Washington State
Energy Facility Site Evaluation Council

REVISED AGENDA

MONTHLY MEETING
Tuesday June 18, 2019
1:30 PM

1300 S. Evergreen Park Drive SE,
Olympia, WA 98504,
Conference number: (360) 407-3810 ID: 1880251

1. Call to Order ..... Kathleen Drew, EFSEC Chair

2. Roll Call ..... Tammy Mastro, EFSEC Staff

3. Proposed Agenda ..... Kathleen Drew, EFSEC Chair

4. Minutes

Meeting Minutes ..... Kathleen Drew, EFSEC Chair

- May 21, 2019

5. Projects

a. Kittitas Valley Wind Project

- Operational Updates ..... Eric Melbardis, EDP Renewables

b. Wild Horse Wind Power Project

- Operational Updates ..... Jennifer Diaz, Puget Sound Energy

c. Chehalis Generation Facility

- Operational Updates ..... Mark Miller, Chehalis Generation

d. Columbia Generating Station

- Operational Updates ..... Mary Ramos, Energy Northwest

e. WNP – 1/4

- Non-Operational Updates ..... Mary Ramos, Energy Northwest

f. Columbia Solar Project

- Project Updates ..... Ami Kidder, EFSEC Staff

g. Desert Claim

- Project Updates ..... Amy Moon, EFSEC Staff

h. Grays Harbor Energy Center

- Operational Updates ..... Chris Sherin, Grays Harbor Energy
- NPDES Permit ..... Ami Kidder, EFSEC Staff

  The Council may consider and take *FINAL ACTION* on issuing the NPDES permit.

6. Adjourn ..... Kathleen Drew, EFSEC Chair

Note: "FINAL ACTION" means a collective positive or negative decision, or an actual vote by a majority of the members of a governing body when sitting as a body or entity, upon a motion, proposal, resolution, order, or ordinance. RCW 42.30.020

Verbatim Transcript of Monthly Council Meeting

Washington State Energy Facility Site Evaluation Council

May 21, 2019

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WASHINGTON STATE

ENERGY FACILITY SITE EVALUATION COUNCIL

Olympia, Washington

Tuesday, May 21, 2019

1:30 p.m.

MONTHLY COUNCIL MEETING

Verbatim Transcript of Proceedings

REPORTED BY:
DANI WHITE, CCR NO. 3352

APPEARANCES

Councilmembers:

KATHLEEN DREW, Chair
CULLEN STEPHENSON, Department of Ecology
STACEY BREWSTER, Utilities & Transportation Commission
MIKE LIVINGSTON, Fish and Wildlife (phone)
DAN SIEMANN, Department of Natural Resources (phone)

Assistant Attorney General:

JON THOMPSON

Council Staff:

SONIA BUMPUS
AMI KIDDER
AMY MOON
KYLE OVERTON
TAMMY MASTRO
JOAN AITKEN
STEW HENDERSON

In Attendance:

ERIC MELDBARDIS, EDP Renewables (phone)
JENNIFER DIAZ, Wild Horse (phone)
CHRIS SHERIN, Grays Harbor Energy (phone)
MARY RAMOS, Energy Northwest (phone)
JANET NELSON, Kittitas Audubon
NORM PECK, Kittitas Audubon

CHAIR DREW: Good afternoon. This is Kathleen Drew, Chair of the Energy Facility Site Evaluation Council, and our meeting, which is in Ellensburg, Washington, today, will now come to order. We're very happy to be here.

Ms. Mastro, will you call the roll, please?

MS. MASTRO: Department of Commerce?

CHAIR DREW: Department of Commerce we're waiting for an appointment.

MS. MASTRO: Department of Ecology?

CHAIR DREW: Cullen Stephenson here.

MS. MASTRO: Fish and Wildlife?

MR. LIVINGSTON: Mike Livingston on the phone.

CHAIR DREW: Hi, Mike.

MS. MASTRO: Department of Natural Resources?

MR. SIEMANN: Dan Siemann is on the phone.

MS. MASTRO: Utilities and Transportation Commission?

MS. BREWSTER: Stacey Brewster here.

MS. MASTRO: Chair, there is a quorum.

CHAIR DREW: Thank you.

You have before you the proposed agenda. Is there someone who would like to make a motion to adopt the agenda?

MR. STEPHENSON: I will move that we adopt the

agenda.

CHAIR DREW: Any questions? All those in favor say "aye."

COUNCILMEMBERS: Aye.

CHAIR DREW: All those opposed? Agenda's adopted.

Moving on to the meetings minutes. You have sent to you the minutes from the meeting for April 16, 2019. Is there a motion to adopt the meeting minutes?

MR. STEPHENSON: I will move that we adopt the meeting minutes.

MS. BREWSTER: I second that motion.

CHAIR DREW: Thank you.

Are there any comments or changes to the draft meeting minutes in front of you? Hearing none, all those in favor of adopting the minutes please say "aye."

COUNCILMEMBERS: Aye.

CHAIR DREW: Thank you. The meeting minutes are adopted.

We are now moving on to our project updates. First is Kittitas Valley Wind Project, and I would like to thank -- oh.

MS. MASTRO: Who is on the phone or do you want to ask?

CHAIR DREW: Oh, I should ask. Thank you,

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Ms. Mastro.

Who is on the phone who wants to introduce yourself?

MS. DIAZ: This is Jennifer Diaz with Puget Sound Energy, Wild Horse Wind Facility.

MR. SHERIN: This is Chris -- excuse me, this is Chris Sherin with the Grays Harbor Energy Center.

MS. RAMOS: Mary Ramos, Energy Northwest.

CHAIR DREW: Okay. Moving on now to our operational updates, Kittitas Valley Wind Project.

MR. MELBARDIS: Yes, good afternoon, Chair Drew, EFSEC. This is Eric Melbardis with EDP Renewables for the Kittitas Valley Wind Power Project. There was nothing nonroutine to report for the month of April.

But I did want to mention that we had a visit with EFSEC Staff and members of the Council today, and it was great to have you out to give you a little tour and to show you what we do out here in Kittitas Valley.

CHAIR DREW: Thank you very much. We appreciated the tour, we all learned a lot, and we're very glad to be on site to see your facility and how well it's run. Really appreciated the tour so thank you very much for that.

MR. MELBARDIS: Thank you.

CHAIR DREW: Wild Horse Wind Power Project,

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Ms. Diaz.

MS. DIAZ: Hi, yes, thank you, Chair Drew and Councilmembers. For the record, this is Jennifer Diaz with Puget Sound Energy for the Wild Horse Wind Power Project. I have a couple of updates for you all.

In accordance with the Stormwater Pollution Prevention Plan, a stormwater inspection was completed following spring snowmelt. Overall, the site is stable and in excellent condition. Stormwater BMPs are in good condition and responded well to the melting snow.

And in accordance with the Wildlife Incident Reporting and Handling System, annual training was provided to site staff on the proper procedures for responding to and reporting wildlife incidents found within the wind facility boundaries.

And then the Renewable Energy Center, our visitor center, opened to the public for the tourist season on April 1st. And then I look forward to the Council and Staff touring Wild Horse tomorrow.

CHAIR DREW: Thank you. We look forward to it as well. And I also appreciate the two of you arranging such nice weather for us.

MS. DIAZ: Any time.

CHAIR DREW: Moving on to the Chehalis Generation Facility. Are we -- Ms. Bumpus? Mr. Miller or anyone

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else from Chehalis on the line?

MS. BUMPUS: Chair Drew, for the record, this is Sonia Bumpus. We were expecting that Chehalis would be calling in for their update. Based off of their report to the Council for April 2019, there were no recordable incidents for this reporting period.

CHAIR DREW: Okay. Thank you very much.

Columbia Solar Project, Ms. Kidder.

MS. KIDDER: Thank you, Chair Drew. For the record, my name is Ami Kidder. Staff are continuing coordination with their certificate holder. EFSEC Staff has selected an environmental monitor that would participate in the construction phase of the project. I have no other updates at this time.

CHAIR DREW: Thank you. Are there any questions? Okay. Thank you.

Desert Claim, Ms. Moon.

MS. MOON: Good afternoon, Council, Chair Drew, and Councilmembers. For the record, this is Amy Moon and I'm providing an update for the Desert Claim Project. EFSEC Staff continues to coordinate with Desert Claim, and a field meeting was held on May 10, 2019, at the Desert Claim site to discuss temporary and permanent water crossings with the Washington Department of Ecology, the Washington Department of

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Fish and Wildlife, as well as Desert Claim staff and their consultants.

CHAIR DREW: Thank you. Any questions?

WNP - 1/4, Ms. Ramos.

MS. RAMOS: Good afternoon, Chair Drew and Councilmembers. This is Mary Ramos reporting for Energy Northwest. For WNP - 1/4 there are no updates to report.

CHAIR DREW: Okay.

MS. RAMOS: And for Columbia Generating Station, as previously reported during the April 2019 EFSEC Council meeting, Columbia Generating Station began its 24th refueling and maintenance outage on May 11th, and the outage is scheduled to last for 40 days.

And then another topic to report is regarding our NPDES permit submittal. In accordance with S7.4 of this Columbia Generating Station NPDES permit, Columbia submitted a groundwater mounding study engineering report on April 24th.

And then also in accordance with condition S6 of the Columbia Generating Station NPDES permit, Columbia submitted its NPDES permit renewal application on April 30th. No other updates.

CHAIR DREW: Thank you. Are there any questions? Okay. Thank you.

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For Grays Harbor Energy Center, Mr. Sherin.

MR. SHERIN: Good afternoon, Chair Drew, Councilmembers. This is Chris Sherin, plant manager of Grays Harbor Energy Center. The only things that are nonroutine to report for this month for Grays Harbor Energy Center is that we did have one minor spill on April 26th. We had an oil leak that was discovered underneath the plant telehandler -- forklift. Estimated leak size was half a gallon to one gallon of oil and it was -- the telehandler was parked on a concrete pad where we normally store it.

So no oil reached any ground surface. It was contained and cleaned up, and we put a drip pan under the axle brake piston that was leaking. And on the 30th our vendor changed out the telehandlers because they were unable to repair it on site.

On April 25th we submitted our March Relative Accuracy Test Audit results to EFSEC and ORCAA, and then we also on the 29th submitted the Operations and Maintenance Manual per the PSD since we made changes to it to EFSEC. Other than that, I don't have anything else to report for the month.

CHAIR DREW: Thank you. Are there any questions? Thank you.

Ms. Kidder.

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MS. KIDDER: Thank you, Chair Drew. I just have a quick update for the Council. The Grays Harbor Energy Center is still within a public comment period for the National Pollution Discharge Elimination System waste discharge permit renewal and that public comment period will continue through close of business today. To date, we have received one public comment.

We are also looking forward to taking the Council to a site visit to Grays Harbor on June 18th, the morning prior to next month's Council meeting.

CHAIR DREW: So specifics in terms of logistics we'll be getting out to the Council. But for those of us starting from Olympia or anyone who wants to join us, I imagine we would carpool.

MS. KIDDER: Correct.

CHAIR DREW: Okay. Thank you.

Moving on now to the -- oh, did you -- I'm sorry, Ami -- Ms. Kidder, did you say when that public comment period is to going to be --

MS. KIDDER: Through close of business today.

CHAIR DREW: Close of business today. Thank you.

Moving on to the air rules. Ms. Bumpus.

MS. BUMPUS: Thank you. Good afternoon, Chair Drew and Councilmembers. I am listed as the individual who would be proposing the draft air rules. However, I'm going to hand this over to Ms. Ami Kidder and she'll be updating the Council on the draft air rules that are in your packet.

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MS. KIDDER: Thank you, Ms. Bumpus.

Today EFSEC Staff is seeking the Council's approval to begin the rulemaking process to amend Washington Administrative Code or WAC Chapter 463-78, the General and Operating Permit Regulations for Air Pollution Sources.

Specifically, with Council approval, Staff intends to file the CR-105 to the Code Reviser's Office by tomorrow, May 22nd. In your packets, you will see a copy of the CR-105 as well as a revised version of WAC 463-78.

Because EFSEC will be adopting by reference rules that have already been through public comment via the Department of Ecology's rulemaking process, this update to EFSEC rule qualifies for expedited process and so the CR-105 form is used.

The Department of Ecology has gone through a series of updates to their air quality rules, in particular, Chapters 173-400, 173-401, and 173-460 -- 406 -- no, it's 460. The purpose of the proposed rule revisions are to be consistent with Ecology and EPA rules and to ensure that EFSEC-issued permits are in

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line with current EPA and Ecology regulations. Additionally, the Washington Air Quality State Implementation Plan is pending update and requires the EFSEC rules be updated to move forward.

The revisions help to fulfill the intent of RCW 80.50.040 and RCW 43.21A, which lay the framework for EFSEC and Ecology to oversee air emissions within the state.

The Council's action today will allow for Staff to file the CR-105 in time for the May 22nd filing deadline, and this will allow the CR-105 to be noticed in the June 5th publication which begets a 45-day public comment period continuing through July 20th.

After this, the Council would take action on a CR-103 which is the rulemaking order, and once filed, would begin a 30-day waiting period after which the updated rules take effect.

Are there any questions?

CHAIR DREW: Are there any questions for Staff? If you would make a motion.

MR. STEPHENSON: Chair Drew, I move to allow EFSEC Staff to file the CR-105 with the Code Reviser's Office which would, upon publication, begin a 45-day public comment period on the proposed rule adoption of WAC 173-400, 173-401, and 173-460 as promulgated in WAC

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463-78. I hope I got all those right.
MS. BREWSTER: I second that.
CHAIR DREW: Okay. The motion has been made and seconded. Is there any discussion?
Mr. Stephenson.
MR. STEPHENSON: Chair Drew, Ecology's happy with the cooperative effort that's gone on to get these air rules into EFSEC's business. Air quality at the federal level is rather complex and there's lots and lots of rules and those need revising constantly, and so EPA fixes those, that trickles down to the states and locals, and then to EFSEC. And so we just appreciate all that work. We have to do it, you have to follow-up.
In this case, they are very routine updates but we appreciate the EFSEC staying quickly up-to-date with the needed changes.
CHAIR DREW: Thank you.
Any other comments or discussion? Hearing none, all those in favor of the motion, please say "aye."
COUNCILMEMBERS: Aye.
CHAIR DREW: I heard one "aye" on the phone.
MR. SIEMANN: Aye.
CHAIR DREW: Thank you. Motion is adopted.
MR. SIEMANN: My "aye" was muted. This is Dan

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Siemann.
CHAIR DREW: Okay. Thank you. That is adopted and we look forward to it. As Mr. Stephenson said, this is following up on work already done both by EPA and by Department of Ecology, we're just adopting by reference, so we look forward to anything we might hear from the public.
And moving on, I have a quick update. I talked a bit about the bill that we had put forward during the legislative session and I was optimistic that it would pass the Senate, as it was on the floor ready to be passed and then to the Governor's signature; however, the Senate ran out of time and the bill was not considered on the floor so the bill did not pass. So we'll continue to work on what we're working on this year, which is really trying to look at our processes and ways we can improve our processes.
We have a building move taking place at the end of June where we'll be moving to another location with the Utilities and Transportation Commission in Lacey. And that will happen at the end of June so our address will change; however, that should cause very little disruption.
Are there any updates you'd like to make, Ms. Bumpus?

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MS. BUMPUS: Chair Drew, thank you. Well, I'm glad you mentioned the move, I was also thinking of that. So I think that's a very good idea to put that out there. We'll certainly be updating our website as we need to with information if there is -- if there are changes that affect communications with EFSEC.
The only thing I was going to just add and it's already been publically noticed and that is the Wild Horse Wind and Solar Facility Council tour that we have scheduled tomorrow morning, May 22nd, and that tour will be taking place between 9 a.m. and 11:30 a.m.
CHAIR DREW: Thank you.
We have two members of the public with us, would either one of you like to comment on anything?
MS. NELSON: I'm Janet Nelson from Kittitas Audubon. I don't see anything that would affect us. I'm not even sure I followed it all.
CHAIR DREW: Thank you. We'll be happy to talk with you afterwards.
MR. PECK: I'm Norm Peck also with Kittitas Audubon, and the only comment I have to make is it was difficult to find anything on your website about the air rule that was going to be discussed today.
CHAIR DREW: Okay.
MR. PECK: And that was the primary reason I

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showed up was to get more clarity on that.
CHAIR DREW: Okay. Thank you. And we can be happy to talk with you as well after the meeting. So thank you both for being here.
Since there is no other business, this meeting is adjourned.
(PROCEEDINGS ADJOURNED AT 1:51 P.M.)

CERTIFICATE

STATE OF WASHINGTON)
)
COUNTY OF YAKIMA)

This is to certify that I, Dani White, Certified Court Reporter in and for the State of Washington, residing at Selah, reported the within and foregoing proceedings; said proceedings being taken before me on the date herein set forth; that said proceedings were taken by me in shorthand and thereafter under my supervision transcribed; and that same is a full, true, and correct record of the proceedings.

IN WITNESS WHEREOF I have set my hand this 4th day of June, 2019.

