

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

**COORDINATION TITLE** - 21 LMN 05 MOC Unit 3 Exciter Upgrade Testing

**COORDINATION DATE**- August 19, 2021

**PROJECT**- Lower Monumental Dam

**RESPONSE DATE**- August 26, 2021

**1. Description of the problem**

Exciter controls upgrades were performed on Lower Monumental Unit 3 during annual maintenance. Testing and tuning is required to ensure proper operation of the new exciter controls prior to returning the unit to commercial service. This work is scheduled to begin on August 30, 2021 and is expected to take a total of four days. This testing will require deviation from unit priority from Unit 1 to Unit 3 during this time and will require running Unit 3 outside of the 1% peak efficiency range.

**2. Type of outage required – N/A**

**3. Impact on facility operation (FPP deviations)** - There will be no impact on Facility operations.

**4. Impact on unit priority –** Unit 3's exciter upgrade testing and commissioning will require deviating from Unit priority (Fish Passage Plan Chapter 7, Section 4.1) as well as operating outside of the 1% peak efficiency range (FPP Chapter 7, Section 4.2) from August 30 to September 2, 2021.

**5. Impact on forebay/tailwater operation –** There will be no impact on forebay/tailwater operation.

**6. Impact on spill –** There will be no impact on spill while running Unit 3 out of priority.

**7. Dates of impacts/repairs –** Unit 3 commissioning is scheduled to begin on August 30, 2021.

**Length of time for repairs –** Approximately 4 days.

**8. Analysis of potential impacts to fish**

Upstream adult passage and juvenile outmigration numbers are historically low during this time period. From August 30 to September 2, the 10-year daily average of adult fish passing Lower Monumental Dam include 540 Chinook salmon, 1 Coho salmon and 499 steelhead with a total run impact of 1.7%, 0.03%

and 1.8%, respectively. Adult fish passage may be delayed due to running Unit 3 outside of unit priority and outside 1% peak efficiency during testing.

Historically subyearling Chinook salmon are the dominant species found during this time and abundance is generally low. From August 30 to September 2, the 10-year daily average of juvenile salmonids collected at Lower Monumental Dam include 2 clipped subyearling Chinook salmon and 25 unclipped subyearling Chinook salmon. Juvenile salmonids outmigrating during this time may be exposed to passage through a turbine that is being operated outside of 1% peak efficiency.

#### **9. Expected Impact Analysis**

Expected impacts on juvenile and adult passage are low during this period of commissioning. Both adult and juvenile passage numbers are historically low during this time period.

Impact to bull trout and lamprey are unknown.

#### **Comments from agencies**

**From:** VANDYKE Erick S \* ODFW

**To:** St John, Scott J CIV USARMY CENWW (USA)

**Cc:** Peery, Christopher A CIV USARMY CENWW (USA)

**Subject:** [Non-DoD Source] RE: 21 LMN 05 MOC Unit 3 Exciter Upgrade Commissioning - Testing

**Date:** Thursday, August 19, 2021 4:42:44 PM

It would be preferred if this could be moved to a date after August 31 2021. Thanks.

Erick Van Dyke

Oregon Department of Fish and Wildlife

Ocean Salmon and Columbia River Program

Fish Passage/Mitigation Technical Analyst

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[erick.s.vandyke@odfw.oregon.gov](mailto:erick.s.vandyke@odfw.oregon.gov)

