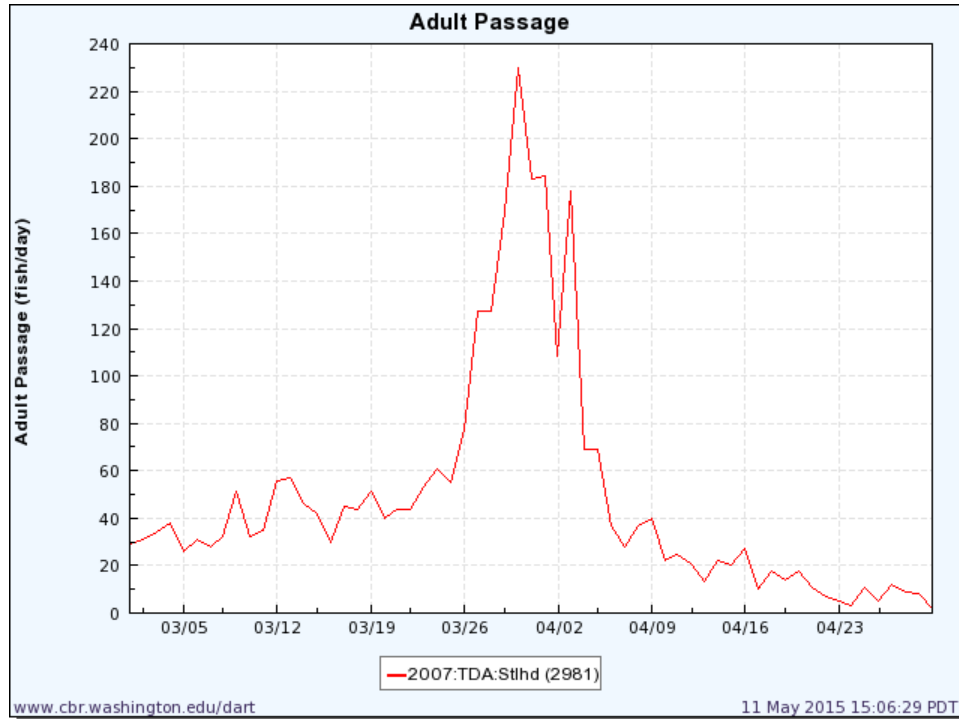
**Lamprey** – This work will occur outside the normal adult lamprey migration season, however, adult lamprey may be present. USACE counts of daily passage at TDA-N in November from 2003-2007 and 2012 recorded zero lamprey passing over the entire period. The presence of adults is not likely to be different than the normal IWW period which starts two weeks later than the early start date. Larval and juvenile lamprey may migrate during this time but will not be affected by the early outage of TDA-N.

4. **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 2).

**Table 2 - 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

Daily project passage (TDA-E and TDA-N) of steelhead for March and April in 2007 showed a trend in passage building toward the end of March and into April. The 2007 trend suggests the potential to have significant increases in daily passage near the end of March. (Figure 1)



**Fig. 2 – 2007 Adult steelhead passage at TDA.**

Columbia River DART, Columbia Basin Research, University of Washington. (2015). Adult Passage Graphics & Text. Available from [http://www.cbr.washington.edu/dart/query/adult\\_graph\\_text](http://www.cbr.washington.edu/dart/query/adult_graph_text)

Adult Spring Chinook - Recent Spring Chinook passage data for the month of March at TDA is from 2003-2007 and 2012. From 2004-2007 and 2012 spring Chinook numbers passing TDA-E are similar and typically less than 20 fish per day. During March 2003, triple digit numbers of adult Chinook occurred by 3/14 and continued through the month when over 1000 chinook per day was recorded on 3/30 (Table 3).