DANI WHITE
CCR NO. 3352

EFSEC

MONTHLY MEETING

May 21, 2019

ENERGY FACILITY SITE EVALUATION COUNCIL

Roll Call Checklist

Meeting Date: May 21, 2019 EFSEC Monthly Meeting

State Agency Members

Chair		
Kathleen Drew	☑ Present	☐ Call
Commerce		
Vacant	☑ Present	☐ Call
Ecology		
Cullen Stephenson	☑ Present	☐ Call
Fish and Wildlife		
Mike Livingston	☐ Present	☑ Call
Natural Resources		
Dan Siemann	☐ Present	☑ Call
Utilities & Transportation Commission		
Stacey Brewster	☑ Present	☐ Call

Assistant Attorney General

Jon Thompson	☑ Present	☐ Call
Stephanie Duvall	☐ Present	☐ Call

Administrative Law Judge

Laura Chartoff	☐ Present	☐ Call

Council Staff

☑ Sonia Bumpus	☑ Joan Aitken
☑ Ami Kidder	☐ Christina Potis
☑ Amy Moon	☐ Patty Betts
☑ Kyle Overton	☑ Stew Henderson
☑ Tammy Mastro	

Court Reporter: Dani

Operational Updates	Present	Call
Kittitas Valley Wind, EDP Renewables Eric Melbardis	☐	☑
Wild Horse Wind Power Project, Puget Sound Energy Jennifer Diaz	☐	☑
Grays Harbor Energy Center, Grays Harbor Energy Chris Sherin	☐	☑
Chehalis Generation Facility, PacifiCorp Mark Miller	☐	☐
Columbia Generating Station & WNP-1/4, Energy Northwest Mary Ramos	☐	☑

In attendance	Present	Call
1. _____ Org:	☐	☐
2. _____ Org:	☐	☐
3. _____ Org:	☐	☐
4. _____ Org:	☐	☐
5. _____ Org:	☐	☐
6. _____ Org:	☐	☐
7. _____ Org:	☐	☐
8. _____ Org:	☐	☐
9. _____ Org:	☐	☐
10. _____ Org:	☐	☐

Washington State
Energy Facility Site Evaluation Council

AGENDA

MONTHLY MEETING
Tuesday May 21, 2019
1:30 PM

901 E. 7th Avenue,
Ellensburg, WA 98926,
Kittitas Valley Event Center Armory
Conference number: (360) 407-3810 ID: 4057717

1. Call to Order ..... Kathleen Drew, EFSEC Chair

2. Roll Call ..... Tammy Mastro, EFSEC Staff

3. Proposed Agenda ..... Kathleen Drew, EFSEC Chair

4. Minutes

Meeting Minutes ..... Kathleen Drew, EFSEC Chair

- April 16, 2019

5. Projects

a. **Kittitas Valley Wind Project**

- Operational Updates ..... Eric Melbardis, EDP Renewables

b. **Wild Horse Wind Power Project**

- Operational Updates ..... Jennifer Diaz, Puget Sound Energy

c. **Chehalis Generation Facility**

- Operational Updates ..... Mark Miller, Chehalis Generation

d. **Columbia Solar Project**

- Project Updates ..... Ami Kidder, EFSEC Staff

e. **Desert Claim**

- Project Updates ..... Amy Moon, EFSEC Staff

f. **WNP – 1/4**

- Non-Operational Updates ..... Mary Ramos, Energy Northwest

g. **Columbia Generating Station**

- Operational Updates ..... Mary Ramos, Energy Northwest

h. **Grays Harbor Energy Center**

- Operational Updates ..... Chris Sherin, Grays Harbor Energy

6. Other

a. **EFSEC Council**

- Air Rules ..... Sonia Bumpus, EFSEC Staff
  The Council may consider and take **FINAL ACTION** *on adopting Air Rules.*

7. Adjourn ..... Kathleen Drew, EFSEC Chair

Note: "FINAL ACTION" means a collective positive or negative decision, or an actual vote by a majority of the members of a governing body when sitting as a body or entity, upon a motion, proposal, resolution, order, or ordinance. RCW 42.30.020

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WASHINGTON STATE

ENERGY FACILITY SITE EVALUATION COUNCIL

Olympia, Washington

Tuesday, April 16, 2019

1:30 p.m.

MONTHLY COUNCIL MEETING

Verbatim Transcript of Proceedings

REPORTED BY: TAYLER GARLINGHOUSE, CCR 3358

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APPEARANCES

Councilmembers:

KATHLEEN DREW, Chair
CULLEN STEPHENSON, Department of Ecology (phone)
MIKE LIVINGSTON, Department of Fish & Wildlife
DAN SIEMANN, Department of Natural Resources (phone)
STACEY BREWSTER, Utilities & Transportation Commission

Local Government and Optional State Agency for the Columbia Solar Project:

JOE LAXSON (phone)

Assistant Attorney General:

JON THOMPSON

Council Staff:

SONIA BUMPUS
TAMMY MASTRO
AMI KIDDER
AMY MOON
PATTY BETTS
CHRISTINA POTIS
JOAN AITKEN
STEW HENDERSON
KYLE OVERTON

In Attendance:

KARA WARNER, Golder Associates (phone)
BILL SHERMAN, The Environment (phone)
LIEM NGUYEN, Ecology
ERIC MELBARDIS, EDP Renewables (phone)
JENNIFER DIAZ, Wild Horse (phone)
CHRIS SHERIN, Grays Harbor Energy
MARK MILLER, Chehalis Generation Facility
MARY RAMOS, Energy Northwest (phone)

OLYMPIA, WASHINGTON; APRIL 16, 2019

1:30 P.M.

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PROCEEDINGS

CHAIR DREW: Good afternoon. This is Kathleen Drew, Chair of the Energy Facility Site Evaluation Council, and I'm calling the meeting to order.

Ms. Mastro, will you please take the roll call?

MS. MASTRO: Department of Commerce?

CHAIR DREW: Is excused.

MR. STEPHENSON: Cullen Stephenson, here, on the phone.

MS. MASTRO: Department of Ecology?

CHAIR DREW: That was Cullen, Mr. Stephenson. Thank you.

MS. MASTRO: Department of Fish & Wildlife?

MR. LIVINGSTON: Mike Livingston, here.

MS. MASTRO: Department of Natural Resources?

MR. SIEMANN: Dan Siemann is on the phone.

MS. MASTRO: Utilities and Transportation Commission?

MS. BREWSTER: Stacey Brewster, here.

MS. MASTRO: Chair, there is a quorum.

CHAIR DREW: Thank you.

Is there anyone else on the phone who wishes to introduce themselves at this point?

MR. LAXSON: Yeah, good afternoon. This is Joe Laxson from the Department of Health.

CHAIR DREW: Thank you.

MS. WARNER: Hi, this is Kara Warner with Golder Associates.

MS. DIAZ: This is Jennifer Diaz with Puget Sound Energy.

MR. SHERMAN: This is Bill Sherman as counsel for The Environment from the Attorney General's Office.

CHAIR DREW: Okay. Thank you very much.

With that, we have a proposed agenda in front of us. Is there a motion to adopt the proposed agenda?

MR. LIVINGSTON: Chair Drew, I would like to propose a motion to approve the agenda as presented.

MS. BREWSTER: I second that motion.

CHAIR DREW: Thank you.

All in favor, say "aye."

COUNCILMEMBERS: Aye.

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CHAIR DREW: Opposed? The agenda is adopted.

We then move to the minutes. The meeting minutes have been sent to you previously and are in your packets. Is there a motion to adopt the minutes?

MR. LIVINGSTON: Chair, I would like to make a motion to approve the minutes as presented.

CHAIR DREW: Thank you.

MS. BREWSTER: I'll second that motion.

CHAIR DREW: Thank you. Are there --

MR. SIEMANN: I will second.

CHAIR DREW: Are there any comments or -- about the minutes? Any corrections?

Hearing none, all those in favor of approving the minutes from March 19th, 2019, say "aye."

COUNCILMEMBERS: Aye.

CHAIR DREW: Opposed? The minutes are adopted.

Moving on now to our projects. The first in front of us is the Kittitas Valley Wind Project operational update, Mr. Melbardis.

MR. MELBARDIS: Good afternoon, Chair Drew, EFSEC Council. For the period of March, there was nothing nonroutine to report at Kittitas Valley. Oh, sorry. For the record, this is Eric Melbardis with EDP

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Renewables. We did have a fire and life safety inspection in March and that came back with a perfect score.

CHAIR DREW: Congratulations.

Any questions?

Moving on to Wild Horse Wind Power Project, Ms. Diaz?

MS. DIAZ: Yes. Thank you, Chair Drew and Councilmembers. For the record, Jennifer Diaz with Puget Sound Energy at the Wild Horse Wind and Solar Facility, and we have nothing nonroutine to report for the month of March.

CHAIR DREW: Thank you.

Chehalis Generation Facility, Mr. Miller?

MR. MILLER: Good afternoon, Chair Drew and Councilmembers and Staff. I'm Mark Miller for – from the PacifiCorp Chehalis Generation Facility. I would like to highlight two nonroutine comments for the month of March. Plant conducted the annual relative accuracy test audit for our continuous emission monitors just to verify that they're continuing to operate within their required parameters.

The draft report that we received earlier last week indicate that all monitors were performing as -- as – within the required performance parameters

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as noted in the report. And also, the EFSEC contractor Southwest -- from the Southwest Clean Air Agency and title -- and EFSEC Staff conducted a Title V site inspection for the year, annual year 2019. The inspection was conducted on March 26th. At the time of the inspection, the Clean Air staff did not note any anomalies and everything was as expected. Are there any questions?

CHAIR DREW: Any questions?

Thank you for your report.

Columbia Solar Project, Ms. Kidder?

MS. KIDDER: Thank you, Chair Drew. For the record, my name is Ami Kidder. I have a brief update for you on the Columbia Solar Project. EFSEC Staff are working to obtain an environmon- - environmental monitor that would participate in the construction phase of the project for all five sites. We will keep the Council updated as we progress. Are there any questions?

CHAIR DREW: Thank you.

Ms. Bumpus?

MS. BUMPUS: Chair Drew, I just wanted to note, I'll be providing an update on the litigation for Columbia Solar at the end of the Council meeting.

CHAIR DREW: Okay. Thank you.

I know at the table we also have a new Staff

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member, so I wanted to introduce him at this time. Kyle Overton, who started this morning. Kyle comes to us from Thurston County as an environmental staff person there, Environmental Health, and has an extensive background both here and from Arizona, and we are very pleased to have him on our Staff. So welcome.

MR. OVERTON: Thank you.

CHAIR DREW: Then moving on to Desert Claim, Ms. Moon?

MS. MOON: Good afternoon, Council Chair Drew and Councilmembers. For the record, this is Amy Moon, and I am providing an update for the Desert Claim Project. EFSEC Staff continue to coordinate with Desert Claim and our contractors working toward construction in 2021, and I have no other updates at this time.

CHAIR DREW: Okay. Thank you.

WNP-1/4. Ms. Ramos?

MS. RAMOS: Good afternoon, Chair Drew and Councilmembers. My name is Mary Ramos reporting for Energy Northwest. For WNP-1/4, there are no updates to report.

CHAIR DREW: Okay. Thank you. And then for Columbia Generating Station.

MS. RAMOS: Again, Mary Ramos for Energy Northwest, Columbia Generating Station. I have three

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topics to report today for Columbia.
CHAIR DREW: Ms. Ramos --
MS. RAMOS: First --
CHAIR DREW: -- we're having a little difficulty hearing you, so if you can speak up or closer, that would be great.
MS. RAMOS: Oh, okay. Apologize for that. So I have three topics to report today for Columbia Generating Station. Is that better?
CHAIR DREW: Yes, thank you.
MS. RAMOS: Okay. Great. First is regarding the transformer oil spill at Columbia. Energy Northwest is working on a response to EFSEC's request for information regarding the transformer oil spill at Columbia. The letter which was sent to Energy Northwest by EFSEC on March 14th is -- requests information regarding the release and cleanup of the soil.
The second topic I'd like to report on is regarding our fire inspection. On March 27th, Energy Northwest responded to EFSEC's request for additional information regarding the fire inspection of nonpower block facilities at Columbia. And the third-party reports to support the building code of record modification for several buildings at Columbia have been submitted to EFSEC.

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The third topic I'd like to report on is regarding our upcoming refuelling outage. Columbia Generating Station will begin its 24th refuelling outage on May 11. The outage is scheduled to last for 40 days, and it's an opportunity for us to add fresh nuclear fuel to the Columbia's reactor core as well as perform maintenance projects.
The total budget for this outage is approximately $127 million. More than 1200 fuel temporary outage workers are hired locally and across the country to support the outage. This will be in addition to the normal workforce at Columbia of about a thousand.
The outage is a high priority for our station, and it's the key to the plant success and ability to provide low cost power. It takes two years to plan an outage, and with just 25 days from the start, the entire station is heavily involved in the outage preparations. Every Energy Northwest employee is assigned an outage job, and during this time, we'd ask for and appreciate EFSEC's patience as our ability to respond to questions and requests is limited.
CHAIR DREW: Thank you. Thank you for that information. That I think helps all of us understand your operations a little bit better.

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Are there any questions for Ms. Ramos?
MS. BREWSTER: I have one.
CHAIR DREW: Ms. Brewster?
MS. BREWSTER: Ms. Ramos, regarding the response to the oil spill, do you have an estimated time when that response will be prepared?
MS. RAMOS: I don't have a target date for you. I know that the transformer is being repaired during the outage, and so I suspect that our submittal will be right after the outage, but I -- I'm not 100 percent sure.
MS. BREWSTER: Thank you.
CHAIR DREW: Okay. Any other questions? Okay. Thank you very much.
MS. RAMOS: Thank you.
CHAIR DREW: Moving on to Grays Harbor Energy Center operational updates, Mr. Sherin?
MR. SHERIN: Good afternoon, Chair Drew and Councilmembers. I'm Chris Sherin, the plant manager at Grays Harbor Energy Center. The only two nonroutine items I'll point out from our March operational updates is, we also completed the required relative accuracy test audit, or RATA, for unit one, and we also did it on -- conducted a RATA on unit two. The dates for that were March 13th and 14th.

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The other nonroutine item is outside of our annual review, we did update our Startup, Shutdown, Malfunction, Procedure, and that was submitted to EFSEC in March.
CHAIR DREW: Thank you.
MR. SHERIN: And if there aren't any questions, Ms. Kidder asked me to provide some historical context to Grays Harbor Energy Center's permit history. So I'll just read that.
Grays Harbor Energy Center is a 620-megawatt two-by-one combined cycle natural gas-powered generating facility owned by Grays Harbor Energy LLC, a subsidiary of Invenergy Services LLC. The facility is located near Elma, Washington, approximately 40 miles from Olympia, Washington, on a 22-acre site, which is formerly a portion of the 1600-acre Washington Nuclear Project No. 3 and 5 or WNPs 3 and 5. The former nuclear site surrounds Grays Harbor Energy Center and is operated by the Port of Grays Harbor's Satsop Business Park.
Duke Energy North America commenced construction of the facility in September of 2001. Then one year later, Duke Energy North America halted construction at approximately midpoint and placed the project in suspension. Invenergy acquired the project in March of 2005 and resumed construction in February

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of 2007. Grays Harbor Energy Center's first fire on unit one was January 2008 and on unit two Feb- -- excuse me. Grays Harbor Energy's first fire on unit one was January 2008 and on unit two February 2008 and COD was July 1st, 2008.

Grays Harbor -- Grays Harbor Energy Center began operation in July of 2008 under authorization of Site Certification Amendment No. 3, including a reissued 2008 NP -- or NPDES Permit, or National Pollution Discharge Elimination System Permit, and PSD Amendment 3, or Prevention of Significant Deterioration Amendment 3. The original Site Certificate Agreement and National Pollution Discharge Elimination System Permits were issued for the construction of Nuclear Projects that -- WNP-3 and 5.

During the first year of Grays Harbor Energy Center's operation, compliance issues emerged that resulted in effluent exceedances and air emission issues that were identified from the development of the Air Operating Permit. These issues were addressed by requesting a fourth amendment to the PSD, or Prevention of Significant Deterioration Amendment 4, in August of 2009, and the National Pollution Discharge Elimination System modification issued in November of 2010, which we're operating under. Grays Harbor Energy Center

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operated under PSD Amendment 3, or Prevention of Significant Deterioration Amendment 3, until Prevention of Significant Deterioration 4, or Amendment 4, was approved in July 28th of 2018 and became effective September 1st, 2018.

CHAIR DREW: Thank you for that background. I really appreciate it. We -- we are working with you on renewing a number of -- a couple of permits, and so that helps to have the Council understand the -- the background as we -- we move forward in this process.

So are there any questions or we can proceed to our Staff to --

MR. LIVINGSTON: I just have one out of curiosity. The water supply, I -- I looked at a little bit of some of the background. Mentioned wells, mentioned also the river. Is the water coming directly from the river or is it from the ground?