**From:** St John, Scott J CIV USARMY CENWW (USA)

<Scott.J.StJohn@usace.army.mil>

**Sent:** Monday, August 23, 2021 9:32 AM

**To:** VANDYKE Erick S \* ODFW <Erick.S.VANDYKE@odfw.oregon.gov>

**Cc:** Peery, Christopher A CIV USARMY CENWW (USA)

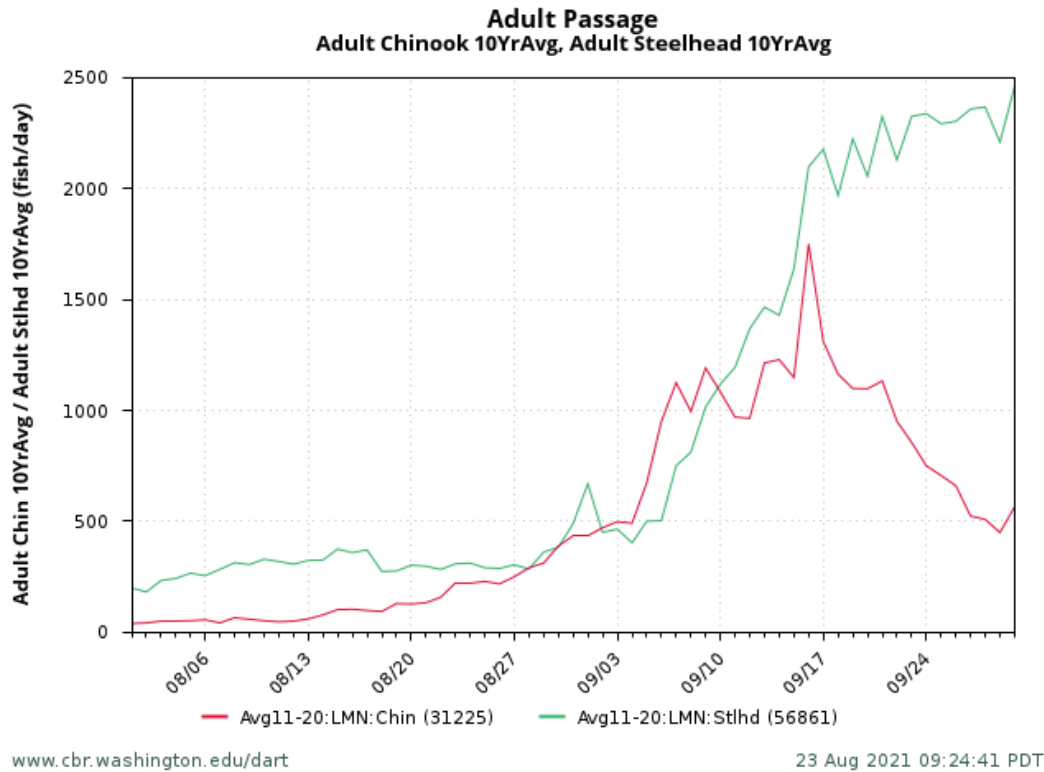
<Christopher.A.Peery@usace.army.mil>

**Subject:** RE: 21 LMN 05 MOC Unit 3 Exciter Upgrade Commissioning - Testing

Erick,

Appreciate your comment. What is the concern with the current dates proposed? This MOC will not impact spill operation, but will impact Unit priority and operating range.

Adult passage will increase the further back we push the work (see below) and may cause upstream delay to a larger proportion of the run. Juvenile numbers have historically remained relatively low during late August through September as well.



Scott St. John  
Fish Biologist  
Natural Resources Management  
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**From:** VANDYKE Erick S \* ODFW

**From:** VANDYKE Erick S \* ODFW  
**To:** St John, Scott J CIV USARMY CENWW (USA)  
**Cc:** Peery, Christopher A CIV USARMY CENWW (USA)  
**Subject:** [Non-DoD Source] RE: 21 LMN 05 MOC Unit 3 Exciter Upgrade  
Commissioning - Testing  
**Date:** Monday, August 23, 2021 2:38:57 PM  
**Attachments:** [image001.png](#)

Scott,  
Thanks for reiterating the Corps general pattern and supporting arguments. If these numbers represented a healthy and naturally self-sustaining population it might resonate differently. Unfortunately the MOC proposes to alter plans promoted by Corps documents as fish passage measures in hopes of overcoming scheduling, staffing,

or dam operation constraints. Because adult consequences have been advertised as muddled by dam operations and observed passage patterns have been influenced by dam operations, Oregon is not promoting this change before September 1. In a case like this one, where the Corps is using fish observations as the push back when the impact is associated with changing an earlier operational plan Oregon is seeking better balance from other sectors rather than only changing fish protection measures. Testing during the weekend might be one alternative that retains full implementation of the planned operations that were coordinated and documented in the FOP. Therefore, I am emphasizing the original timing as more desired than the risk scenario used to justify the scheduling change brought about by an effort to solve an operational constraint. I am not interested in indorsing the date change as exchangeable at this time give unit priority is similarly advertised by Corps documents as important in the mix.  
Erick

On Mon, Aug 23, 2021 at 2:59 PM St John, Scott J CIV USARMY CENWW (USA) <[Scott.J.StJohn@usace.army.mil](mailto:Scott.J.StJohn@usace.army.mil)>

wrote:

Josie,

Chris and I both discussed the attached MOC and Erick's responses. I realize that coordination was late and also rushed. However, we both agree that operating outside of Unit priority would have less of an overall impact in August than in September as fall Chinook salmon numbers are and will continue to increase.

