

MEMORANDUM FOR THE RECORD

Subject: DRAFT minutes for the 8 October 2015 FPOM meeting.

The meeting was held at the Columbia Room CRITFC, Portland OR. In attendance:

Last	First	Agency	Email
Bailey	John	NWW	John.c.bailey@usace.army.mil
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Bailey, Burgess, Clinton, Kiefer, Martinson, Pinney, Spurgeon, van der Leeuw, Wright, and Zyndol called in.

October birthdays include:

T. Lorz, S.Bettin

HAPPY BIRTHDAY!

Documents may be found at: <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>

1. Decisions made at this meeting

1.1. September meeting minutes approved. Fredricks would like the word decommissioned changed to OOS for the MCN pump.

1.2. December FPOM will be on 17 December; followed by the Condition Sub-sampling task group.

1.3. Coordination/Notification forms (need concurrence/discussion)

1.3.1. 15BON75 BI Winter maintenance begins two weeks early **APPROVED**

1.3.2. Revised 15TDA05 Railroad rail removal **Denied**

1.3.3. 15TDA11 Ice and trash sluiceway closure. **APPROVED**

1.3.4. 15JDA10 Sturgeon in MU16 gatewell. No additional comments.

1.3.5. **LGS fiber optic cable. Pending** Bettin said there are fiber optic cables dangling from the power line, they came off bracket. This requires 100% outage, 1 day. This will affect adult passage. Bettin will update as more information comes.

2. Action Items

2.1. NWW Action Items

2.1.1. [Oct 15]LMN diffuser grating replacement will not occur for at least several more years Setter provided a picture of the corroded diffuser grating. Spurgeon said the issue is the failure of the clips causing the panels to shift and fish are getting stuck underneath. Spurgeon said they will temporarily fix the fasteners each year because funding is not available until 2018. Setter asked could we get one panel at a time or do you feel this wouldn't help with the dewatering situation and how critical are all the areas. Spurgeon said the panels attach to their support members, which are also rusty. In the past, stainless steel wire had been used to fix this issue, but now we are using a bolting system with a square block of metal to act as a washer, essentially it is an oversize washer. Skalicky asked, is this picture a representative of a larger issue or is it just a few isolated areas. Spurgeon said the bulk of the flow is where most of the oxidation occurs, over the tops of the diffusers. The aluminum parts are holding up much better than the original galvanized parts. The north shore entrance area and the transition going into the lower ladder are the worst areas; it is equivalent to the south shore ladder. Setter said funding was in place, but the project realized they needed to replace the seals for the bulkheads first. Unit 1 is also scheduled for an outage; there is too much work in the same area. Bettin asked, do they have parts on station. Setter said yes, for smaller repairs, but replacement parts will go through contracting. Skalicky asked what is the path forward. Spurgeon said this winter, replace the seals on the bulkheads, and place the grating repair on the next funding cycle. Setter asked if this is the highest priority for the JFF and adult ladder, Spurgeon said it is true. These are the original gratings.

2.1.2. [Oct 15] NWW outages. **ACTION:** Send update to Mackey to post. Color coordinate and add horizontal shading to better distinguish.

2.1.3. [Oct 15] LGS temperature monitoring. **ACTION:** Pinney will provide a diagram of the tailrace locations.

2.2. NWP Action Items.

2.2.1. [Jun 15]TDA adult flows. **ACTION:** Mackey will schedule a separate meeting to further discuss this issue. **Status:** Cordie asked if there is research information out yet. Mackey said the group decided it wasn't needed. Fredricks said the two issues are what will trigger the operation and do we have an operation we can agree with based on what we did last year. Fredricks would like to sit down with Cordie to discuss the process. Fredricks said it makes sense to set it up based on what the biologist sees and we need to develop density based on surface observations. The issue is not necessarily the numbers, but more of a density and how the fish are stacking up in the ladder. Skalicky asked if there are standards to measure the

density in the ladder. Fredricks said no, there are not. The locations where fish stack up are below the count stations or in the turning pool for the fall run. Skalicky asked if we could look at PIT detections for passage delay. Fredricks said no, because the detector is at the count window. Cordie spoke with the fish counters and asked how the fish were moving; they felt they were moving through fine. Fredricks said another talking point will be once Cordie sees something, what does that trigger. If the solution is to spill to draw attraction over to the north, it will need to stay on for several days to alleviate the east ladder crowding. Van Dyke asked if the condition of the fish look poor. Cordie said no, they appear to be in good condition. **Group will meet after November FPOM meeting.**

2.2.2. [Oct 15] JDA sturgeon issues. **ACTION:** Mackey will provide a diagram of the gateway.