MR. SHERIN: No, it's pumped from the ground through the rain wells.

MR. LIVINGSTON: Okay. All right. Thank you. That's all.

CHAIR DREW: Any other questions?

Ms. Kidder?

MS. KIDDER: Thank you, Chair Drew, Councilmembers, and thank you, Mr. Sherin, for that

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overview. I hope that that provided some context as we have a lot of activity at this facility in the coming months. As Mr. Sherin mentioned, the Grays Harbor Energy Center has been operating under an administrative extension of their National Pollutant Discharge Elimination System, or NPDES Permit, which was approved by EFSEC at the end of their previous permit.

Grays Harbor submitted an engineering report, which was followed by several rounds of review and coordination between EFSEC Staff and the facility. EFSEC approved the engineering report on March 15th, 2018, and since have been working with our contractors at Ecology to develop the NPDES Renewal Permit here before you.

Are there any questions?

CHAIR DREW: And we also have a Staff from Ecology who has worked -- if you'd like to introduce?

MS. KIDDER: Yes, we have our permit contractor here, Liem Nguyen, from Ecology who is contracted with us to develop this permit and fact sheet.

CHAIR DREW: Thank you. Welcome.

MR. NGUYEN: Good afternoon.

MS. KIDDER: And if there are no questions so far, Staff will proceed with our request of the

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Council to take action on a tentative determination to approve the Draft NPDES Renewal Permit, which would allow Staff to notice the Draft Renewal Permit and fact sheet for a minimum 30-day comment period.

CHAIR DREW: And the Councilmembers have received that all in their packet, which they received last week.

MS. KIDDER: Correct.

CHAIR DREW: Okay. Go ahead.

MS. KIDDER: Staff recommends that the comment period begins on Monday, April 22nd and continues for 30 days, closing -- ending at close of business on Tuesday, May 21st. We do not recommend a public hearing at this time. If there are any questions on the technical aspect of the permit, our contractor from Ecology is here and able to address any of those concerns. I would ask that the Council please note that the draft fact sheet available for the Council on the SharePoint site has a typographical error that will be addressed prior to opening the draft up for public comment.

CHAIR DREW: And we did not include those in your packets. They're 50-some pages. So if you do want a hard copy, we're happy to provide that to you, but in order not to have substantial copies here with us, we

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didn't do so. And I think we have some right here on hand if anyone would like to take a look at it.

MS. KIDDER: We do.

MS. BUMPUS: That's correct, Chair Drew, we have -- we made a few copies in case Councilmembers wanted to look at a hard copy while we're here.

CHAIR DREW: Are there any questions about the Draft NPDES Permit Renewal draft? Again, this is to take it out -- the -- the action we're asking for today is to take it out for public review.

MS. KIDDER: Correct.

CHAIR DREW: And if there are no public comments, part of the decision, then, would be that final action could be taken on this draft if we receive no comments. So I want the Council to be fully aware of that.

Is that correct?

MS. BUMPUS: That's correct. And if we do receive comments, we would come back to the Council at the end of the comment period and go over those comments with you and explain if there were any substantive changes to the permit necessary, and then you would have an opportunity to review those substantive changes before we would request approval of that version of the permit.

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CHAIR DREW: Okay. Are there questions about the permit that anyone has? No? No?

Hearing none, is there someone who would like to make a motion to approve the NPDES Permit Renewal Draft for Grays Harbor Energy Center?

MR. LIVINGSTON: Sure, Chair, this is chairman -- or Councilmember Livingston, and I would make a motion to begin that comment period for the draft permit modification as the period specified by the Staff of EFSEC and to bring it back to us after that comment period for discussion and review.

CHAIR DREW: Okay. I think the -- the process is if there aren't any -- well, we can still do that.

MS. BUMPUS: We can do that. The rule says that this is a tentative determination to approve the permit. And so in the past where no comments are -- are provided, and the permit essentially states the same, the Chair could approve the permit without a vote by the Council. But if we do get comments and we do need to change -- make changes to the permit, then that's where we would send it back to you for another review, and we would discuss those changes with you, and then there would be -- I mean, in some cases, you potentially would go to comment again depending on how substantial the

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changes are to the permit. So does that -- does that help here in the action that the Council's taking? Essentially this is approval of the draft permit and --

CHAIR DREW: Subject to public...

MS. BUMPUS: That's right, public comment.

MR. LIVINGSTON: Yes, that helps.

CHAIR DREW: Thank you. Yes, it's new for a lot of us. So no worries there. So would you --

MR. LIVINGSTON: So I'll modify that motion to, I would make a motion to approve the draft permit pending public review of the period that the EFSEC Council -- or Staff have suggested to us.

CHAIR DREW: Is there a second?

MS. BREWSTER: Second --

MR. SIEMANN: I'll second that motion.

CHAIR DREW: Thank you.

Any discussion?

Okay. Thank you all -- oh, wait, I better take a vote on that. All those in favor, please say "aye."

COUNCILMEMBERS: Aye.

CHAIR DREW: Thank you. Motion carries and the action for approval of the NPDES Permit Renewal Draft subject to public comment has been approved. Thank you.

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Ms. Kidder has additional information for us.

MS. KIDDER: Thank you, Council. In further news, I would like to notify the Council of additional activity planned for this facility in the coming months. At the May Council meeting, Staff tentatively plans to bring forth a petition for rulemaking pursuant to Washington Administrative Code or WAC 463-34-030 in order to update WAC 463-78-005, which adopts several sections of WAC 173 by reference. This update will bring WAC 463-78 current with respect to air quality regulations enacted by the Department of Ecology. Are there any questions up to that point?

CHAIR DREW: If I can explain in my own words perhaps what we are looking at. We adopt Department of Ecology's air quality rules by reference. They have changed their rules, so we are looking to adopt their new rules by reference.

MS. BUMPUS: Correct.

CHAIR DREW: And you will get information on that prior to the May meeting, but to know they've already -- Department of Ecology has already been through the process and the public hearing to adopt their rules.

MS. KIDDER: Thank you.

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CHAIR DREW: Thank you.
MS. KIDDER: Following the update of WAC 463-78, in the summer, Staff tentatively plans to present the Council for review the Draft Title V Permit, which is an air operating permit for air quality for the Grays Harbor Energy Center at which point we would anticipate asking the Council to take action on the draft for public comment as well. Are there any questions on that?
CHAIR DREW: And this is that -- the -- this air permit is one which we were recently delegated authority by the EPA?
MS. BUMPUS: We were recently delegated authority for the PSD.
CHAIR DREW: Oh, I'm sorry.
MS. BUMPUS: And that was the Amendment 4 that Mr. Sherin mentioned in his update.
CHAIR DREW: These permits are -- maybe we could even get a visual that shows the different air permit -- or the different permits that we are updating and the rule update associated with Grays Harbor Energy Center. That might be helpful.
MS. KIDDER: That's something that we can put together for the Council.
CHAIR DREW: Okay. Thank you. And I know

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we do plan at some point hopefully during the course of the next few months to have a tour as well. And so having work going on, being able to see the facility in person for ourselves I think would be helpful as well so...
MS. KIDDER: That visit is tentatively scheduled for June 18th, the morning of our June Council meeting.
CHAIR DREW: Okay. Thank you.
Are there any questions?
MS. KIDDER: Thank you.
CHAIR DREW: Lot of work going on. Thank you. We appreciate it.
Mr. Nguyen, thank you for being here and for your work.
Now we are in the category of "Other." So I'll start with my report, which is a legislative update but also an update on a request from the governor from when I was appointed to this position.
So I'd like to give you an update on a report we have just submitted to the governor and the status to our request legislation. When Governor Inslee appointed me as EFSEC Chair in January of 2018, he called on me to review the role processes and Council membership of EFSEC as provided by RCW 80.50.320.

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Specifically the governor asked me to reassess the scope and role of the Council and recommend changes to reflect the ongoing changes to the industry and the state's needs for reliable, affordable, and clean energy to serve current and future generations; to evaluate the process and procedures of the Council; to consolidate and streamline their work in ways that increase consistency, reduce decision times, and improve the transparency and access to the process; and review the current membership of the Council and recommend changes that would broaden representation from local and tribal governments, industry experts, and the general public.
Throughout 2018, I met with a wide range of stakeholders to gather in-depth input on all aspects of our operations, and working together with the EFSEC Staff, we conducted process-mapping of our core work process -- processes, including both analyzing current operations and developing options for future improvements.
Building on this work and with input and support from a broad group of stakeholders, I drafted legislation which was introduced earlier this year. In addition to adding standing membership on the EFSEC Council for counties and tribes, the bill contains

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important provisions to streamline our project application and review process. This legislation, House Bill 1332, is still moving through the 2019 legislative process. And I will give you an update on that in a little bit.
This work is -- this work of the review that the governor asked me to do is detailed in the 2018 Strategic and Policy Review to Governor Inslee, which I submitted on March 28th, 2019, and is in your packets today. It details what we have learned from our outreach and process improvement activities, what we believe lies ahead as Washington transitions to a hundred percent clean electricity, and what we propose to do to support that vital transition.
We've already begun implementation and intend to use this strategic and policy review as a roadmap for our continuous improvement to be carried out over the coming years.
I'd like to ask Stewart Henderson, EFSEC senior policy advisor, to brief you on the report and where we are in implementation. And I'll follow with an update on the status of House Bill 1332.
Mr. Henderson.
MR. HENDERSON: Thank you. Yeah, for the record, this is Stewart Henderson, senior policy advisor

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for EFSEC. And it's exciting. It's my first official chance to -- to speak with the -- with the Council. Yeah, I was the sort of point person to -- and I'm going to be sort of leafing through the -- leafing through the report here for those of you who have it.

But I was basically the point person to bring together several streams of work that have been going on over the last -- over a year now of input from stakeholders, which are listed on page 15 of the report. But extensive conversations that Chair Drew and others have had with the -- with the wide range of stakeholders, process-mapping that our own team did of our own -- of our own processes.

In further discussions with stakeholders and others, recommendations that -- that -- that were provided which led to the -- the draft of the -- of the -- the bill that Chair Drew was referring to and ongoing input that we received on that. And then continuing efforts that we've done to -- to reach out to stakeholders and -- in several ways.

The -- the report, again, gives a couple pages of background on EFSEC's mission and role, which might be a good kind of overview for -- for folks new to us. On pages 4 and 5, it talks about the -- some -- some view of the external conditions that we believe are

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-- are kind of looking out to the future, they're kind of things that are impacting EFSEC moving forward, which changes in industry and energy demand, which really focus a lot on the demands for -- for renewable energy, which even before this session was -- was clear was -- was a way that things were going.

And in terms of mapping out the -- the -- the -- the EFSEC of -- the thing about the EFSEC of the future on page 6, we're really looking at how do we particularly review new wind and solar facilities in the most expeditious way possible and also be ready for even newer technologies that can be expected to be coming -- coming online in the -- in the future years.

And through the course, that really identified five strategic opportunities for -- for EFSEC moving forward, which are -- which are -- which are listed here. Basically restructuring the Council for greater accountability, streamlining the application process for everyone, enhancing transparency and public involvement, streamlining regulation and compliance, and refining the scope and role of the Council.

I'm just going to say a little bit about -- about each of those and then there's -- they're detailed more, one page for each of those. But in terms of restructuring the -- the Council for greater

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accountability, the real goal there is to meet the challenges ahead, EFSEC should be a more cohesive body, better able to retain and build on institutional knowledge. We see in the past, there's a -- there's a sort of a core membership of EFSEC, but then different members that come -- that came for -- for different cases, so sometimes there'd actually be three councils convening in -- in -- at one meeting.

So there's a sense that that wasn't really the best structure in order to retain knowledge and -- and move forward. So several elements were put into the -- into the bill that -- that was put forward this year including bringing the tribes, Washington tribes, into permit membership on the Council, shifting the current active -- temporary memberships of the cities and counties over to permanent standing -- standing membership, in addition to getting input from -- from -- from local jurisdictions whenever a specific -- specific case is up for -- for review.

Letting go of the optional state agencies, keeping them closely involved as partners but not having -- having seats that the -- with -- with the Council, letting go of The Port, nonvoting Port representation, which was not very well utilized. And those -- as I said, those things are all in the bill,

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and so -- and -- and we're -- we're moving forward. The only one that really -- there was some controversy around cities and some desire to keep -- keep -- keep individual representation there, but the other efforts there were -- were widely supported.

In terms of opportunity number two, streamlining the application process. Again, the overall goal, which we're laying out, is that EFSEC should streamline review for all applicants, not just renewable, but for all -- for everybody. But in particular, EFSEC should map its level of review to match the environmental impact and risks associated with different energy technologies and should be granted the flexibility it needs in order to do so.

So that led to a -- thinking through in terms of the bill coming up with a new pathway particularly for currently solar -- solar power, solar farms, have -- have an ability to become expedited, but wind farms still have the EIS process. And so we're -- we're unable to go through the -- through the expedited process, but it seemed to be -- there seemed to be a call to streamline the review of wind facilities.

So among the things that I said that were in the bill was a combined two hearings into one for -- for all -- for -- for -- for all applicants, having the

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chance for the Council to waive adjudication, which has -- which has been a time consuming thing, as long as the EIS, the environmental impact statement, provides sufficient information to -- to make a decision. So envisioning straightforward environmental impact statements such as what we see in a -- in a -- in a wind farm or other new technologies that might ambulate that -- that kind of -- those kind of conditions.

And trying to expand the preapplication process. We really saw that it's really clear that the earlier we're involved with folks and the more comprehensive that early involvement is, the better it is in terms of getting a -- getting a result that's a win-win for -- for local folks, for the environment, for -- for energy -- energy developers.

Those were the elements here that were related to the bill. There are other -- several other elements involving getting increased input from -- from -- from stakeholders and -- and potential -- potential applicants, part of which is -- is underway and we're certainly looking for additional and ongoing input.

So this here lies [sic] a call for -- for that -- for that input. This is very much a working document. So if -- if you have ideas that -- either

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that you see here that you want to underline or more detailed ideas that anyone who's listening would like to contribute, please don't -- don't hesitate to contact us. As I said, this is a living document and an ongoing -- ongoing effort to -- to do the best we can.

The third opportunity there was to enhance transparency and public involvement. Again, there were a couple elements that were reflected from this in -- in -- in the -- in the bill. One, and having to do with environmental justice, which actually, there was -- there was some questions about whether that would make it through to -- to the final. But also strengthening the preapplication process, particularly adapting a -- a provision that we -- that -- about site review or early site review in the bill to -- to -- excuse me, in -- in our -- in our current statute to make that -- to adapt that into a -- into a -- into a specific preapplication process.

There's also some work proposed to -- to continually continue the efforts that we've -- under Chair Drew to -- to make hearings more accessible to local folks and make sure that -- that the voices of people at hearings are -- are -- are -- are well heard and -- and people feel like -- can -- can see that their input when they -- when they read how we've -- how we've

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handled hearings.

Listed here was also work on the website, which is -- is coming to fruition, which we're very, very excited about. And -- and as well as some -- some specific improvements that tie into previously -- the previously described efforts to -- to improve and streamline and simplify the application process.

Option four, having to do with streamlining regulation and compliance. Again, people -- people on the outside who do know -- many people do not know of EFSEC and its work, but -- but of those who do, it's -- it's -- it's mostly focused on -- on new -- new siting and that's sort of the -- the -- that's kind of the flashy, dramatic -- the dramatic stuff that the -- that the -- that EFSEC works.

But the really real meat and potatoes of the day-to-day work for EFSEC is a lot of the regulation and compliance work that we're -- that you heard that we were doing at the beginning of this meeting and that -- and that Staff are engaged in on a day-to-day basis with our -- with our current certificate holder.

So this is really, as I said, the goal here is, EFSEC should seek to continuously improve its regulatory oversight of energy facilities. Always seeking option needs to strengthen environmental

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protection while reducing the time costs and other regulatory burdens on -- on facility -- facility operators. We haven't heard facility operators asking for -- opposed to that. Anything we can do that, you know, maintains protections but cuts time and cost and burdens is something that -- that -- that is -- is widely agreed is a -- is a -- is a good idea.

We -- we have had ongoing meetings with -- we had our first meeting several weeks ago with certificate holders, which actually went very well. They're going to be hearing back from us in the coming weeks as we build on -- on the input that we got -- that we got from them. And, again, particularly in this area, we are seeking further input. So anyone who -- who's listening to this and wants to -- wants to become more engaged, just let us know.

And finally the -- the -- the last opportunity had to do with refining the scope and role of the Council. And this is really the most future forward-looking of any of these that -- only one part of this is reflected in the current bill, and that actually probably may not be seen in -- in the final. But really right now, EFSEC kind of -- kind of has a kind of what at one time, I'm sure made -- made great sense, but now is a somewhat scattered patchwork of -- of things

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that -- that -- that energy facilities and transmission facilities that -- that we regulate,

And there's some thought that, as we said in the goal here, State decision-makers probably should consider whether the State would be better positioned to achieve its energy goals if EFSEC were granted expanded scope in response to current and expected future changes in the energy industry. EFSEC could be fully in power to use its authority and expertise to help accelerate the transmission to a clean energy economy.