What are your thoughts or suggestions to reply to Oregon's proposal?

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**From:** Josie Thompson - NOAA Federal <[josie.thompson@noaa.gov](mailto:josie.thompson@noaa.gov)>

**Sent:** Tuesday, August 24, 2021 1:55 PM

**To:** St John, Scott J CIV USARMY CENWW (USA) <[Scott.J.StJohn@usace.army.mil](mailto:Scott.J.StJohn@usace.army.mil)>

**Cc:** Peery, Christopher A CIV USARMY CENWW (USA)

<[Christopher.A.Peery@usace.army.mil](mailto:Christopher.A.Peery@usace.army.mil)>

**Subject:** [Non-DoD Source] Re: FW: 21 LMN 05 MOC Unit 3 Exciter Upgrade Commissioning - Testing

Hi Scott and Chris,

I am sorry if I just missed your call. I'm in a meeting all day today. I definitely do not think that waiting until September or October to perform this exciter upgrade at LMN on Unit 3 is going to be a benefit, only waiting until November might be better than

performing this work now and on the proposed dates in this MOC. Something that might give me some peace of mind is if you could dig up some results showing fish passage numbers for adults at the north shore ladder during a time when Unit 3 (or another mid-PH unit) was being used as the 1st priority unit (out of priority). I know that some data exists to show that at IHR, turbine priority, at least during low spill, doesn't really affect adults in terms of which ladder they use, nor does it delay them.

Unless there was an acoustic study done to demonstrate how this affected passage, the best things you could provide would include: passage numbers at both IHR and LMN during the dates before, during, and after (when a mid-unit was operating out of priority) to show that no delay was caused; data showing whether changes occurred in terms of which ladder was used (proportion of fish that used each ladder for each day during the operation and for a few days before and after); lastly you could just look at PIT detections for the north shore ladder for a week before and a week after and for all the dates during, and see if there was any kind of noticeable drop off on those days when operating out of priority.

Lastly, it would be good if those examples included times when the spill was generally about the same as it is right now. The only other question I have is this... what are the chances that you would be operating both Unit 1 and Unit 3 from Aug 30 - September 2 while this work is being conducted.

Thanks, and again, apologies for the delay on this timely decision.

Regards,

Josie

**Josie Thompson**

she/her/hers (Why this is important.)

Columbia Hydropower Branch

Interior Columbia Basin Office

NOAA Fisheries, West Coast Region

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[Josie.Thompson@noaa.gov](mailto:Josie.Thompson@noaa.gov)

On Tue, Aug 24, 2021 at 4:52 PM St John, Scott J CIV USARMY CENWW (USA)

<[Scott.J.StJohn@usace.army.mil](mailto:Scott.J.StJohn@usace.army.mil)> wrote:

Josie,

Appreciate your feedback. After looking at ladder use between Ice Harbor (IHR) and Lower Monumental (LMN) and discussing methods to look at data with Chris, we decided it was best to look at proportions of ladder use at LMN. I did look at overall passage between LMN and IHR. I dug through some GDACS data to see when a mid-ph Unit was operational during a similar time of year. I found that Unit 3 was the primary Unit operating from August 4-21, 2017 (Table 1). I also found that Unit 1 was the primary Unit operating during the same timeframe in 2019. Therefore, I compared the proportion of ladder use for adult passage for August in 2017 and 2019 (Figures 1 & 2). I also compared overall passage at IHR vs LMN during the same timeframe (Figure 3).

I do not see much of an impact from operating outside of Unit priority during the timeframe that I was able to analyze in either proportion of ladder use or overall adult passage.

Table 1: Average outflow and Unit operation at Lower Monumental in August of 2017, 2019 and 2021.