**Table 3 - TDA-E March daily passage and averages for all chinook, 2003-2007 and 2012**

Date	2003	2004	2005	2006	2007	2012	Average
1-Mar	0	0	1	0	0	0	0
2-Mar	5	1	0	0	0	0	1
3-Mar	0	0	0	0	1	0	0
4-Mar	5	0	1	0	0	0	1
5-Mar	7	1	1	0	1	0	2
6-Mar	16	0	0	0	0	0	3
7-Mar	16	0	0	0	0	0	3
8-Mar	9	1	0	0	0	0	2
9-Mar	25	0	0	0	2	1	5
10-Mar	18	8	1	0	1	1	5
11-Mar	20	7	1	0	0	1	5
12-Mar	30	7	0	0	1	1	7
13-Mar	20	4	2	0	1	0	5
14-Mar	168	7	2	0	1	1	30
15-Mar	95	15	2	0	0	1	19
16-Mar	451	10	2	0	0	1	77
17-Mar	172	0	5	0	1	0	30
18-Mar	174	10	1	0	2	1	31
19-Mar	263	17	1	0	2	2	48
20-Mar	258	18	1	0	1	1	47
21-Mar	202	3	1	0	0	2	35
22-Mar	339	7	2	0	0	1	58
23-Mar	183	14	1	0	1	1	33
24-Mar	111	14	2	2	2	0	22
25-Mar	782	12	3	0	4	0	134
26-Mar	320	16	2	0	1	0	57
27-Mar	35	0	1	1	3	0	7
28-Mar	45	0	1	0	3	0	8
29-Mar	457	19	3	2	2	1	81
30-Mar	1033	12	3	1	13	0	177
31-Mar	813	0	3	3	5	0	137

Steelhead passage is much more uniform through March on average.



Trends in Chinook passage suggest low numbers will be present during the month, however, large numbers are possible with early arrival as recorded in 2003.

The levels of noise or vibration from the construction activity and whether it will be detected by fish passing the TDA-E in March is unknown. Given the trends in passage over recent years, it is possible that both steelhead and Chinook could experience a reaction at night if elevated levels of vibration or noise were detectable by fish.

Juvenile salmonids – Spring Spill operations begin April 10. Juvenile passage through the spillway or ITS will not be impacted by the work in the downstream parking area near TDA-E.

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.

### **Agency Correspondence - June 2015 e-mail coordination:**

-----Original Message-----

From: Mackey, Tammy M NWP

Sent: Thursday, June 25, 2015 1:26 PM

To: Baus, Douglas M NWD; BPA Scott Bettin; Ed Meyer (ed.meyer@noaa.gov); Eppard, Matthew B NWP; Erick VanDyke; Fredricks, Gary; Joe Skalicky; Kiefer, Russell; Lorz, Tom; Lut, Agnes (BPA) - KEWR-4; Mackey, Tammy M NWP; Paul Wagner; trevor.conder@noaa.gov; Wertheimer, Robert H NWP; Wright, Lisa NWD

Cc: Duyck, Patrick L NWP; Rerecich, Jonathan G NWP

Subject: FPOM: TDA back up AWS preliminary review of contract language (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED

Caveats: NONE

Please review the language below and provide any comments or concerns by noon on 29 June.

We would like to know if FPOM has any concerns with the contract language below. We recognize the Year Two November/March work has not been formally coordinated yet, (the need for working in these months has been brought up at coordination meetings) but the contract needs to include general language now. Please review 1.8.2.1 and confirm you are comfortable with the use of heavy equipment or diving during the night hours in November and March.

Thank you,  
Tammy

#### 1.8 IN-WATER WORK

##### 1.8.1 In-Water Work Periods

The Government has established periods, described as "in-water work periods," that coincide with the annual cycle of fish migration and corresponding maintenance periods. In general, this is a work period that allows for work in the water, on the water, and adjacent to the water where the work might affect fish passage (usually a 50-foot rule from the work site to the water or fish passage structure). All in-water work must be completed during the dates indicated in Section 00800, Contract Clause, 52.211-10, COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984). The general the IWW period established for this Contract is: December 1st through February 28th of the designated work seasons.

## 1.8.2 In-Water Work Activities

### 1.8.2.1 Definition

For purposes of this Contract, all heavy construction (rock excavation, concrete placement, underwater construction, diving and/or backfilling operations) on or adjacent to the river at the Project Site, all work within 100 feet of any fishway entrance or exit, and within 50 feet of a fishladder shall be restricted to the IWW period. During the IWW period the contractor has no restrictions to noise and vibration impacts to fish or fish structures caused by heavy construction or diving. Outside the IWW work window in the month of November, the Contractor may use heavy equipment and dive but only at night from 5pm to 6am; in the month of March the Contractor may use heavy equipment and dive but only at night from 7:30pm to 6am. Work activities outside the IWW period and the night time durations stated above, within 50' proximity to the ladder structures shall be limited to light construction (hand tools), material movements, common earth disturbance, utility relocates, welding, painting, electrical and other activities that will not produce loud noises or vibration loading to the ladder structure. Diving outside of the IWW or the months of November and March at night will not be allowed.

The Dalles AWS BackUp System

### 1.8.2.2 Fish Ladders

Floating plant shall not be stationed near or block the flow from any operating Fish Ladder entrance when the ladder is in service. A clear flow path along the shore shall be maintained at all times such that fish seeking the ladder are not delayed in reaching the entrance.