So, again, this is -- this is future-oriented. It involves ongoing conversations that would take place in the future with -- with stakeholders. Obviously nothing would -- would -- would -- would move forward in this area unless, similar to the bill this year, we had broad stakeholder support and had -- had things that the people felt very good about.

There's some rough ideas in -- in Appendix 2, but this is the -- this is the -- we're not taking any stands on any particular areas at all at this point. It really is we really are trying to open the door to are there things that -- that could be done that would make that -- that everyone agrees would make sense to -- to really take advantage of the fact that EFSEC is

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a -- is a one-stop shop and -- and -- and a benefit to -- to developers and to build on that going forward.

I should say, and I probably couldn't -- shouldn't say it on -- on the record, but the -- that -- that moving forward on that will probably depend on the -- on the Chair's ability to handle her PTSD from the current -- current -- current legislative session that we've been making our way through.

Final thing on -- and that the next set sort of summarizes on -- on page 12, you know, where we're going here that the, you know, that the current legislative session is wrapping up, stakeholder out- -- stakeholder outreach has been going on and will be going on through -- throughout the -- the future. We've been preparing for rulemaking. If the bill passes as we hope, there will be rulemaking required, so we've been preparing for that. That is something that is going to take up a good bit of time for many of us in the -- in the -- the rest of the year.

And, of course, redesigning and improving our -- our processes. Particularly looking forward to testing out preapplication process with -- with future applicants that -- that come in. Sort of ideally, we'd love to -- to beta test some ideas that -- that then could be put into -- put into rule, and -- and -- and

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who knows about the -- the future as well.

So Chair, Chair Drew, that's -- that's kind of the summary there of -- of what -- what we did and what we're doing. And, again, this is -- this is really just what we've proposed, and it's a -- it's what -- the snapshot of -- of this moment, but we're -- we're hoping to -- to -- to see this grow and develop as -- as -- as people become more involved and as conditions -- conditions change.

CHAIR DREW: Thank you, Mr. Henderson.

Before we move on to an update on the legislation, are there any questions? That was a lot of information. This is meant to be a briefing to provide you. I think many of you, I talked to early on when I started this process. So this is the collection of the work and the conversations and then the recommendations of that course.

And thank you, Stew, for all the help you did.

And he is the actual author, so the beautiful language in there really comes from Mr. Henderson.

So thank you for -- for your work on this as well.

Are there any questions?

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MR. STEPHENSON: Chair Drew, this is Cullen.

CHAIR DREW: Hi, Mr. Stephenson. Go ahead.

MR. STEPHENSON: Thank you. I want to congratulate you on, you know, trying to make sure that the Council and the Staff are excellent. I think the Council is working better and better than ever, I think the Staff is wonderful. I appreciate the changes that you're trying to make and especially adding tribes and local governments to the discussion is very important. And then finally, just, you know, the continuing emphasis on incremental improvement. We can always do better, and I believe that's what you're trying to do, so I appreciate that. Thank you.

CHAIR DREW: Thank you.

MR. LIVINGSTON: I will second that.

CHAIR DREW: Thank you. And -- and we can have further conversations certainly if you'd like to talk about anything in the report either to Stew or to myself, please -- and to our manager, Ms. Bumpus, please feel free to do so. And anyone else too. It's going to be posted, if it's not already, on our website today or tomorrow.

MS. AITKEN: Correct.

CHAIR DREW: So for those of you on the phone, this was something we're providing now and it

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will be available for people to get to in the very near future.

In terms of update on the legislation, it's called Engrossed Substitute House Bill, or ESHB 1332, and it's an agency request bill that's been amended throughout the legislative process. It passed the House 88 to 8 and is on the Senate floor calendar. I expect that it will be voted on before the deadline of 5:00 p.m. tomorrow. If it is, it will go to the House for concurrence with the Senate amendments and then to the governor for his signature, and it will become effective 90 days after being signed by the governor, which would make that about the end of July or the 1st of August.

The bill, you heard several of the specifics that Mr. Henderson was talking about, but essentially, to summarize, it expands EFSEC membership to include one member designated by the Washington Association of Counties and two members designated by federally recognized tribes.

As you heard, we had conversations with the cities and they chose to keep their participation the same as current law, and so there was amendment to -- to basically take it back to current law where they may appoint a member when EFSEC is considering an energy facility application within a city's corporate limits.

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And discretionary membership from other state agencies, ports, and counties is eliminated to sit on the Council, but we added requirements for working with the state agencies and notifying them who had previously had the option to sit on the Council as well as requirements for working with local governments that are affected by any of our site application processes as well as with the tribes. So that language has been added.

The EFSEC Chair, rather than the UTC, will appoint and supervise Staff to the Council. And during the site application process, as you heard, the informational hearing and land use hearing is combined. Those of you who haven't participated in the past, I think I came shortly after Columbia Solar started, but there was a land use hearing and an informational hearing meeting, and everybody needed to sign in and speak and then that meeting was closed and the next one began. And in order to change that, we had to change that in the statute, so that seemed to make sense to everybody. We're happy that's there.

As you heard also, that after completion of an EIS and tribal consultation, the Council may waive the required adjudicative proceeding under certain circumstances. The conversations leading to that were about the fact that that was designed before SEPA, since

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our statute is 50 years old, and I think one or two years older than SEPA, and therefore, that adjudicative process was put forward in order to get all the environmental and public issues on the table. And we have another mechanism of that to do that through SEPA. So this is really trying to see where that adjudicative process is necessary, but allowing the Council a little flexibility there and then expanding the preapplication process as you heard.

So those are the changes that are still in the bill. So we look forward to seeing the end of session and hopefully achieving success in the end. So I'd be happy to answer any questions.

Hearing none, we will move on to updates from our manager and the fourth quarter cost allocation, Ms. Bumpus.

MS. BUMPUS: Thank you. Good afternoon, Chair Drew and Councilmembers. For the record, this is Sonia Bumpus. As we do at the beginning of each quarter, we calculate our nondirect cost allocations. Mr. Posner was kind enough to do that before he retired. These allocations are the percentages that are charged to each of the different projects that EFSEC regulates. We review the Staff's technical work that has been done in the past quarters and look at work anticipated ahead.

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The percentages are on the green sheet in your packets, and I will go ahead and read off the percentages that run from April 1st, 2019, to June 30th, 2019. For Kittitas Valley Wind Power Project, 10 percent; Wild Horse Wind Power Project, 10 percent; Columbia Generating Station, 26 percent; Columbia Solar, 14 percent; WNP-1, 3 percent; Whistling Ridge Energy Project, 3 percent; Grays Harbor 1 & 2, 13 percent; Chehalis Generating Project, 10 percent; Desert Claim Wind Power Project, 8 percent; and Grays Harbor Energy 3 & 4, 3 percent.

CHAIR DREW: Are there any questions?

Thank you.

MS. BUMPUS: And then I have a few other updates, manager updates, about things that are going on. As I mentioned earlier, I wanted to update the Council on the Columbia Solar Project and the litigation activities that have been going on.

So just to give you some background, on November 14th of last year, Kittitas County had appealed the governor's decision approving the site certification agreements for the five Columbia Solar sites, along with EFSEC's recommendation of approval, and it did so by filing a petition for judicial review in Thurston County Superior Court.

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In its legal brief to the court, the County argued that EFSEC had acted contrary to law by concluding that no water availability determination was required under the state building code and the county's ordinances for the proposed sites. The Attorney General's Office filed a response brief on behalf of the governor and EFSEC arguing that under the state building code, a water availability determination is only required for the construction of buildings that require drinking water supply.

The brief also stated that while the state industrial safety and health rules will require employees working on the sites to have access to drinking water, those rules allow water to be brought on site in containers for construction workers and for the maintenance workers that will occasionally be at the site. Therefore, it was unnecessary to have plumbed water supply at these five sites.

Following the receipt of the governor and EFSEC's legal brief on April 8th, 2019, Kittitas County agreed to voluntary dismissal of its appeal with prejudice, meaning that they do not have the right to refile. The request was granted by the assigned judge the following day, which concluded the appeal.

So we are now -- and -- and as Ami Kidder

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discussed earlier, we're continuing to work to get our environmental monitor lined up for when this project would proceed with construction, and we'll keep you posted on how the project progresses as we move into preconstruction activities.

The other thing I wanted to -- if there aren't any questions about the litigation activities, the other thing I wanted to let the Council know about is that we're planning to hold the May 21st Council meeting in Ellensburg, Washington. We know that there's been an interest by Councilmembers to go to the facilities that we regulate, and so we are going to have that May 21st Council meeting in Ellensburg.

We'll include a site tour of the two wind power projects that we have there, the Wild Horse Wind Power Facility and Kittitas Valley Wind Power Project. We are planning for this to be a two-day event, so we would be there May 21 and May 22. Joan will be in touch with Councilmembers on more specifics about the schedule for the 21st and the 22nd and to find out who would be able to attend. So if you have any questions about the itinerary, look for that, but also feel free to contact us and let us know.

CHAIR DREW: And I would add that I hope everybody -- I know schedules can be difficult, but I

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hope that everybody does try to attend the meeting in person and also to see the facilities if you haven't seen them before. Because as we talked about earlier, our compliance and regulation is one of the significant activities that -- the Council approving different types of activities. So personally, I think it's very important for us to be familiar. Myself, I find it easier to understand the topics that we cover and perhaps to have more questions having seen the facilities in person. So I would encourage everyone to do so. Thank you. Are there any questions?

MR. LIVINGSTON: Chair, one question I have is, and maybe I know my -- the answer already, but we talked about a tour out to the Columbia Generating Station a while back. Obviously, they got some big things going on right now, so is there any plans in the future for a tour out there as well?

CHAIR DREW: Ms. Bumpus?

MS. BUMPUS: So in light of the fact that they -- they do have their scheduled shutdown, we're working on several other things, we're looking at I believe now October trying to line up a tour of the Columbia Generating Station facility. So we'll keep you updated, but it has been moved around a few times. But I think that's -- and yeah, is that -- so Amy Moon is

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nodding yes.

MR. LIVINGSTON: Great. Thank you.

CHAIR DREW: Thank you.

Any other questions? Hearing none, that's the end of our business for today, so this meeting is adjourned.

(Meeting adjourned at 2:25 p.m.)

CERTIFICATE

STATE OF WASHINGTON
COUNTY OF THURSTON

I, Tayler Garlinghouse, a Certified Shorthand Reporter in and for the State of Washington, do hereby certify that the foregoing transcript is true and accurate to the best of my knowledge, skill and ability.

Tayler Garlinghouse, CCR 3358

Kittitas Valley Wind Power Project
Monthly Operations Report

April 2019

Project Status Update

Production Summary:

Power generated:	27,508 MWh
Wind speed:	7.5 m/s
Capacity Factor:	37.9%

Safety:
No incidents

Compliance:
Project is in compliance

Sound:
No complaints

Shadow Flicker:
No complaints

Environmental:
No incidents

Wild Horse Wind Facility
April 2019

Safety
No lost-time accidents or safety injuries/illnesses.

Compliance/Environmental
In accordance with the Stormwater Pollution Prevention Plan (SWPPP) a stormwater inspection was completed following spring snowmelt. Overall, the site is stable and in excellent condition. Stormwater BMPs are in good condition and responded well to melting snow.

In accordance with the Wildlife Incident Reporting and Handling System, annual training was provided to site staff on the proper procedures for responding to and reporting wildlife incidents found within the wind facility boundaries.

Operations/Maintenance
The Renewable Energy Center (visitor center) opened to the public for the tourist season on April 1st.

Wind Production
April generation totaled 76,833 MWh for an average capacity factor of 39.15%.

Eagle Update
Nothing to report.

PACIFICORP
A BERKSHIRE HATHAWAY ENERGY COMPANY

Chehalis Generation Facility
1813 Bishop Road
Chehalis, Washington 98532
Phone: 360-748-1300

Chehalis Generation Facility----Monthly Plant Report – April 2019
Washington Energy Facility Site Evaluation Council

05.13.2019

Safety:

- There were no recordable incidents this reporting period and the plant staff has achieved 1331 days without a Lost Time Accident.

Environment:

- There were no air emissions or stormwater deviations or spills during the month.
- Wastewater and Storm-water monitoring results were in compliance with the permit limits.

Operations and Maintenance Activities:

- The Plant generated 63,505 MW-hours in April for a 2019 YTD generation equaled 546,614 MW-hours and a capacity factor of 40.72% for 2019.
- The Plant conducted an annual 4 day maintenance outage.

Regulatory/Compliance:

- An inspection was conducted by the Washington Department of Labor and Industries, Boiler Division, during the annual maintenance outage. There were no findings.

Sound monitoring:

- Nothing to report this period.

Carbon Offset Mitigation:

- Nothing to report this period.

Respectfully,

Mark A. Miller
Manager, Gas Plant
Chehalis Generation Facility

Energy Northwest
May 21, 2019 EFSEC Council Meeting
Operations Reporting Period for April 1-30, 2019
Site Contact: Mary Ramos

Washington Nuclear Project 1 and 4 (WNP-1/4)
No updates to report

Columbia Generating Station (CGS)

Upcoming refueling and maintenance outage
As previously reported during the April 2019 EFSEC Council meeting, CGS will begin its 24th refueling outage on May 11. The outage is scheduled to last for 40 days.

NPDES Permit submittals
In accordance with condition S7.4 of the National Pollutant Discharge Elimination System Permit No. WA002515-1 (CGS NPDES permit), CGS submitted a groundwater mounding study engineering report for circulating cooling water system losses on April 24, 2019. In accordance with condition S6 of the CGS NPDES permit, CGS submitted its NPDES permit renewal application on April 30, 2019.

EFSEC Monthly Operational Report
Grays Harbor Energy Center

April 2019

Safety and Training

- There were no accidents or injuries during the month and the plant staff has achieved 3771 days without a lost time incident.

Environmental & Compliance

- There were no air emissions, outfall or storm water deviations, during the month.
- One minor spill. On April 26, an oil leak was found under the plants Telehandler (forklift). The leak, ½ - 1gal, was on a concrete pad under the Telehandler where it is normally parked. No part of the spill reached any ground surface. It was immediately contained and cleaned up. A drip pan was placed under the Telehandler to prevent any further leak from the front axle brake piston to the concrete pad. The Telehandler is leased and was replaced on April 30th. Our vendor was unable to make repairs on site. EFSEC was notified.
- All routine reporting was completed for the month and quarter.
- On April 25th, the March RATA results were submitted to EFSEC and ORCAA.
- On April 29th, EFSEC was sent a new revision of our PSD required Operations and Maintenance Manual.

Operations & Maintenance

- Grays Harbor Energy Center (GHEC) operated 15days during the month, with 6 starts on U1, and 3 starts on U2.
- GHEC generated 169,243MWh during the month and 875,921MWh YTD.
- The plant capacity factor was 38% for the month and 49.1% YTD.

Noise and/or Odor

- None.

Site Visits

- None.

Other

- None.

CODE REVISER USE ONLY

EXPEDITED RULE MAKING

CR-105 (December 2017)
(Implements RCW 34.05.353)

Agency: Energy Facility Site Evaluation Council (EFSEC)

Title of rule and other identifying information: (describe subject) This rulemaking would revise adoption-by-reference Chapter 463-78 WAC - General and Operating Permit Regulations for Air Pollution Sources

Purpose of the proposal and its anticipated effects, including any changes in existing rules: This proposal would revise the adoption-by-reference to provide continuity with the current version(s) of Department of Ecology updated air rules.

Reasons supporting proposal: EFSEC is updating its adoption of Chapters as listed below, Adoption of the WAC Air Rules will incorporate the updates made by Department of Ecology air rules, reflected below.
Chapter 173-400 Updated 10/25/2018
Chapter 173-401 Updated 9/16/2018
Chapter 173-460 Updated 6/20/2009

Statutory authority for adoption: RCW 80.50.040(1), RCW 34.05

Statute being implemented:

Is rule necessary because of a:

Federal Law?	☐ Yes	☒ No
Federal Court Decision?	☐ Yes	☒ No
State Court Decision?	☐ Yes	☒ No

If yes, CITATION:

Name of proponent: (person or organization) Energy Facility Site Evaluation Council

☐ Private
☐ Public
☒ Governmental

Name of agency personnel responsible for:

	Name	Office Location	Phone
Drafting:	Tammy Mastro Commerce Specialist	P.O. Box 43172 Olympia Washington 98504-3172	(360)664-1359
Implementation:	Sonia Bumpus EFSEC Manager	P.O. Box 43172 Olympia Washington 98504-3172	(360)664-1363
Enforcement:	Sonia Bumpus EFSEC Manager	P.O. Box 43172 Olympia Washington 98504-3172	(360)664-1363

Agency comments or recommendations, if any, as to statutory language, implementation, enforcement, and fiscal matters:

Expedited Adoption - Which of the following criteria was used by the agency to file this notice:

☐ Relates only to internal governmental operations that are not subject to violation by a person;

☒ Adopts or incorporates by reference without material change federal statutes or regulations, Washington state statutes, rules of other Washington state agencies, shoreline master programs other than those programs governing shorelines of statewide significance, or, as referenced by Washington state law, national consensus codes that generally establish industry standards, if the material adopted or incorporated regulates the same subject matter and conduct as the adopting or incorporating rule;

☐ Corrects typographical errors, make address or name changes, or clarify language of a rule without changing its effect;

☐ Content is explicitly and specifically dictated by statute;

☐ Have been the subject of negotiated rule making, pilot rule making, or some other process that involved substantial participation by interested parties before the development of the proposed rule; or

☐ Is being amended after a review under RCW 34.05.328.