Year	Outflow (kcfs)	MegaWatt Hours					
		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
2021	23.05*						
2019	25.71	698	0	18	0	21	0
2017	28.25	0	39	485	12	0	241
* Aug 1 through Aug 23							

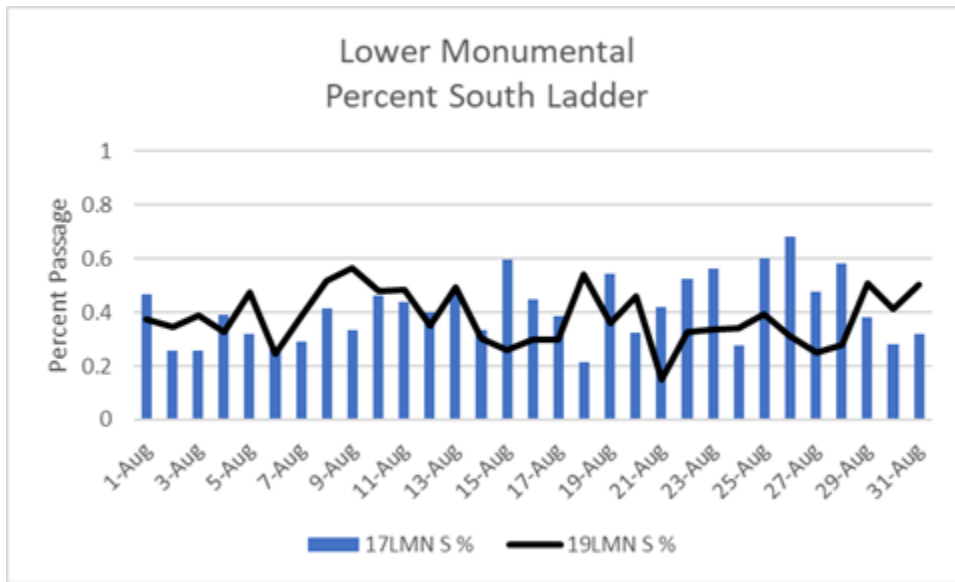


Figure 1: Proportion of daily South ladder adult passage at Lower Monumental, 2017 and 2019.

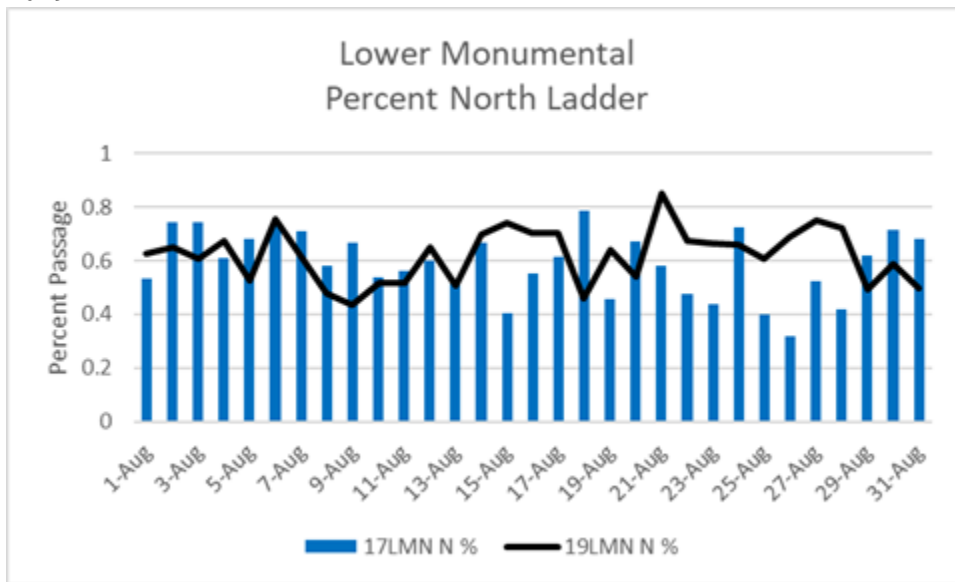


Figure 2: Proportion of daily North ladder adult passage at Lower Monumental, 2017 and 2019.