2.2.3. [Oct 15] Critical Infrastructure. Gibbons will schedule a meeting to discuss TDA fish infrastructure. **Action:** Gibbons to schedule with TDA

3. Updates

3.1. NWW Updates.

3.1.1. Upcoming maintenance/construction/research activities.

3.1.1.1. NWW FPOM OUTAGES schedule. Diagram of outages redistributed.

There is nothing new on the schedule that needs coordination that hasn't already been discussed. **ACTION: Send update to Mackey to post. Color coordinate and add horizontal shading to better distinguish.**

3.1.1.2. Dworshak. Unit 3 overhaul has not changed

3.1.1.3. IHR. Unit 2 fix blade install has been changed

3.1.1.4. LMN. Unit 1 still has the same schedule and it will likely take one year to complete. LMN is beginning fish salvage in Oct/Nov. Unit 1 is leaking oil and it will be cleaned up prior to fish salvage.

3.1.1.5. LWG

3.1.1.5.1. Renaming of LWG specific construction items

3.1.1.5.2. Dec MOC early outage and the plan is to move forward.

3.1.1.5.3. The JFF will be operated normal through July 2016

3.1.1.6. Extended JBS shut down. It should be starting next August and going through March 2017. It appears to be a duplication. This was coordinated a year ago.

3.1.2. LWG rental pump operation and feasibility shutdown. Rental pump contract expires on 23 September. Pumps were operated until 30 Sept COB. Bettin asked what did it cost. Setter is unsure, and she will find out. Skalicky asked if purchasing a pump is an option. Setter said it would need capital funds and we have been using expense funds to facilitate it.

3.1.3. IHR Trap. Meeting scheduled for 15 October @ 10 AM, meet at Visitor Center. There has not been an agenda set up at this point, it is a site visit. Setter said the discussion needs to be what are the requirements and who's responsibilities will they be. Currently, it would be an emergency situation to facilitate sockeye passage. It is not clear to the Corps how many fish will be required. The Corps owns the LWG trap, the bulk of the operations are covered by BPA to continue research and monitoring. The request for FFU staff support will continue, we will need 4 people. Hevlin asked, can we use CRFM funds to pay for improvements of the trap. Bettin said no, we can't use CRFM funds for the trap, and it was discussed at SCT. The research trap can hold 10-12 fish per hour. If we have to go into an emergency plan, forebay temperatures are very warm, so there will likely need to be trade-offs

discussed. Operation will occur in the morning, there will need to be a decision whether to operate the trap for two hours or four hours. Hevlin said IHR was getting about 3-4 times the number of sockeye than were getting to LWG. About 25% of the sockeye that passed BON got to IHR and about 50% of those fish made it to LWG. Pinney said in 2015 at IHR, by the end of June about 80 fish per day at the peak, early July about 45 fish per day at the peak. There is a potential of handling 20-40 fish per day. Setter asked Kiefer what is the overall need for the program. Kiefer said they planned to release 600-700 fish this year into Stanley Basin Lakes for natural reproduction. But, IDFG only had less than 100 fish back from the ocean. They do have fish for the captive broodstock program, but the goal is to move toward full fledged anadromous fish. The goal is to preserve the genetics from the fish that had been successful gravel spawners. IDFG is not comfortable pulling adults from IHR. Setter asked what do you think the percent of fish is Mid-Columbia. Kiefer said we haven't figured that out yet. IDFG was surprised with the fish they got from LWG this year. Thirty percent of the fish at LWG were mid-C fish, suggesting it is even higher at IHR. There is concern the fall backs are mid-C fish. IDFG is not ready to implement trap n haul from IHR. The sockeye technical oversight committee is the group that set the overall program goals. Bettin asked do they spawn the mid-C fish to use them in the broodstock. Kiefer said no not the mid-C fish, the plan is to euthanize unless someone requested them.