Expedited Repeal - Which of the following criteria was used by the agency to file notice:

☐ The statute on which the rule is based has been repealed and has not been replaced by another statute providing statutory authority for the rule;

☐ The statute on which the rule is based has been declared unconstitutional by a court with jurisdiction, there is a final judgment, and no statute has been enacted to replace the unconstitutional statute;

☐ The rule is no longer necessary because of changed circumstances; or

☐ Other rules of the agency or of another agency govern the same activity as the rule, making the rule redundant.

Explanation of the reason the agency believes the expedited rule-making process is appropriate pursuant to RCW 34.05.353(4):

NOTICE

THIS RULE IS BEING PROPOSED UNDER AN EXPEDITED RULE-MAKING PROCESS THAT WILL ELIMINATE THE NEED FOR THE AGENCY TO HOLD PUBLIC HEARINGS, PREPARE A SMALL BUSINESS ECONOMIC IMPACT STATEMENT, OR PROVIDE RESPONSES TO THE CRITERIA FOR A SIGNIFICANT LEGISLATIVE RULE. IF YOU OBJECT TO THIS USE OF THE EXPEDITED RULE-MAKING PROCESS, YOU MUST EXPRESS YOUR OBJECTIONS IN WRITING AND THEY MUST BE SENT TO

Name: Sonia Bumpus, EFSEC Manager

Agency: Energy Facility Site Evaluation Council

Address: P.O. Box 43172, Olympia, WA 98504-3172

Phone: 360-664-1363

Fax:

Email: EFSEC@utc.wa.gov

Other:

AND RECEIVED BY (date) _____

Date:	**Signature:** Place signature here
Name:	
Title:	

AMENDATORY SECTION (Amending WSR 15-16-033, filed 7/27/15, effective 8/27/15)

WAC 463-78-005 Adoption by reference. (1) The energy facility site evaluation council adopts by reference the following provisions of chapter 173-400 WAC, as it existed on ((~~December 29, 2012~~)) November 25, 2018, with the exceptions that:

(a) WAC 173-400-111 (5)(a) (last six words), (6), (9), ((~~and WAC 173-400-720 is adopted by reference except the date in WAC 173-400-720 (4)(a)(vi) is May 1, 2015, and WAC~~)) 173-400-730(4), and 173-400-750(2) second sentence are not adopted by reference((~~.~~)); and

(b) The terms "ecology," "authority," "director," and "permitting authority" in WAC 173-400-030 shall mean "the energy facility site evaluation council" unless a different meaning is plainly required by the context.

WAC 173-400-025	Adoption of federal rules.
WAC 173-400-030:	Definitions.
WAC 173-400-036:	Relocation of portable sources.
WAC 173-400-040:	General standards for maximum emissions.
WAC 173-400-050:	Emission standards for combustion and incineration units.
WAC 173-400-060:	Emission standards for general process units.
((~~WAC 173-400-070 (5) and (7) only:~~	~~Emission standards for certain source categories.~~))
WAC 173-400-075:	Emission standards for sources emitting hazardous air pollutants.
WAC 173-400-081:	Emission limits during startup and shutdown.
WAC 173-400-091:	Voluntary limits on emissions.
WAC 173-400-105:	Records, monitoring, and reporting.
WAC 173-400-107:	Excess emissions.
WAC 173-400-110:	New source review (NSR) for sources and portable sources.
WAC 173-400-111:	Processing notice of construction applications for sources, stationary sources and portable sources.
WAC 173-400-112:	Requirements for new sources in nonattainment areas.
WAC 173-400-113:	Requirements for new sources in attainment or unclassifiable areas.
WAC 173-400-114:	Requirements for replacement or substantial alteration of emission control technology at an existing stationary source.
WAC 173-400-116:	Increment protection.
WAC 173-400-117:	Special protection requirements for federal Class I areas.
WAC 173-400-120:	Bubble rules.

WAC 173-400-131:	Issuance of emission reduction credits.
WAC 173-400-136:	Use of emission reduction credits (ERC).
WAC 173-400-161:	Compliance schedules.
WAC 173-400-171:	Public ((~~involvement~~)) notice and opportunity for public comment.
WAC 173-400-175:	Public information.
WAC 173-400-180:	Variance.
WAC 173-400-190:	Requirements for nonattainment areas.
WAC 173-400-200:	Creditable stack height and dispersion techniques.
WAC 173-400-205:	Adjustment for atmospheric conditions.
WAC 173-400-700:	Review of major stationary sources of air pollution.
WAC 173-400-710:	Definitions.
WAC 173-400-720:	Prevention of significant deterioration (PSD).
WAC 173-400-730:	Prevention of significant deterioration application processing procedures.
WAC 173-400-740:	PSD permitting public involvement requirements.
WAC 173-400-750:	Revisions to PSD permits.
WAC 173-400-800:	Major stationary source and major modification in a nonattainment area.
WAC 173-400-810:	Major stationary source and major modification definitions.
WAC 173-400-820:	Determining if a new stationary source or modification to a stationary source is subject to these requirements.
WAC 173-400-830:	Permitting requirements.
WAC 173-400-840:	Emission offset requirements.
WAC 173-400-850:	Actual emissions plantwide applicability limitation (PAL).
WAC 173-400-860:	Public involvement procedures.

(2) The energy facility site evaluation council adopts by reference the following provisions of chapter 173-401 WAC, as it existed on September ((~~10, 2011~~)) 16, 2018, with the exception that (a) WAC 173-401-620 (2)((~~(a)~~))(i) is not adopted by reference, and (b) the terms "ecology," "authority," "director," and "permitting authority" shall mean "the energy facility site evaluation council" unless a different meaning is plainly required by the context.

WAC 173-401-100:	Program overview.
WAC 173-401-200:	Definitions.
WAC 173-401-300:	Applicability.
WAC 173-401-500:	Permit applications.
WAC 173-401-510:	Permit application form.
WAC 173-401-520:	Certification.

WAC 173-401-530:	Insignificant emission units.
WAC 173-401-531:	Thresholds for hazardous air pollutants.
WAC 173-401-532:	Categorically exempt insignificant emission units.
WAC 173-401-533:	Units and activities defined as insignificant on the basis of size or production rate.
WAC 173-401-600:	Permit content.
WAC 173-401-605:	Emission standards and limitations.
WAC 173-401-610:	Permit duration.
WAC 173-401-615:	Monitoring and related recordkeeping and reporting requirements.
WAC 173-401-620:	Standard terms and conditions.
WAC 173-401-625:	Federally enforceable requirements.
WAC 173-401-630:	Compliance requirements.
WAC 173-401-635:	Temporary sources.
WAC 173-401-640:	Permit shield.
WAC 173-401-645:	Emergency provision.
WAC 173-401-650:	Operational flexibility.
WAC 173-401-700:	Action on application.
WAC 173-401-705:	Requirement for a permit.
WAC 173-401-710:	Permit renewal, revocation and expiration.
WAC 173-401-720:	Administrative permit amendments.
WAC 173-401-722:	Changes not requiring permit revisions.
WAC 173-401-725:	Permit modifications.
WAC 173-401-730:	Reopening for cause.
WAC 173-401-750:	General permits.
WAC 173-401-800:	Public involvement.
WAC 173-401-810:	EPA Review.
WAC 173-401-820:	Review by affected states.

(3) The energy facility site evaluation council adopts by reference the following provisions of chapter 173-406 WAC, as it existed on March 1, 2005.

Part I - GENERAL PROVISIONS

WAC 173-406-100:	Acid rain program general provisions.
WAC 173-406-101:	Definitions.
WAC 173-406-102:	Measurements, abbreviations, and acronyms.
WAC 173-406-103:	Applicability.
WAC 173-406-104:	New units exemption.
WAC 173-406-105:	Retired units exemption.
WAC 173-406-106:	Standard requirements.

Part II - DESIGNATED REPRESENTATIVE

WAC 173-406-200:	Designated representative.
WAC 173-406-201:	Submissions.
WAC 173-406-202:	Objections.

Part III - APPLICATIONS

WAC 173-406-300:	Acid rain permit applications.
WAC 173-406-301:	Requirement to apply.
WAC 173-406-302:	Information requirements for acid rain permit applications.
WAC 173-406-303:	Permit application shield and binding effect of permit application.

Part IV - COMPLIANCE PLAN

WAC 173-406-400:	Acid rain compliance plan and compliance options.
WAC 173-406-401:	General.
WAC 173-406-402:	Repowering extensions.

Part V - PERMIT CONTENTS

WAC 173-406-500:	Acid rain permit.
WAC 173-406-501:	Contents.
WAC 173-406-502:	Permit shield.

Part VI - PERMIT ISSUANCE

WAC 173-406-600:	Acid rain permit issuance procedures.
WAC 173-406-601:	General.
WAC 173-406-602:	Completeness.
WAC 173-406-603:	Statement of basis.
WAC 173-406-604:	Issuance of acid rain permits.

Part VII - PERMIT REVISIONS

WAC 173-406-700:	Permit revisions.
WAC 173-406-701:	General.
WAC 173-406-702:	Permit modifications.
WAC 173-406-703:	Fast-track modifications.
WAC 173-406-704:	Administrative permit amendment.
WAC 173-406-705:	Automatic permit amendment.
WAC 173-406-706:	Permit reopenings.

Part VIII - COMPLIANCE CERTIFICATION

WAC 173-406-800:	Compliance certification.
WAC 173-406-801:	Annual compliance certification report.
WAC 173-406-802:	Units with repowering extension plans.

Part IX - NITROGEN OXIDES

WAC 173-406-900:	Nitrogen oxides emission reduction program.

Part X - SULFUR DIOXIDE OPT-IN

WAC 173-406-950:	Sulfur dioxide opt-ins.

(4) The energy facility site evaluation council adopts by reference the following provisions of chapter 173-460 WAC, as it existed on ((~~March 1, 2005~~)) June 20, 2009.

WAC 173-460-010:	Purpose.
WAC 173-460-020:	Definitions.
WAC 173-460-030:	((~~Requirements,~~)) Applicability ((~~and exemptions~~)).
WAC 173-460-040:	New source review.
WAC 173-460-050:	Requirement to quantify emissions.
WAC 173-460-060:	Control technology requirements.
WAC 173-460-070:	Ambient impact requirement.
WAC 173-460-080:	((~~Demonstrating ambient impact compliance.~~)) First tier review.
WAC 173-460-090:	Second tier ((~~analysis~~)) review.
WAC 173-460-100:	((~~Request for risk management decision.~~)) Third tier review.
((~~WAC 173-460-110:~~	~~Acceptable source impact levels.~~
~~WAC 173-460-120:~~	~~Scientific review and amendment of acceptable source impact levels and lists.~~
~~WAC 173-460-130:~~	~~Fees.~~))
WAC 173-460-140:	Remedies.
WAC 173-460-150:	((~~Class A toxic air pollutants: Known, probable and potential human carcinogens and acceptable source impact levels.~~)) Table of ASIL, SQER, and de minimis emission values.
((~~WAC 173-460-160:~~	~~Class B toxic air pollutants and acceptable source impact levels.~~))

(5) The energy facility site evaluation council adopts by reference the following provisions of chapter 173-441 WAC, as it existed on January 1, 2011.

WAC 173-441-010:	Scope.
WAC 173-441-020:	Definitions.
WAC 173-441-030:	Applicability.
WAC 173-441-040:	Greenhouse gases.
WAC 173-441-050:	General monitoring, reporting, recordkeeping and verification requirements.
WAC 173-441-060:	Authorization and responsibilities of the designated representative.
WAC 173-441-070:	Report submittal.
WAC 173-441-080:	Standardized methods and conversion factors incorporated by reference.
WAC 173-441-090:	Compliance and enforcement.
WAC 173-441-100:	Addresses.
WAC 173-441-110:	Fees.

WAC 173-441-120:	Calculation methods incorporated by reference from 40 C.F.R. Part 98 for facilities.
WAC 173-441-140:	Petitioning ecology to use an alternative calculation method to calculate greenhouse gas emissions.
WAC 173-441-150:	Confidentiality.
WAC 173-441-160:	Ecology to share information with local air authorities and with the energy facility site evaluation council.
WAC 173-441-170:	Severability.

AMENDATORY SECTION (Amending WSR 06-06-037, filed 2/23/06, effective 3/26/06)

WAC 463-78-100 Registration. (1) Purpose. The registration program is used by the council to develop and maintain a current and accurate record of air contaminant sources subject to chapter 80.50 RCW. Information collected through the registration program is used to evaluate the effectiveness of air pollution strategies in collaboration with the department of ecology, and to verify source compliance with applicable air pollution requirements.

(2) Requirement to register. Except as provided in subsection (3) of this section, the owner or operator of each source subject to chapter 80.50 RCW shall register the source with the council. Sources subject to the Operating permit regulation in chapter 173-401 WAC are not required to comply with these registration requirements.

(3) The following sources are exempt from registration:

(a) A source that emits pollutants below the following emission rates:

Pollutant	Tons/Year
Carbon monoxide	5.0
Nitrogen oxides	2.0
Sulfur dioxide	2.0
Particulate Matter (PM)	1.25
Fine Particulate (PM10)	0.75
Volatile Organic Compounds (VOC)	2.0
Lead	0.005

; and

(b) A source or emission unit that does not emit measurable amounts of Class A ((~~or Class B~~)) toxic air pollutants specified in WAC 173-460-150 ((~~and 173-460-160~~)).

(4) Initial registration. The owner or operator of a source that exists on the effective date of this rule must register the source with the council by no later than one year after the effective date of this rule. The owner or operator of a new source must register with the council within ninety days after beginning operation.

(5) Annual reregistration. After initial registration, the owner or operator of a source must reregister with the council by February 15 of each year. The reregistration must include all of the informa-

tion required in the initial registration and must be updated to reflect any changes to such information since the previous registration. For information that has not changed since the previous registration, the owner or operator may reaffirm in writing the correctness and current status of the information previously furnished to the council.

(6) Registration format. Registration shall be in a format approved by the council. Each registration submittal shall include the following information:

(a) Name of the source and the nature of the business;

(b) Street address, telephone number((~~, facsimile number,~~)) and email address of the source;

(c) Name, mailing address, telephone number((~~, facsimile number~~)) and email address of the owner or operator;

(d) Name, mailing address, telephone number((~~, facsimile number~~)) and email address of the local individual responsible for compliance with this rule;

(e) Name, mailing address, telephone number((~~, facsimile number~~)) and email address of the individual authorized to receive requests for data and information;

(f) A description of the production processes and a related flow chart;

(g) Identification of emission units and air pollutant generating activities;

(h) A plot plan showing the location and height of all emission units and air pollutant generating activities. The plot plan must also show the property lines of the air pollution source and indicate the distance to and direction of the nearest residential or commercial property;

(i) Type and quantity of fuels, including the sulfur content of fuels, used on a daily and annual basis;

(j) Type and quantity of raw materials used on a daily and annual basis;

(k) Estimates of the total actual emissions for the air pollution source of the following air pollutants: Particulate matter emissions, PM_{10} emissions, sulfur dioxide (SO_2), nitrogen oxides (NO_X), carbon monoxide (CO), volatile organic compounds (VOC), lead (Pb), fluorides, sulfuric acid mist, hydrogen sulfide (H_2S), total reduced sulfur (TRS), and reduced sulfur compounds;

(l) Calculations used to determine the estimated emissions in (k) of this subsection;

(m) Estimated efficiency of air pollution control equipment under present or anticipated operating conditions; and

(n) Any other information specifically requested by the council.

(7) Procedure for estimating emissions. The registration submittal must include an estimate of actual emissions taking into account equipment, operating conditions, and air pollution control measures. The emission estimates must be based upon actual test data, or in the absence of such data, upon procedures acceptable to the council. Any emission estimates submitted to the council must be verifiable using currently accepted engineering criteria. The following procedures are generally acceptable for estimating emissions from air pollution sources:

(a) Source-specific emission tests;

(b) Mass balance calculations;

(c) Published, verifiable emission factors that are applicable to the source;

(d) Other engineering calculations; or

(e) Other procedures to estimate emissions specifically approved by the council.

(8) Other reports required.

(a) A report of closure shall be filed with the council within ninety days after operations producing emissions permanently ceased at any source within the council's jurisdiction.