## 1.8.3 Spillway and Powerhouse Operations

a. During construction normal river flows shall be passed through the Powerhouse; however, emergency spills through the spillway may be required. Flow through the spillway will occur when the total river exceeds the Powerhouse capacity but will also exist from April 10th through August 31st for juvenile fish passage. Spill patterns can be found in the Fish Passage Plan located at:

<http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/>. The Fish Passage

Plan is updated annually. Powerhouse priority (which unit on first, second, etc) is identified in the Fish Passage Plan.

(1) High Seasonal River Flows. A forced spill operation can occur during high seasonal river flows when the capacity of the Powerhouse is exceeded and the balance of the flow must be passed over the spillway. The hydraulic capacity of

the Powerhouse is notionally 270 thousand cubic feet per second (kft<sup>3</sup>/s). Utilizing the mean daily discharge from 1 October 1974 to 31 September 2014,

270 kft<sup>3</sup>/s is not likely to be exceeded except in the months of January through August. The mean daily flow statistics are presented in Appendix A. The Government should be able to provide 24 hours notification in case of forced spill due to high seasonal river flows.

(2) Emergency Condition. In the event of an emergency condition, such as electrical transmission system load rejection, the Government will give the Contractor immediate notice of a forced spill condition and offer assistance to vacate the BRZ as soon as possible. If forced spill is required in an emergency condition, the Contractor will be notified by the Government immediately and provided an estimate of the time when spill will be initiated. Depending upon the forebay level and the river flow a one to four hour window will be available before spill will be necessary. The Government will keep the Contractor informed during this window while the Government tries to resolve the problem and has to initiate spill. Within 15 minutes prior to spill initiation the Contractor will be given final notice to vacate the BRZ.

(3) In case of Spill. If the Government is required to enter a spill operation at the spillway, The Contractor will be required to shutdown forebay in-water construction activities until the flow conditions in the forebay have stabilized (30 to 60 minutes after spill is established) for safety reasons. The Contractor shall have a radio on all floating plant capable of transmitting and receiving on various frequencies, including:

- (a) TDA Primary Channel 164.50000 MHz
- (b) Marine Main Channel 156.70000 MHz
- (c) Marine Emergency Channel 156.80000 MHz

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HAPPY SUMMER!

Tammy Mackey  
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<http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/> <<http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>>

-----Original Message-----

From: Mackey, Tammy M NWP  
Sent: Tuesday, June 30, 2015 10:00 AM  
To: Sipe, Steven C NWP; Hartfeil, Kristie M NWP; Duyck, Patrick L NWP; Ebner, Laurie L NWP; Eppard, Matthew B NWP; Cordie, Robert P NWP; Clinton, Patricia L NWP; Griffith, David W NWP  
Cc: Roshani, Mehdi NWP; Rerecich, Jonathan G NWP  
Subject: RE: AWS iww work spec. (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

You are good to move forward.

T

-----Original Message-----

From: Sipe, Steven C NWP

Sent: Tuesday, June 30, 2015 9:51 AM

To: Mackey, Tammy M NWP; Hartfeil, Kristie M NWP; Duyck, Patrick L NWP; Ebner, Laurie L NWP; Eppard, Matthew B NWP; Cordie, Robert P NWP; Clinton, Patricia L NWP; Griffith, David W NWP

Cc: Roshani, Mehdi NWP; Rerecich, Jonathan G NWP

Subject: RE: AWS iww work spec. (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

No blasting is allowed. To break the rock we are expecting to use expanding grout. They may use a rotary rock drill for placing grout and removing concrete, is that what he means. All work activities will be required to be coordinated per the base spec. do we need to have a conference call to make sure we are clear, or can I move forward with the amendment?

Steve

-----Original Message-----

From: Mackey, Tammy M NWP

Sent: Tuesday, June 30, 2015 9:48 AM

To: Sipe, Steven C NWP; Hartfeil, Kristie M NWP; Duyck, Patrick L NWP; Ebner, Laurie L NWP; Eppard, Matthew B NWP; Cordie, Robert P NWP; Clinton, Patricia L NWP; Griffith, David W NWP

Cc: Roshani, Mehdi NWP; Rerecich, Jonathan G NWP

Subject: RE: AWS iww work spec. (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Just heard from Gary Fredricks (NOAA). He is ok with the language but would like to see something about needing to coordinate any blasting activity. He didn't want it to appear that blasting could occur without further coordination with FPOM.

Tam

**Comments from agencies:**

Please email or call with questions or concerns. Thank you,

Jon Rerecich

NWP Fish Passage Team

503-808-4779

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