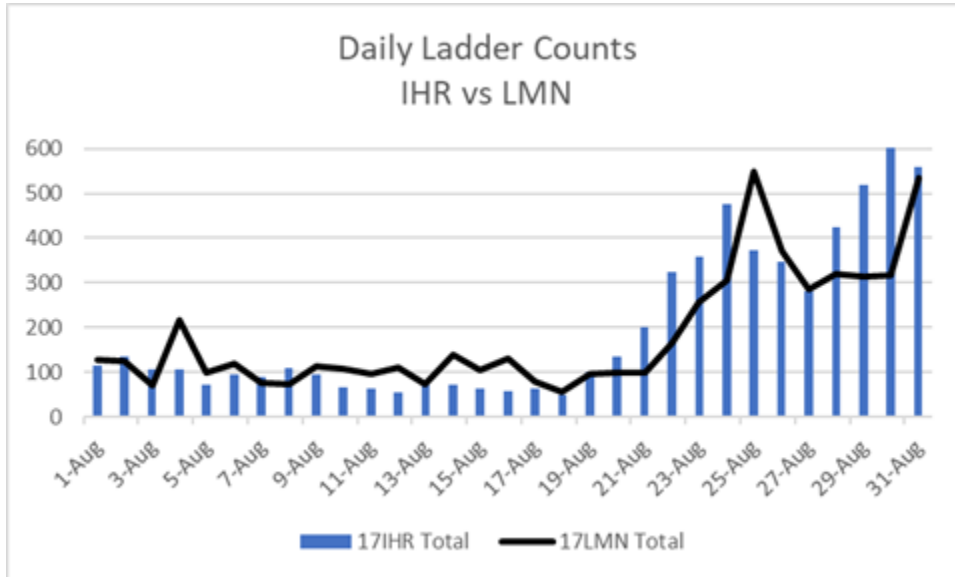


Figure 3: Adult fish counts at Ice Harbor and Lower Monumental, August 2017.

**From:** Josie Thompson - NOAA Federal <[josie.thompson@noaa.gov](mailto:josie.thompson@noaa.gov)>

**Sent:** Wednesday, August 25, 2021 4:39 PM

**To:** St John, Scott J CIV USARMY CENWW (USA) <[Scott.J.StJohn@usace.army.mil](mailto:Scott.J.StJohn@usace.army.mil)>

**Cc:** Peery, Christopher A CIV USARMY CENWW (USA)

<[Christopher.A.Peery@usace.army.mil](mailto:Christopher.A.Peery@usace.army.mil)>

**Subject:** Re: [Non-DoD Source] Re: FW: 21 LMN 05 MOC Unit 3 Exciter Upgrade Commissioning - Testing

Thank you for putting this together, Scott. I'm not seeing anything here that causes any alarm, or a reason to look into this further with PIT tag queries. NOAA approves this MOC for exciter upgrade work at LMN as proposed, and if I remember, this work cannot be conducted during inclement weather.

Do you happen to know if any other turbines will be operating at this time besides Unit 3? I was curious as to whether at least some flow will be "available" to run through Unit 1. I think Units 2 and 4 are out for a little while longer, correct?

**Josie Thompson**

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**From:** St John, Scott J CIV USARMY CENWW (USA)

**To:** Josie Thompson

**Cc:** Peery, Christopher A CIV USARMY CENWW (USA)

**Subject:** FW: [Non-DoD Source] Re: FW: 21 LMN 05 MOC Unit 3 Exciter Upgrade Commissioning - Testing

**Date:** Thursday, August 26, 2021 7:59:00 AM

Josie,

Lower Monumental will not have enough flow to operate Unit 1 until possibly September 1.

Scott St. John

Fish Biologist

Natural Resources Management

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**Final coordination results-** NOAA Concurred as written

**After Action update** - Unit 3's exciter upgrade operations took longer than expected. Unit 3 did not run under load until September 2. At that time there was enough river flow to run both units 1 and 3. Because of this, unit 1 and 3 was not ran out of priority during this operation. The analysis of potential impacts to adult passage suggests that work likely did affect adult passage.

Please email or call with questions or concerns.

Thank you,

Raymond A. Addis

Fish Biologist

Lower Monumental Dam

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