(b) A report of relocation of the source shall be filed with the council no later than ninety days prior to the relocation of the source. Submitting a report of relocation does not relieve the owner or operator of other site certification agreement amendment requirements pursuant to chapter 463-66 WAC, nor does it relieve the owner or operator from the requirement to obtain a permit or approval to construct if the relocation of the air pollution source would be a new source or modification subject to any federal or state permit to construct rule.

(c) A report of change of owner or operator shall be reported to the council within ninety days after the change in ownership is effective. Submitting the report of change of ownership does not relieve the owner or operator of other site certification agreement amendment requirements pursuant to chapter 463-66 WAC.

(9) Certification of truth and accuracy. All registrations and reports must include a certification by the owner or operator as to the truth, accuracy, and completeness of the information. This certification must state that, based on information and belief formed after reasonable inquiry, the statements and information are true, accurate, and complete.

(10) The council shall ensure that the following, as it pertains to sources covered under this rule, is passed on to ecology in a timely manner for inclusion in its permit register:

(a) Public meetings or hearings on draft operating permits;

(b) Receipt of complete applications;

(c) Permit appeals;

(d) Issuance or denial of final permit, permit modifications, or renewals;

(e) Authorization for a source to operate without an operating permit by limiting its potential to emit to levels below those that would require the source to obtain an operating permit;

(f) Periodic summaries of enforcement order and changes made without revising the permit pursuant to WAC 173-401-722.

Kittitas Valley Wind Power Project
Monthly Operations Report

May 2019

Project Status Update

Production Summary:

Power generated:	30,741 MWh
Wind speed:	7.9 m/s
Capacity Factor:	41.0%

Safety:
No incidents

Compliance:
Project is in compliance

Sound:
No complaints

Shadow Flicker:
No complaints

Environmental:
No incidents

Wild Horse Wind Facility
May 2019

Safety
No lost-time accidents or safety injuries/illnesses.

Compliance/Environmental
The next TAC meeting has been scheduled for Wednesday, July 24th.

Operations/Maintenance
- Wild Horse reached 8,000,000 MWh on May 24th!

- An emergency response/rescue drill was conducted on May 21st to test our emergency response procedures and communications with local/regional emergency responders. The following organizations participated in the drill: PSE, Vestas, Kittitas Valley Fire & Rescue, Airlift Northwest Helicopter, LifeFlight Helicopter, KITTCOM (911). The drill was very successful. Lessons learned will be used to improve our emergency response procedures. See summary of the drill attached.

- EFSEC Council staff and Chair Drew toured Wild Horse on May 22nd.

Wind Production
May generation totaled 55,393 MWh for an average capacity factor of 27.31%.

Eagle Update
Nothing to report.

Wild Horse Emergency Response Drill

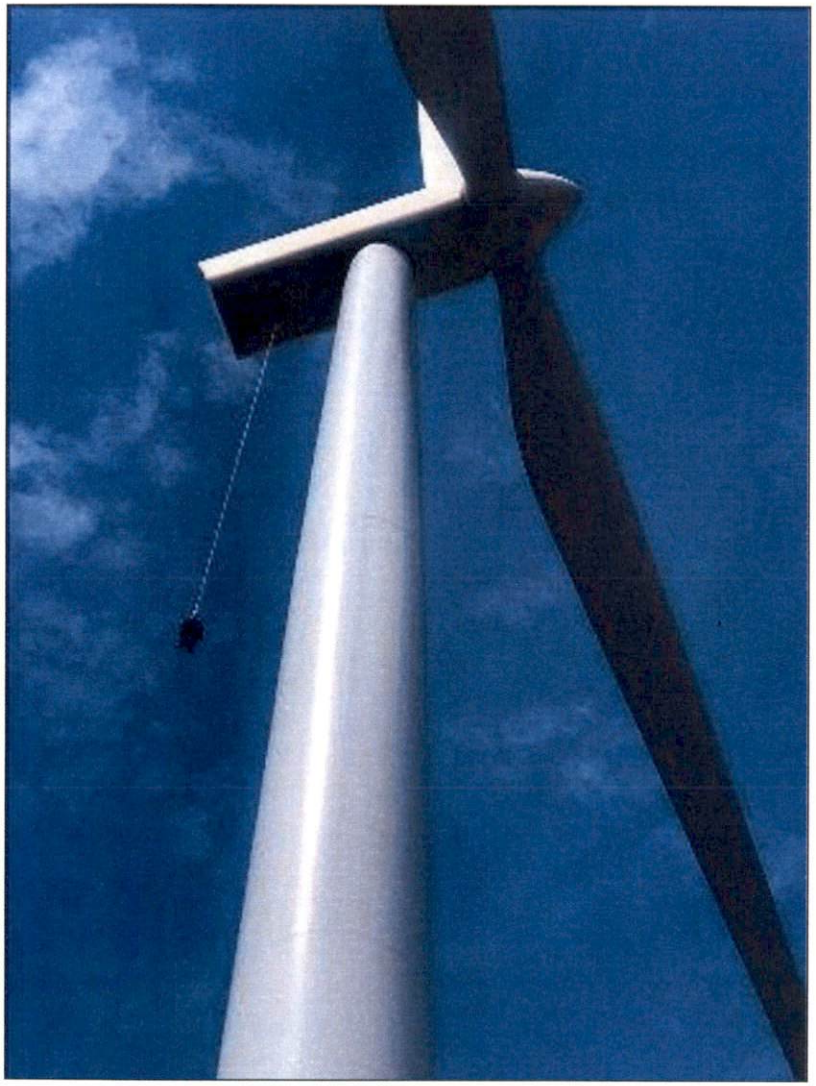
May 21, 2019

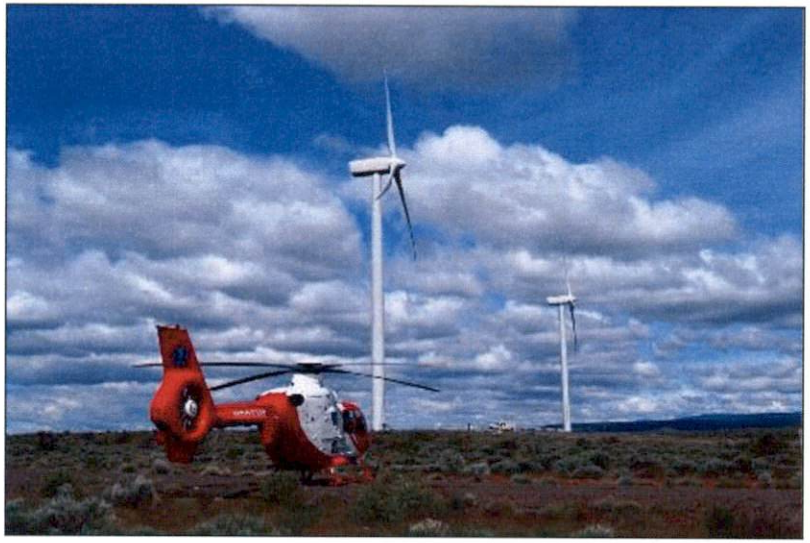
9:30 AM

Scenario

- Two PSE employees are completing an inspection of wind turbine R13. Employee #1 is in the nacelle. Employee #2 is down tower.
- Employee #2 radios to Employee #1 asking for status update. No response is received from Employee #1. Employee #2 attempts to communicate again via radio and cell phone, still no response.
- Employee #2 radios to PSE and Vestas that Employee #1 is in the nacelle of R13 and has not responded to radio or cell communications. Employee #2 informs site staff that he is climbing to the nacelle to investigate why Employee #1 is not responsive.
- Upon entering the nacelle, Employee #2 finds Employee #1 lying on the floor with crushed legs and serious bleeding. He is in and out of consciousness but breathing.
- Employee #2 immediately calls the PSE Load Office via the orange button on radio clearly stating "Emergency, Emergency, Emergency! This is a drill". Employee #2 also calls all site staff via main Wild Horse radio channel to notify local staff of the emergency.
- The Load Office calls back and is requested by Employee #2 to call 911 (Kittitas County Emergency Dispatch - KITTCOM)
- The Load Office dispatcher calls 911 requesting emergency services/rope rescue team
- Employee #2 administers first aid to Employee #1 and waits for EMS.
- Vestas crews respond to R13 with first aid kit and AED. A Vestas tech(s) climbs R13 and assist employee #2. They hoist the first aid kit and AED.
- PSE & Vestas staff are stationed at gates and main entrance to direct EMS when they arrive and provide them with site radios/maps.
- EMS arrives on site and assumes incident command of the emergency.
- EMS rope rescue team climbs R13, stabilizes Employee #1, and determines that helicopter transport services are required.
- EMS calls for helicopter transport to Landing Zone 3 (LZ3) and safely brings Employee #1 down the outside of the tower.
- EMS transports Employee #1 to helicopter LZ3.
- AirLift NW or LifeFlight load Employee #1 in helicopter and fly to the south parking lot at the Maintenance Building.

EMS Response





Rescue Ron is loaded onto backboard then into the helicopter

Summary

Positives

- Nobody got hurt
- Good weather
- First drill with EMS, helicopter rescue crews (LifeFlight and Airlift NW), and PSE/Vestas
- Shane Alberg's communication

Lessons Learned

- Load office thought this was a table-top drill and did not communicate to 911 that EMS was needed to be dispatched
- Internal communication needs improvement:
  - Improved radio comms (avoid cell phones if possible)
  - Designate an O&M office radio liaison
  - Regular updates via radio from the field needed, even if no new activity
- A tagline should accompany victim during lowering to eliminate swing/collision hazard with tower/blades
- EMS arrived with recalled ladsafe equipment (PSE will provide EMS with new ladsafes)
- Vestas is fully qualified and will perform all future up tower rescues rather than EMS, excluding severe neck and back injuries
- ERP will be updated so that site staff will call KITTCOM (911) directly, rather than the Load Office. The Load office will be informed of the emergency and to standby if we need assistance.
- Update ERP to eliminate flashers for landing zone – not necessary
- All First Responders, EMS and bystanders at emergency location will adhere to PSE safety protocol and wear proper PPE when appropriate. PSE may need to provide EMS with PPE (e.g. hard hats)
- Vestas trauma kit located in shop of O&M building will be delivered to Vestas techs so they can respond to trauma related emergencies, if needed
- Radios will be distributed to First Responders as soon as they arrive on site
- An Emergency Response Drill should be performed once a year
- Medics will shadow/train with Vestas up tower outside of emergency drills

THANK YOU TO FIRST RESPONDERS, HELICOPER RESCUE TEAMS, VESTAS AND PSE STAFF ON A JOB WELL DONE!!

PACIFICORP
A BERKSHIRE HATHAWAY ENERGY COMPANY

Chehalis Generation Facility
1813 Bishop Road
Chehalis, Washington 98532
Phone: 360-748-1300

Chehalis Generation Facility----Monthly Plant Report – May 2019
Washington Energy Facility Site Evaluation Council

06.06.2019

Safety:

- There were no recordable incidents this reporting period and the plant staff has achieved 1401 days without a Lost Time Accident.

Environment:

- There were no air emissions or stormwater deviations or spills during the month.
- Wastewater and Storm-water monitoring results were in compliance with the permit limits for the month.

Operations and Maintenance Activities:

- The Plant generated 58,631 MW-hours in May for 2019 Year-To-Date generation equaling 605,205 MW-hours at a capacity factor of 33.2%.

Regulatory/Compliance:

- Nothing to report this period.

Sound monitoring:

- Nothing to report this period.

Carbon Offset Mitigation:

- Nothing to report this period.

Respectfully,

Mark A. Miller
Manager, Gas Plant
Chehalis Generation Facility

Energy Northwest
June 18, 2019 EFSEC Council Meeting
Operations Reporting Period for May 1-31, 2019
Site Contact: Mary Ramos

Washington Nuclear Project 1 and 4 (WNP-1/4)
No updates to report.

Columbia Generating Station (CGS)

Refueling and maintenance outage
The CGS refueling and maintenance outage is in progress.

NPDES Permit submittals
On May 28, 2019, Energy Northwest submitted as-built drawings for the Dehalogenation Chemical Feed Project at the CGS. The drawings were submitted to fulfill the plans and specifications requirements of Washington Administrative Code (WAC) 173-240-140.

EFSEC Monthly Operational Report
Grays Harbor Energy Center

May 2019

Safety and Training

- There were no accidents or injuries during the month and the plant staff has achieved 3802 days without a lost time incident.

Environmental & Compliance

- There were no air emissions, outfall or storm water deviations, during the month.
- All routine reporting was completed for the month and quarter.

Operations & Maintenance

- Grays Harbor Energy Center (GHEC) operated 9days during the month, with 3 starts on U1, and 1 start on U2.
- GHEC generated 103,747MWh during the month and 979,668MWh YTD.
- The plant capacity factor was 23% for the month and 44% YTD.
- Annual Maintenance Outage May 13-31.

Noise and/or Odor

- None.

Site Visits

- East Grays Harbor (Alternative) High School visited the plant on May 8th for a tour. In addition to the tour, Plant operation, process, technology and the career opportunities (Thermal, Wind, Solar, Storage, and the supporting trades) in the power industry were covered. One teacher and 9 students were in attendance.

Other

- None.

Fact Sheet for NPDES Permit WA0024961
Grays Harbor Energy Center

April 19, 2019

Purpose of this fact sheet

This fact sheet explains and documents the decisions the Energy Facility Site Evaluation Council (EFSEC) made in drafting the proposed National Pollutant Discharge Elimination System (NPDES) permit for Grays Harbor Energy Center (GHEC).

This fact sheet complies with Section 463-76-034 of the Washington Administrative Code (WAC), which requires EFSEC to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an NPDES permit.

EFSEC makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before issuing the final permit. Copies of the fact sheet and draft permit for GHEC, NPDES permit WA0024961, are available for public review and comment from April 22, 2019 until May 21, 2019. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

GHEC reviewed the draft permit and fact sheet for factual accuracy. EFSEC corrected any errors or omissions regarding the facility's location, history, discharges, or receiving water prior to publishing this draft fact sheet for public notice.

After the public comment period closes, EFSEC will summarize substantive comments and provide responses to them. EFSEC will include the summary and responses to comments in this fact sheet as **Appendix G - Response to Comments**, and publish it when issuing the final NPDES permit. EFSEC generally will not revise the rest of the fact sheet. The full document will become part of the legal history contained in the facility's permit file.

Summary

Grays Harbor Energy Center (GHEC) is an electrical power generating plant capable of producing a maximum output of 650 megawatts. GHEC runs intermittently as a peaking plant, whenever market conditions are economically advantageous. GHEC treats wastewater generated onsite and discharges it to the Chehalis River. EFSEC issued the previous permit for this facility on May 13, 2008 and modified it on November 1, 2010 to address compliance concerns that had arisen after construction was completed.

The proposed permit retains the effluent limits for temperature, Total Suspended Solids (TSS), Oil and Grease (O&G), chromium, and pH from the previous permit. The proposed permit modifies the limits for Free Available Chlorine and removes the limits for ammonia and iron; and reduces the monitoring frequencies for chromium, turbidity, ammonia, and iron. The proposed permit includes monitoring and pollutant minimization requirements for arsenic; a Whole Effluent Toxicity characterization study at Outfall 001; and a requirement to conduct a new receiving water study.

Table of Contents

I. Introduction

The Federal Clean Water Act (FCWA, 1972, and later amendments in 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), administered by the federal Environmental Protection Agency (EPA). The EPA authorized the state of Washington to manage the NPDES permit program in our state. Our state legislature accepted the delegation and assigned the power and duty for conducting NPDES permitting and enforcement for energy facilities to EFSEC [Revised Code of Washington (RCW) 90.48.262(2)]. The Legislature defined EFSEC's authority and obligations for the wastewater discharge permit program in RCW 80.50 and RCW 90.48.

The following regulations apply to industrial NPDES permits:

- Procedures EFSEC follows for issuing NPDES permits [chapter 463-76 of the Washington Administrative Code (WAC)]
- Water quality criteria for surface waters (chapter 173-201A WAC)
- Water quality criteria for ground waters (chapter 173-200 WAC)
- Whole effluent toxicity testing and limits (chapter 173-205 WAC)
- Sediment management standards (chapter 173-204 WAC)
- Submission of plans and reports for construction of wastewater facilities (chapter 173-240 WAC)

These rules require any industrial facility owner/operator to obtain an NPDES permit before discharging wastewater to state waters. They also help define the basis for limits on each discharge and for performance requirements imposed by the permit.

Under the NPDES permit program, and in response to a complete and accepted permit application, EFSEC must prepare a draft permit and accompanying fact sheet, and make them available for public review before final issuance. EFSEC must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments, during a minimum thirty-day comment period (WAC 463-76-041). (See **Appendix A-Public Involvement Information** for more detail about the public notice and comment procedures). After the public comment period ends, EFSEC may make changes to the draft NPDES permit in response to comments. EFSEC will summarize the responses to comments and any changes to the permit in **Appendix G**.