- 3.1.4.** LGS rental pumps for 2016 LGS Rental pumps at LGS. Hevlin asked Setter if she will develop a plan to cool the upper section of the ladder to get cooler water to diffuser 12, since NWW will not implement the rental pumps. Setter stated the plan for this fall and winter will be to have the engineering tech support design an alternative to be implemented, but the caveat will be to find funding. The district does not have funding, it will need to be elevated. Bettin asked what would the lead time be to get new pumps. Setter said, by having the design on the shelf, the situation would be more if or when there is an emergency, we would already have the plans in place and could use emergency contracting. There is the potential for a similar situation in 2014 where there wasn't enough electricity available and we would have to bring in diesel generators. Bettin asked what does it cost to run the power. Setter is unsure. Bettin said the critical piece would be to have the electricity output available so you wouldn't have to run diesel. Setter said we can ask to have the electrical output available in the design. Skalicky asked if 2016 is out of the question and if we could get them in 2017. Setter said no, O&M will not have funds for 2017 either. A long term permanent structure needs further discussion. Setter said from the O&M standpoint, if there is a similar situation to 2015, we will at least have a plan in place and potentially be able to implement it.
- 3.1.5.** 15LWG23 Early Shutdown of Lower Granite Juvenile Bypass System will proceed as discussed in MOC (Dec 1).
- 3.1.6.** Adult ladder outage schedule for NWW posted for review LGS dewater 4 Jan-19 Feb. for maintenance and PLC upgrades. Van Dyke said it would be good to have a contingency plan for adult passage at LGS and LWG.
- 3.1.7.** LGS temperature monitoring. Hevlin is looking for a plan for locations to get water temperature monitoring at LGS, there is an extreme lack of information from last July. No temperatures on the south shore, the north did not help, and there wasn't a scroll case thermometer. Setter stated there are TDG stations at all projects, one in

the forebay and one in the tailrace on the north shore. They do not have temperature monitoring on the PH side. It would have been good to have a comparison of temperatures going through the south ladder and Unit 1. Hevlin would like Burgess to verify temperatures at the ladder entrance and exit, the string in the forebay which is 50 feet elevation, and Unit 1 temperatures will be at 60 feet elevation. Hevlin is unsure of the elevation of the forebay diffuser 12. Burgess stated yes, there is a temperature string in the forebay. Currently, there are three temperature probes in the ladder – one at the exit, one about half way down the ladder, and one closer to the counting window. Burgess said since 7 August, LGS has been using an alcohol thermometer in the unit 1 cooling water strainer line as the scroll case temperature. LGS has been collecting the data during the weekly inspections, three times per week, and including it in the weekly reports. Currently, LGS does not have any other electronic recording system in the scroll case at this time. Plans to move forward with the technical section to replace the alcohol thermometer in the Unit 1 cooling water strainer with a digital thermometer. The digital thermometer has the ability to record at regular intervals, store the data and it can be downloaded. Bettin asked if Unit 2 has the same port. Burgess said no, it does not, it is only on Unit 1. Hevlin said there needs to be a temperature monitor at the downstream shore. Pinney is looking at adding 10-120 telemetry loggers to have real time monitoring at LGS in the tailrace. Bettin asked when are the reports coming out. Fredricks said the NOAA and Idaho report will be out in November. Skalicky said soon. **ACTION: Pinney will provide a diagram of the tailrace locations.**

3.1.7.1. Snake River temperatures. Skalicky asked, more broadly, do we have more temperature issues in the Snake. With each attempt to mitigate, it would be nice to see a map or a diagram of where we think we have temperature issues. It doesn't seem like we have enough information to make an informed decision. Setter stated we will begin to gather the HOB0 data and input it into a database. There will be after action reports from FPC, NOAA, IDFG and COE. Setter said last year, the water managers found some reporting errors in the modeling regarding the cold water release at Dworshak. They did not notice the error until 3-5 days had passed, during the warmest time of the year and it took 2 more weeks to recover. The path forward for COE is to look at design and what it will take to have it available on the shelf this winter. Setter said O&M funding is not able to support at this time.

3.1.8. Temperature string errors for LWG. Van Dyke asked if this information will be updated on the website for LWG. Setter said the water quality section is working on it. Pinney said it is supposed to be fixed. The long term fix will be to replace the rafts. The ladder at LWG has been running about 66 degrees Fahrenheit. Currently, temperatures are being reported on the weekly reports from projects. The electronic data share will be updated once it has been back filled. There have been equipment issues, they thought they could get it working, but there has been a delay with the contractor. LWG was up for a day and a half, and then failed again. Pinney said the temperature strings were back up on Monday at LWG. The main problem was bird damage to the GPS, many cormorants are nearby. LWG is getting repaired.

3.2. NWP Updates

3.2.1. Upcoming maintenance/construction/research activities. Includes already coordinated MOCs.

3.2.1.1. 15BON02 T11 and T12 outages. No updates

3.2.1.2. 15BON06 CI fish valve repair. Orifice flow today. The exploratory dig has not found anything yet. They are still digging, and they found the plug from the old exit and it is in place. They have found more undermining, but they have not found the source yet. Hausmann thinks it may be the conduit. Ideally they could install an access port to the conduit. They are still looking for the cause.

3.2.2. NWP winter maintenance schedules. JDA and TDA are posted. We will need an update from TDA. Bon will send today. TDA, AWS contract is postponed for a year, and winter maintenance schedule will adjust back to a normal work period. There will not be an early outage for the north ladder, but it will still be first.

3.2.3. TDA spill bay 9 trunnion pin. Mackey said it is not in the budget for this year, and it was not completed last year. It will go to small projects this year. Last year the small projects team was given \$200,000, they only spent \$8,000. Cordie said should we start over, the priority should be spill bays 1-8. Mackey said she would discuss this with Klatte, but the deputies do not want to deviate from bay 9. The decision was made at a higher level.

3.2.4. JDA Digital Governor testing. MU1 was taken OOS, they did not put in tail logs because we do not have a spare set. The project believes they will not see sturgeon on the south side. They included a report of how often they see sturgeon in turbine dewaterings. The plan is to move forward to get more tail logs. Bettin asked is there a better time to do testing, to lessen the fish impacts. Mackey said they weren't expecting these fish impacts and the sturgeon behavior is difficult to predict. Bettin said if BPA is informed of when there would be a better window, then they will be able to change their testing time period. The project is already in the process of purchasing another set of tail logs. Skalicky asked for a diagram of where they are getting in, Mackey will provide a diagram. **ACTION: Mackey will provide a diagram of the gatewell.**

3.2.4.1. Van Dyke said there have been sturgeon discussions by state biologists regarding concerns of winter aggregation and looking at preventative measures at other sites. Setter said at IHR, generally fish salvage we anticipate seeing a few sturgeon.

3.3. Research/FFDRWG updates. www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/NWP%20Research/Research.html

3.3.1. TDA AWS. The contract has been awarded and work has been suspended due to a Government Accountability Office (GAO) protest by another contractor with an unsuccessful offer. More updates regarding schedule impacts will be provided as COE works through the issues.

3.3.2. B2FGE. The results look positive in completing the 90% DDR. 12 January we will meet for a special FFDRWG to discuss comments. We recently met with BON project to discuss construction schedule. Units 16-18 could be done between September 7 and November 23, then we would fall into the IWW for units 11-14. Unit 15 is already done. BON thought it was a realistic goal during the winter maintenance to support 2 units. Units 13 and 14 will be March and April. The work will begin in 2016 and completed in 2017. Baus asked will there be any hydraulic capacity issues for Chum? No. Bettin said there will be ongoing work for the lamprey flume all units will be off, so all passage will be at B1.

3.4. RCC update.

Table 1. RCC flow forecast.