II. Background Information

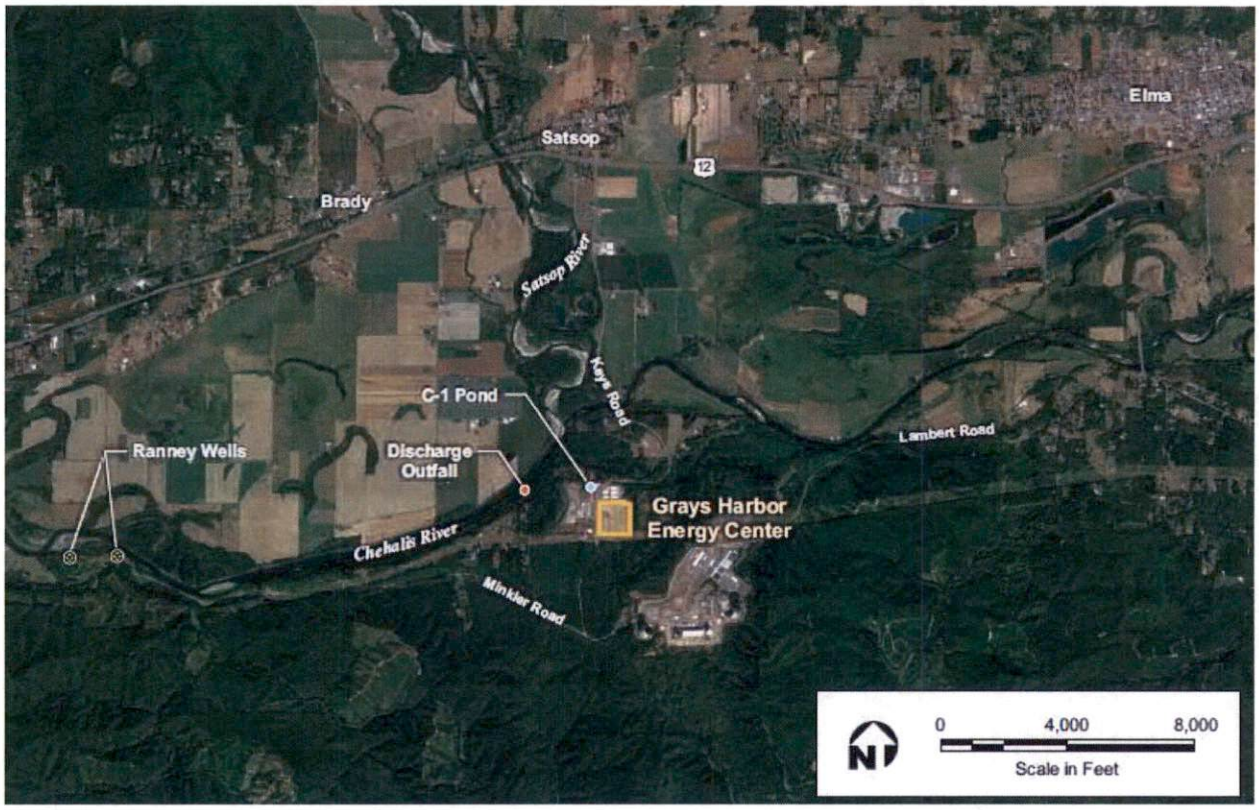
Table 1 General Facility Information

Facility Information	
Applicant	Grays Harbor Energy, LLC
Facility Name and Address	Grays Harbor Energy Center 401 Keys Road Elma, WA 98541
Contact at Facility	Name: Christopher Sherin Telephone #: (360) 482-4349
Responsible Official	Name: Christopher Sherin Title: Plant Manager Telephone #: (360) 482-4349 FAX #: (360) 482-4376
Industry Type	Electrical Power Generation
Type of Treatment	Multimedia Filtration, Dechlorination, and Neutralization
SIC Codes	4911
Discharge Waterbody Name and Location (NAD83/WGS84 reference datum)	**Outfall 001**: Chehalis River Latitude: 46.972056 Longitude: - 123.490528 **Outfall 002B**: Infiltrated into ground Latitude: 46.972183 Longitude: - 123.482778

Permit Status	
Issuance Date of Previous Permit	May 13, 2008
Issuance Date of Modified Permit	November 1, 2010
Application for Permit Renewal Submittal Date	November 13, 2017
Date of EFSEC Acceptance of Application	December 14, 2017

Inspection Status	
Date of Last Sampling Inspection	April 16, 2018
Date of Last Non-Sampling Inspection	March 4, 2019

Figure 1 Facility Location Map



A. Facility Description

History

The Grays Harbor Energy Center (GHEC) formerly known as the Satsop Combustion Turbine Project is located on an approximately 22-acre site south of the Chehalis River near the town of Elma. The construction of the facility was completed in spring of 2008 and the facility became operational in July 2008. The facility is owned and operated by Grays Harbor Energy LLC.

Cooling Water Intakes

CWA § 316(b) requires the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Since July 2013, Ecology has required a supplemental application for all applicants using EPA Form 2-C. GHEC selected "No" on this form when asked if a cooling water intake is associated with the facility.

Industrial Processes

Grays Harbor Energy Center is an electrical power generating plant consisting of two natural gas-fired turbines on a 2-on-1 configuration with a single steam turbine. Each gas turbine powers a generator capable of producing 175 megawatts (MW). The gas turbine's exhaust

energy is reclaimed in a closed system called Heat Recovery Steam Generator (HRSG) producing steam to drive a steam turbine.
The steam turbine powers a generator capable of producing 300 MW. GHEC is capable of producing a maximum output of 650 MW. The electric power produced is transmitted to the Bonneville Power Administration (BPA) transmission grid.

Wastewater Treatment Processes

The facility withdraws ground water at a rate of approximately 1,900 gallons per minute (gpm) from a Ranney well for process water supply. The well is located on the southern bank of the Chehalis River, approximately 4 miles downriver of the plant site near the river's confluence with Elizabeth Creek.

The facility has two wastewater streams generated from cooling tower blowdown and an oil/water separator. The cooling system at the plant consists of a circulating cooling water system, a condenser, and a 9-cell mechanical draft cooling tower. The circulating cooling water system routes the cooling water to the condenser at approximately 175,000 gpm to condense the steam. The cooling tower continuously receives heated cooling water from the condenser where it is cooled by an evaporative process. Cooling tower evaporation and "drift" losses average approximately 1,400 gpm. The temperature of the cooling water has been reduced when it reaches the cooling tower basin, where it is collected and returned to the cooling system.

This cooling cycle is repeated and the dissolved salts in the remaining cooling water become more concentrated as a result of the evaporative process. When the concentration of the dissolved salts nears their solubility limit, scale formation can occur on the condenser tubes and hinder heat transfer. Therefore, a portion of the cooling water, called blowdown, is removed from the system and discharged to address this concentration effect. Fresh cooling water is continuously added to the process to offset evaporation losses and blowdown discharges. The facility uses a heat exchanger to cool the discharge temperature before it enters the Chehalis River. Raw supply water passes through the heat exchanger to cool the discharge prior to entering the facility.

Sodium hypochlorite is added to the cooling tower to prevent microbial growth. If chlorine is detected in the cooling tower blowdown, sodium bisulfite is added to neutralize the residual chlorine.

The oil/water separator (OWS) collects water from wastewater streams in the plant that may potentially contain oil, grease, and suspended solids. Sources of these constituents are the steam turbine lube oil purification system and equipment and floor drains. The OWS is continually processing wastewater at a rate of approximately 5 gpm. The wastewater from the OWS is mixed with the cooling tower blowdown water before entering the blowdown line. A reservoir connected to the OWS collects any recovered oil for offsite recycling.
The facility discharges treated cooling tower blowdown and oil/water separator water through Outfall 001 to the Chehalis River at an annual average flow rate of 0.44 MGD.

Stormwater

Stormwater from the facility is collected in a storm drain system (designated as Outfall 002B), conveyed through a pipe beneath Keys Road, and discharged to a stormwater detention pond (C-1 pond) that is adjacent to the facility. This pond is located on property owned by the Port of Grays Harbor and is designed to handle a 100-year storm event. The pond also receives stormwater discharges from the surrounding properties that are not under the control of the GHEC.

Sanitary Waste

Sanitary sewage from the facility is treated in a septic tank system and discharged to a drain field onsite. The sanitary waste stream flow to the onsite system is less than 3,500 gallons per day, which is regulated by the Grays Harbor County Health Department. Grays Harbor County approved the sanitary waste facility design for GHEC on June 13, 2002.

Solid Wastes

GHEC generates various solid wastes onsite including: general refuse, wood products, scrap metal, metal drums, petroleum products, oil and solvent rags, worn tires, spent batteries, and light bulbs. These solid wastes are disposed of and recycled in accordance with the solid waste regulations.

Discharge Outfalls

The treated and disinfected effluent from the plant is discharged to the Chehalis River through Outfall 001. The conveyance pipe to the outfall consists of a combination of 21-inch diameter reinforced concrete pipe, 20-inch diameter carbon steel pipe, and 18-inch diameter carbon steel pipe that extends north of the plant and below the Chehalis River to a diffuser structure.

Stormwater is collected in a stormwater drainage system and is discharged to a stormwater detention pond (C-1) through a pipe beneath Keys Road. The stormwater outfall is designated as Outfall 002B. C-1 pond is designed to handle a 100-year storm event and is unlined. The stormwater in the pond evaporates and infiltrates into the ground. If stormwater exceeds the C-1 pond design capacity, the stormwater is discharged to a drainage area leading to the Chehalis River. Stormwater in this pond has never exceeded the design capacity, even during a 100-year rainfall event.

B. Description of the Receiving Water

GHEC discharges to the Chehalis River. This section of the river is tidally influenced because of the proximity to Grays Harbor. Other nearby point source outfalls include the Elma Sewage Treatment Plant. Significant nearby non-point sources of pollutants include agricultural activities.

The ambient background data used in preparing this permit were obtained from the 2018 GHEC Wastewater Engineering Report prepared by AECOM, which included data from the 2003 Receiving Water Study undertaken by Duke Energy to meet the requirements of the 2008 NPDES permit.

Table 2 includes the data from Sampling Points 1, 2, 4, and 5 from this study. Sampling Point 3 was located within the discharge area of GHEC's Outfall 001. The data collected at Sampling Point 3 is not considered ambient background data.

The 2018 Engineering Report also includes data from a 2012 Receiving Water Study conducted by URS. There were three sampling points in this study – one downstream, one upstream, and one at the outfall. The results of the study showed a number of parameters in the receiving water that exceeded water quality standards including iron, Total Residual Chlorine, temperature, and Dissolved Oxygen.

The proposed permit requires GHEC to conduct a new receiving water study following guidelines for preparing Quality Assurance Project Plans and clean sampling techniques. The ambient background data from the new study will be used to verify the results of the 2012 study and to perform an updated reasonable potential analysis to determine compliance with water quality standards.

Table 2 Ambient Background Data

Parameter	Maximum Value	No. of Samples
Temperature	12.82 °C	4
pH	7.62 standard units	4
Dissolved Oxygen	8.66 mg/L	4
Total Ammonia-N	0.0.028 mg/L	4
BOD	1 mg/L	4
TSS	30.4 mg/L	4
Hardness	33 mg/L as CaCO3	4
Arsenic, Total	0.29 µg/L	4
Cadmium, Total	0.03 µg/L	4
Chromium, Total	1.17 µg/L	4
Copper, Total	2.34 µg/L	4
Lead, Total	0.18 µg/L	4
Mercury, Total	0.00 µg/L	4
Nickel, Total	1.1 µg/L	4
Selenium, Total	0.24 µg/L	4
Silver, Total	0.05 µg/L	4
Zinc, Total	2.28 µg/L	4

C. Wastewater Characterization

GHEC reported the concentration of pollutants in the discharge at Outfall 001 in the permit renewal application dated November 13, 2017 and in monthly discharge monitoring reports.

The tabulated data below represents the quality of the wastewater effluent discharged from January 2015 through September 2017 except for metals (arsenic, chromium copper, zinc, mercury, and hexavalent chromium). The metals data are from August through September 2017 and reflect the quality of the wastewater effluent discharged following the implementation of the AKART pollution prevention measures. The wastewater effluent at Outfall 001 is characterized as follows:

Table 3 Outfall 001 Wastewater Characterization

Parameter	Units	No. of Samples	Maximum Value
Biochemical Oxygen Demand (BOD_5)	mg/L	1	<2
Total Suspended Solids (TSS)	mg/L	30	12
Ammonia (as N)	mg/L	35	0.11
Chlorine, Free Available	mg/L	658	0.075*
Nitrate-Nitrite (as N)	mg/L	3	7.56
Oil and Grease	mg/L	35	1.9
Iron, Total**	µg/L	19	39
Aluminum, Total	µg/L	3	11.1
Antimony, Total	µg/L	3	1.49
Arsenic, Dissolved**	µg/L	18	3.46
Chromium, Total**	µg/L	19	2.69
Copper, Total**	µg/L	19	1.18
Lead, Total	µg/L	3	0.057
Manganese, Total	µg/L	3	1.12
Mercury, Total**	µg/L	19	0.0101
Nickel, Total	µg/L	3	1.16
Selenium, Total	µg/L	3	1.3
Zinc, Total**	µg/L	17	2.7
Cyanide	µg/L	3	3
Chloroform	µg/L	3	1.6
Diethyl Phthalate	µg/L	3	0.068
Di-N-Butyl Phthalate	µg/L	3	0.083
Temperature	°C	273	16
* Used 95th percentile ** Data from 2018 Updated Wastewater Engineering Report			

Parameter	Units	No. of Samples	Minimum Value	Maximum Value
pH	Standard Units	661	8.4	8.8

GHEC reported the concentration of pollutants in the discharge at Outfall 002B in the permit. Renewal application dated November 13, 2017 and in quarterly discharge monitoring reports. The tabulated data below represents the quality of the stormwater discharged from January 2016 through June 2018.

Table 4 Stormwater Monitoring Data for Outfall 002B

Parameter	Units	No. of Samples	Average Value	Maximum Value	Ground Water Criteria
pH	SU	9	6.4*	7.6	6.5 - 8.5
Turbidity	NTU	9	5.8	19.2	--
Copper	µg/L	9	5.1	12.2	1,000
Zinc	µg/L	9	5.4	14.5	5,000
Oil & Grease	mg/L	9	NVS	NVS	--
* minimum value NVS - No Visible Sheen					

D. Summary of Compliance with Previous Permit Issued

The previous permit issued on May 13, 2008 and modified on November 1, 2010 placed effluent limits on temperature, ammonia, Free Available Chlorine, pH, Total Suspended Solids, Oil and Grease, total chromium, and total iron.

GHEC has not consistently complied with the effluent limits and permit conditions throughout the duration of the permit issued on May 13, 2008. EFSEC assessed compliance based on its review of the facility's discharge monitoring reports (DMRs).

EFSEC drafted the permit conditions while GHEC was still under construction. GHEC began operations in July 2008. Immediately after the start of operations, several compliance issues emerged that resulted in routine exceedances of the effluent limits for pH and iron and a failure to monitor the discharge at Outfall 001 between July 1, 2008 and September 30, 2008. In response to these compliance issues, EFSEC issued a Notice of Incident (NOI) to GHEC on November 13, 2008. During subsequent investigations of the pH exceedances, GHEC found a dysfunctional pH neutralization system and replaced the entire system soon after. GHEC has since complied with the pH limit. GHEC has complied with the effluent limits and conditions of the permit since 2008.

The previous permit included a schedule of compliance that required GHEC to demonstrate application of all known, available and reasonable methods of prevention, control and treatment (AKART) and compliance with applicable water quality standards for all discharges to the environment. Demonstration of compliance was to be accomplished through completion of an engineering report. The schedule of compliance was approved by EFSEC on April 2014 and required compliance with AKART and water quality standards by August 1, 2016.

GHEC submitted a draft engineering report to EFSEC on September 9, 2015. EFSEC provided this engineering report to Ecology (EFSEC's compliance contractor) for review and comment. Based on Ecology's recommendation, EFSEC did not approve the draft engineering report. Ecology's recommendation was based on GHEC's incomplete analysis of AKART and the uncertainty of complying with state water quality standards at Outfall 001 after implementation of the proposed pollution measures in the engineering report.

Further, Ecology recommended that EFSEC authorize GHEC to implement pollution prevention measures and re-evaluate its discharge for compliance with state water quality standards. The pollution prevention measures included the following:

1. Replacing the arsenic treated timbers used in the cooling towers with fiberglass reinforced plastic (FRP) structural members to reduce arsenic in the discharge.
2. Replacing the sulfuric acid used in the process with a high-purity sulfuric acid with a mercury content of less than 1µg/L to reduce mercury in the discharge.
3. Working with GHEC's chemical service provider to minimize dosing of the NALCO 3DT185 product to reduce phosphorous in the discharge.

GHEC implemented these pollution prevention measures in 2015 and 2017 and submitted the final engineering report to EFSEC on January 16, 2018. The engineering report stated that the mercury, arsenic, and phosphorous concentrations had been reduced by 95%, 86%, and 67%, respectively at Outfall 001. Although pollution prevention measure #1 above effectively reduces the arsenic concentration in the discharge but it still does not meet the human health water quality criteria of 0.018 µg/L. Based on Ecology's recommendation, EFSEC approved the engineering report except for the part of the engineering report on arsenic. The requirement for further monitoring of arsenic is discussed in Section III.H of this factsheet.