Project	Previous day average (kcfs)	5 day forecast average (kcfs)	10 day forecast average (kcfs)	Projected Peak
LWG	28	17	15	17 on 10/12
MCN	97	86	95	98 on 10/14
BON	107	92	101	104 on 10/14

3.5. Pinniped Update. Van der Leeuw scheduled FPOM task group meeting on 2 November at CRITFC. The states plan to trap in the forebay soon, one California sea lion (ZCA) using the trap almost every day. Steller sea lions (EJU) are present in the tailrace in large numbers, maximum is 28. The EJU's are ahead of schedule compared to last year. Skalicky asked what is the peak of EJU's. Van der Leeuw said it varies, last year we had about 27 in November, we don't have as much data for the fall. Van der Leeuw said currently, we have people doing counts every other day and recording predation when we see it. The predation has been all salmonids, no sturgeon. Skalicky asked is this because there aren't any sturgeon present in the tailrace. Van der Leeuw feels there aren't many sturgeon, but there are more salmonids present right now. Hausmann said there are EJU's in the ladder. Mackey asked if the SLEDs (Sea Lion Exclusion Devices) should be installed. Fredricks said no, there are too many fish waiting to get into the ladder. There should be a trigger for putting the SLEDs in. BON is unsure if it's the same animal in the ladder, it is going up to the submerged weirs. Cordie asked are you able to haze in the ladder. **(No Audio)**. Smith-Root discussion. Mackey said there was a test in the UMT, we found negative interactions with juvenile fish, and it has not been tested on sea lions.

3.6. Lamprey updates. No update from FFU. BON found a missing panel on the external hatch on the LFS, around 7 feet elevation, located on the south side of the structure. Currently, it is not a place where we are able to repair it, we will need 5 feet tailwater elevation. The plan is to wait until the spring for divers to repair it. The flume is off, but there is concern that fish will become trapped in that section, there is no flow going out of it. Fredricks asked can you look at the hatches with the ROV. Hausmann said we could use the ROV if we did it internally, but too volatile outside the flume. Rerecich commented there is a significant amount of force on the outside, the questions is what is going on the inside of the structure. Van Dyke asked do you feel like you know how long it has been off. Hausmann said the assumption is that it came off during operation this year. The LFS will not be in operation next season because we don't have a permanent fix for the hatch; it will be fixed next fall.

3.7. Avian. No updates.

3.8. Critical Infrastructure. Gibbons will schedule a meeting to discuss TDA fish infrastructure.

Action: Gibbons to schedule with TDA

3.9. BPA updates.

3.9.1. JDA 4 Units OOS. It has been canceled and scheduled for next year, we will need to replace lines 1 and 2 from the substation to the powerhouse. These are the original lines and will need replacing. The units will need to be OOS for 3 weeks each, units 1-4 will be first, then units 5-8. Fredricks said units 1-4 are important for juvenile and adult passage. Bettin said previously one year we did prove they weren't important. Fredricks said that was a mixed result. Fredricks said it would be a good assumption to say units 1-4 are important and to make the decision outside of fish passage. Bettin said weather is also a factor in when the work needs to be done. Bettin will provide more information as it becomes available.

3.9.2. BON low flows. BPA will need to replace the lines on the Oregon side, but will need flows of greater than 240,000. It has been postponed for this year. Weather is also a factor for when to replace lines. There will be a MOC to come.

4. Coordination/Notification forms (need concurrence/discussion)

4.1. 15BON75 BI Winter maintenance begins two weeks early. Hausmann said it is an addition to the full maintenance, and 2 main fish valves to be repaired. Fish valve 4-4 failed by coming off the wall, we want to be proactive in addressing fish valve 4-3 before it fails. Fredricks said the issue is both powerhouses will be running about half of the flow and will continue until the first week of November, and then B2 will go back to full priority. Fredricks does not have a problem. *Approved*

4.1.1. Ladder split counts are missing on the website for the third week in November for 2014.

4.2. Revised 15TDA05 Railroad rail removal. *Pending*. Moved by 2 months; (East exit recommendation was Oct-Nov conflicts with AWS mobilization; need to go back to August 2016); Lorz suggest March; Cordie suggests first week of August during ROV inspection; Conder wants to wait for Fredricks. *Update: AWS mobilization is on hold*. It is on hold until we know more about the AWS. The outage will occur the first week of August unless there is slippage of AWS. Fredricks said he doesn't like it, but there's nothing else we can do. Cordie will let the PDT know this isn't the desired time. Fredricks said if it has to be done during the season, this is the best time. Fredricks asked if we can wait until after the AWS is done in November. The project was lumped in with crane repair, the crane rail removal will be in 2020. Cordie will find out more. *Denied: TDA will write a new MOC when there is a new plan for the AWS.*

4.3. 15TDA11 Ice and trash sluiceway closure. Fredricks asked can we wait until December. Cordie said they need to get the tarp out because it's shredded and it has only been in for a week. This is a safety issue for them to fix it. The intent is to keep spray off the road. Fredricks said this is a minimal impact. *Approved.*

4.4. 15JDA10 Sturgeon in MU16 gatewell. No additional comments.

4.5. LGS fiber optic cable. *Pending* Bettin said there are fiber optic cables dangling from the power line, they came off bracket. This requires 100% outage, 1 day. This will affect adult passage. Bettin will update as more information comes.

5. Fish Passage Plan: The Current 2015 FPP and Change Forms are online at: <http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/>.

5.1. Pending FPP Change Forms. Pushed out until testing low flows at ERDC (Sept 21)

5.1.1. 15IHR008 – Low Flow Spill Patterns. *Pending.*

5.1.2. 15LMN004 – Low Flow Spill Patterns. *Pending.*

5.2. New FPP Change Forms.

5.2.1. B2 Turbine blade angle. Fredricks said there will be a change form. It will be a soft constraint. There is a strong recommendation from COE-ERDC staff that the lower 1% is adverse for fish passage. Fredricks and Meyer will produce a report (distributed October 13).

5.3. Potential FPP change forms.

5.3.1. Appendix B – Transport. Revise truck transport minimums if supported by data analysis to determine likely effects, including frequency and duration. Wagner will request NOAA, Montlake to look at the data.

6. Task Group Updates.

6.1. New Task Groups.

6.1.1. BON minimum spill to maintain good B2CC egress. (Fredricks and Lorz). Team members include: Bettin, Ebner, Hausmann, Mackey, Wright. Report from Laurie, waiting for ERDC information

6.1.1.1. ERDC trip was the week of 21 September.

6.1.1.1.1. Fredricks said they did not look at this at ERDC. **ACTION:** Mackey to follow-up, O&M needs to fund the model

6.1.2. Load Shaping Guidelines (Bettin). Team members include: Fredricks, Mackey, and Wright. Bettin is still figuring out if he is allowed to edit Appendix C (last modified in 1995). FPOM believes this will be delayed until next year.

6.2. Active Task Groups.

6.2.1. Adult counting. (Wertheimer and Moody) <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%200Fish%20Counting/> contracting issues are getting resolved, cost issues and contracting; 1 year and 2 option years (3 year contract); new technology may allow a change in process

6.2.1.1. Lorz asked for a report on how TDA worked. Orientation issues with lighting, decreasing lighting fish settled down; one more test in the fall-
ACTION: Mackey will follow-up with FFU

6.2.2. Condition monitoring. (Lorz, Conder). <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%200Condition%20Monitoring/>

6.2.2.1. Team members include: Benner, Bettin, Chockley, Fredricks, Mackey, Morrill, and Setter.

6.2.2.2. This group will meet after the December FPOM meeting. Review memo and prepare to discuss. IHR, Lorz/Conder; (more to come in December)

6.2.3. TDA adult flows. (Cordie) <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%200TDA%20split%20flows/>

6.2.3.1. Team members include: Bettin, Cordie, Fredricks, Lorz, Lut, Mackey, Rerecich, Skalicky, Wertheimer.

6.2.3.2. Rerecich talked with UI and there were RT steelhead present during the test period. The data may help understand broad movements of fish during the test but may not help determine the more localized response near the thalweg and shelf between the north ladder and the spillwall.

6.2.3.3. This group will meet after the November FPOM meeting

6.3. Task Groups that really want to be inactive but still have an Action Item. **Rerecich sent AFF final report to FFDRWG/FPOM on 9/17/15.**

6.3.1. AFF mods (BON Fisheries). <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/Task%20Groups/Task%20Group%200BON%20AFF/>

6.3.2. Team members include: Benner, Fredricks, Lorz, Mackey, Meyer, Rerecich, Royer, and Whiteaker. This task group may go to inactive. **This task group is now inactive.**