During the previous permit term, there was only one benchmark exceedance at Outfall 002B. The sampling result of copper in September 2013 was 24.5 µg/L. Stormwater benchmarks are not limits but rather action levels that when exceeded require GHEC to take actions defined in the permit. GHEC's investigation determined that the copper result of 24.5 µg/L was an anomaly.

The following table summarizes compliance with report submittal requirements over the permit term.

Table 5 Permit Submittals

Submittal	Date Required	Date Received
Outfall Inspection	9/13/2017	9/13/2017
Acute Toxicity Testing	9/28/2012	9/28/2012
Chronic Toxicity Testing	9/28/2012	9/28/2012
Solid Waste Control Plan	11/10/2012	11/10/2012
Engineering Report (original)	8/2015	8/2015
Engineering Report (updated)	12/31/2017	12/28/2017

E. State Environmental Policy Act (SEPA) Compliance

State law exempts the issuance, reissuance or modification of any wastewater discharge permit from the SEPA process as long as the permit contains conditions that are no less stringent than federal and state rules and regulations (RCW 43.21C.0383). The exemption applies only to existing discharges, not to new discharges.

III. Proposed Permit Limits

Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based.

- Technology-based limits are based upon the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation, or EFSEC develops the limit on a case-by-case basis (40 CFR 125.3, and chapter 173-220 WAC).
- Water quality-based limits are calculated so that the effluent will comply with the Surface Water Quality Standards (chapter 173-201A WAC), Ground Water Standards (chapter 173-200 WAC), Sediment Quality Standards (chapter 173-204 WAC), or the National Toxics Rule (40 CFR 131.36).
- EFSEC must apply the most stringent of these limits to each parameter of concern. These limits are described below.

The limits in this permit reflect information received in the permit renewal application dated November 13, 2017 and from supporting reports (engineering, hydrogeology, etc.). EFSEC evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. EFSEC does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation.

EFSEC does not usually develop limits for pollutants not reported in the permit application but may be present in the discharge. The permit does not authorize discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify EFSEC if significant changes occur in any constituent [40 CFR 122.42(a)]. Until EFSEC modifies the permit to reflect additional discharge of pollutants, a permitted facility could be violating its permit.

A. A. Design Criteria

Under WAC 173-220-150(1) (g), flows and waste loadings must not exceed approved design criteria. The proposed permit requires that GHEC submit an O&M manual that includes design criteria for wastewater treatment processes used onsite to EFSEC for review and approval. EFSEC will impose an appropriate design criteria in the next permit cycle to ensure that GHEC operates and maintains the facilities or systems of control at all times to achieve compliance with the terms and conditions of the NPDES permit.

B. B. Technology-Based Effluent Limits

Technology-based limitations are set by regulation in the federal effluent guidelines or on a case-by-case basis using Best Professional Judgment (BPJ) when no effluent guidelines exist for an industrial category. Technology-based effluent limits represent the best treatment a facility can achieve consistent with the economic means of the industry as a whole (in the case of effluent guidelines) of the specific facility being permitted (in the case of BPJ).

Technology-based effluent limits are process control parameters or numbers which indicate that a process, which in this case is wastewater treatment, is not functioning properly.

The Environmental Protection Agency (EPA) promulgated the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category (40 CFR 423 Part 423.15) in 1974 and amended the regulations in 1977, 1978, 1980, 1982, and 2015. EFSEC must ensure that facilities provide all known, available, and reasonable methods of prevention, control, and treatment (AKART) when it issues a permit. EFSEC determined that the federal effluent guidelines constitute AKART.

The New Source Performance Standards (NSPS) for the pertinent waste streams produced by GHEC are summarized in the table below.

Table 6 NSPS Guidelines

Parameter	Average Monthly Limit	Maximum Daily Limit
Priority Pollutants [a] and PCBs	ND [b]	ND [b]
Low Volume Waste Sources		
Total Suspended Solids (TSS)	30 mg/L	100 mg/L
Oil and Grease	15 mg/L	20 mg/L
Chemical Metal Cleaning Wastes		
Copper, Total	1 mg/L	1 mg/L
Iron, Total	1 mg/L	1 mg/L
Cooling Water Blowdown		
Zinc, Total	1 mg/L	1 mg/L
Chromium, Total	0.2 mg/L	0.2 mg/L
Free Available Chlorine	0.2 mg/L	0.5 mg/L
Total Residual Chlorine [c]	--	0.2 mg/L

Parameter	Daily Minimum	Daily Maximum
pH	6.0 standard units	9.0 standard units

Notes:
[a] The priority pollutants contained in chemicals added for cooling tower maintenance, except for copper and zinc.
[b] No detectable amount
[c] Total Residual Chlorine may not be discharged from any unit for more than two hours in any one day and no more than one unit in any plant may discharge Total Residual Chlorine at any one time unless the facility can demonstrate to EFSEC that the facility cannot operate at or below this level of chlorination.

The federal effluent limitations for this category give the permit writer the discretion to express the allowable discharge quantity as a concentration-based limit rather than a mass-based limit.

The technology-based concentration values and other requirements in the NSPS section of the federal effluent guidelines were used to establish limits in the proposed permit except as indicated in the following discussion.

PCBs are commonly found in transformer fluid in the steam electric power generating industry. PCBs were not detected in the facility's final effluent. EFSEC has included the same effluent limit for PCBs in the proposed permit as the effluent limit for priority pollutants from federal effluent guidelines.

GHEC generated metal cleaning process waste during a one-time event to clean piping during construction. None of this waste was discharged to Outfall 001. The metal cleaning process waste was collected and transported off-site for disposal. Based on this information, the NSPS effluent limitations for Chemical Metal Cleaning Wastes are not applicable.

The inclusion of zinc in the federal effluent guidelines was due to the common use of cooling tower biocides and corrosion and scaling control chemicals containing zinc chloride, zinc dichromate, zinc oxides, zinc sulfate, calcium zinc polyphosphate, potassium zinc polyphosphate, and zinc chloride. These chemicals are no longer used at the GHEC facility. There are no other sources of zinc at the facility. The proposed permit does not include a technology-based limit for zinc.

The previous permit included the federal effluent limitations for free available chlorine but not the limit for total residual chlorine. The quantity of free available chlorine is either equal to or less than total residual chlorine in a sample depending upon the chemistry of the sample. In many cases, total chlorine is essentially equal to free chlorine. The proposed permit replaces the technology-based effluent limits for free available chlorine with the more stringent daily maximum limit from the federal effluent limitation guidelines for total residual chlorine. The new daily maximum daily limit applies to free available chlorine. GHEC is not required to replace the existing meter used to continuously monitor for free available chlorine but the free available chlorine results must be compared to the total residual chlorine limit to determine compliance.

C. C. Surface Water Quality-Based Effluent Limits

The Washington State surface water quality standards (chapter 173-201A WAC) are designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure the discharge will meet the surface water quality standards (WAC 173-201A-510). Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily load study (TMDL).

Numerical Criteria for the Protection of Aquatic Life and Recreation

Numerical water quality criteria are listed in the water quality standards for surface waters (chapter 173-201A WAC). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. EFSEC uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit.

When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

Numerical Criteria for the Protection of Human Health

In 1992, U.S. EPA published 91 numeric water quality criteria for the protection of human health that are applicable to dischargers in Washington State in its National Toxics Rule (40 CFR (EPA, 1992). Ecology submitted a standards revision for 192 new human health criteria for 97 pollutants to EPA on August 1, 2016. In accordance with requirements of CWA section 303(c)(2)(B), EPA finalized 143 new and revised Washington specific human health criteria for priority pollutants, to apply to waters under Washington's jurisdiction. EPA approved 45 human health criteria as submitted by Washington. The EPA took no action on Ecology submitted criteria for arsenic, dioxin, and thallium. The existing criteria for these three pollutants as adopted in the National Toxics Rule (40 CFR 131.36) remain in effect.

These newly adopted criteria, located in WAC 173-201A-240, are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

Narrative Criteria

Narrative water quality criteria (e.g., WAC 173-201A-240(1); 2006) limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge to levels below those which have the potential to:

- Adversely affect designated water uses.
- Cause acute or chronic toxicity to biota.
- Impair aesthetic values.
- Adversely affect human health.

Narrative criteria protect the specific designated uses of all fresh waters (WAC 173-201A-200, 2006) and of all marine waters (WAC 173-201A-210, 2006) in the state of Washington.

Antidegradation

Description--The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330; 2006) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.
- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- Apply three tiers of protection (described below) for surface waters of the state.

Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions. Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

A facility must prepare a Tier II analysis when all three of the following conditions are met:
- The facility is planning a new or expanded action.
- Ecology regulates or authorizes the action.
- The action has the potential to cause measurable degradation to existing water quality at the edge of a chronic mixing zone.

Facility Specific Requirements--This facility must meet Tier I requirements.
- Dischargers must maintain and protect existing and designated uses. EFSEC must not allow any degradation that will interfere with, or become injurious to, existing or designated uses, except as provided for in chapter 173-201A WAC.

EFSEC's analysis described in this section of the fact sheet demonstrates that the proposed permit conditions will protect existing and designated uses of the receiving water.

Mixing Zones

A mixing zone is the defined area in the receiving water surrounding the discharge port(s), where wastewater mixes with receiving water. Within mixing zones the pollutant concentrations may exceed water quality numeric standards, so long as the discharge doesn't interfere with designated uses of the receiving water body (for example, recreation, water supply, and aquatic life and wildlife habitat, etc.) The pollutant concentrations outside of the mixing zones must meet water quality numeric standards.

State and federal rules allow mixing zones because the concentrations and effects of most pollutants diminish rapidly after discharge, due to dilution. EFSEC defines mixing zone sizes to limit the amount of time any exposure to the end-of-pipe discharge could harm water quality, plants, or fish.

The state's water quality standards allow EFSEC to authorize mixing zones for the facility's permitted wastewater discharges only if those discharges already receive all known, available, and reasonable methods of prevention, control, and treatment (AKART). Mixing zones typically require compliance with water quality criteria within a specified distance from the point of discharge and must not use more than 25% of the available width of the water body for dilution [WAC 173-201A-400 (7) (a)(ii-iii)].

EFSEC uses modeling to estimate the amount of mixing within the mixing zone. Through modeling EFSEC determines the potential for violating the water quality standards at the edge of the mixing zone and derives any necessary effluent limits. Steady-state models are the most frequently used tools for conducting mixing zone analyses.

EFSEC chooses values for each effluent and for receiving water variables that correspond to the time period when the most critical condition is likely to occur (see Ecology's *Permit Writer's Manual*). Each critical condition parameter, by itself, has a low probability of occurrence and the resulting dilution factor is conservative. The term "reasonable worst-case" applies to these values.

The mixing zone analysis produces a numerical value called a dilution factor (DF). A dilution factor represents the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. For example, a dilution factor of 4 means the effluent is 25% and the receiving water is 75% of the total volume of water at the boundary of the mixing zone. EFSEC uses dilution factors with the water quality criteria to calculate reasonable potentials and effluent limits. Water quality standards include both aquatic life-based criteria and human health-based criteria. The former are applied at both the acute and chronic mixing zone boundaries; the latter are applied only at the chronic boundary. The concentration of pollutants at the boundaries of any of these mixing zones may not exceed the numerical criteria for that zone.

Each aquatic life *acute* criterion is based on the assumption that organisms are not exposed to that concentration for more than one hour and more often than one exposure in three years. Each aquatic life *chronic* criterion is based on the assumption that organisms are not exposed to that concentration for more than four consecutive days and more often than once in three years.

The two types of human health-based water quality criteria distinguish between those pollutants linked to non-cancer effects (non-carcinogenic) and those linked to cancer effects (carcinogenic). The human health-based water quality criteria incorporate several exposure and risk assumptions. These assumptions include:

- A 70-year lifetime of daily exposures.
- An ingestion rate for fish or shellfish measured in kg/day.
- An ingestion rate of two and four tenths (2.4) liters/day for drinking water (increased from two liters/day in the 2016 Water Quality Standards update).
- A one-in-one-million cancer risk for carcinogenic chemicals.

This permit authorizes a small acute mixing zone, surrounded by a chronic mixing zone around the point of discharge (WAC 173-201A-400). The water quality standards impose certain conditions before allowing the discharger a mixing zone:

1. **EFSEC must specify both the allowed size and location in a permit.**

The proposed permit specifies the size and location of the allowed mixing zone (as specified below).

2. **The facility must fully apply "all known, available, and reasonable methods of prevention, control and treatment" (AKART) to its discharge.**

EFSEC has determined that the treatment provided at GHEC meets the requirements of AKART (see "Technology-based Limits").

3. **EFSEC must consider critical discharge conditions.**

Surface water quality-based limits are derived for the water body's critical condition (the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or designated waterbody uses). The critical discharge condition is often pollutant-specific or waterbody-specific.
Critical discharge conditions are those conditions that result in reduced dilution or increased effect of the pollutant. Factors affecting dilution include the depth of water, the density stratification in the water column, the currents, and the rate of discharge. Density stratification is determined by the salinity and temperature of the receiving water.

Temperatures are warmer in the surface waters in summer. Therefore, density stratification is generally greatest during the summer months. Density stratification affects how far up in the water column a freshwater plume may rise. The rate of mixing is greatest when an effluent is rising. The effluent stops rising when the mixed effluent is the same density as the surrounding water. After the effluent stops rising, the rate of mixing is much more gradual. Water depth can affect dilution when a plume might rise to the surface when there is little or no stratification. Ecology's *Permit Writer's Manual* describes additional guidance on criteria/design conditions for determining dilution factors. The manual can be obtained from Ecology's website at: ***https://fortress.wa.gov/ecy/publications/SummaryPages/92109.html.***

Table 7 Critical Conditions Used to Model the Discharge

Critical Condition	Value
The seven-day-average low river flow with a recurrence interval of ten years (7Q10)	522 cfs
The thirty-day low river flow with a recurrence interval of five years (30Q5)	731 cfs
River depth at the 7Q10 period	3 feet
River velocity	0.2 ft/s
Manning roughness coefficient	0.04
Slope	0.001 ft/ft
Channel width	260 feet
Maximum average monthly effluent flow for chronic and human health non-carcinogen	0.56 MGD
Annual average flow for human health carcinogen	0.44 MGD
Maximum daily flow for acute mixing zone	0.98 MGD
7-DAD MAX Effluent temperature	14.6 degrees C

EFSEC obtained ambient data at critical conditions in the vicinity of the outfall from **Table 1-4** in the Mixing Zone Analysis prepared by URS Corporation and submitted to EFSEC in February 2014.

Supporting information must clearly indicate the mixing zone would not:

- Have a reasonable potential to cause the loss of sensitive or important habitat.
- Substantially interfere with the existing or characteristic uses.
- Result in damage to the ecosystem.
- Adversely affect public health.

Ecology established Washington State water quality criteria for toxic chemicals using EPA criteria. EPA developed the criteria using toxicity tests with numerous organisms and set the criteria to generally protect the species tested and to fully protect all commercially and recreationally important species.
EPA sets acute criteria for toxic chemicals assuming organisms are exposed to the pollutant at the criteria concentration for one hour. They set chronic standards assuming organisms are exposed to the pollutant at the criteria concentration for four days. Dilution modeling under critical conditions generally shows that both acute and chronic criteria concentrations are reached within minutes of discharge.

The discharge plume does not impact drifting and non-strong swimming organisms because they cannot stay in the plume close to the outfall long enough to be affected. Strong swimming fish could maintain a position within the plume, but they can also avoid the discharge by swimming away. Mixing zones generally do not affect benthic organisms (bottom dwellers) because the buoyant plume rises in the water column. EFSEC has additionally determined that the effluent will not exceed 33 degrees C for more than two seconds after discharge; and that the temperature of the water will not create lethal conditions or blockages to fish migration.

EFSEC evaluates the cumulative toxicity of an effluent by testing the discharge with whole effluent toxicity (WET) testing.

EFSEC reviewed the above information, the specific information on the characteristics of the discharge, the receiving water characteristics and the discharge location. Based on this review, EFSEC concluded that the discharge does not have a reasonable potential to cause the loss of sensitive or important habitat, substantially interfere with existing or characteristics uses, result in damage to the ecosystem, or adversely affect public health if the permit limits are met.

4. **The discharge/receiving water mixture must not exceed water quality criteria outside the boundary of a mixing zone.**

EFSEC conducted a reasonable potential analysis, using procedures established by the EPA and by Ecology, for each pollutant and concluded the discharge/receiving water mixture will not violate water quality criteria outside the boundary of the mixing zone if permit limits are met.

5. **The size of the mixing zone and the concentrations of the pollutants must be minimized.**

At any given time, the effluent plume uses only a portion of the acute and chronic mixing zone, which minimizes the volume of water involved in mixing. Because tidal currents change direction, the plume orientation within the mixing zone changes. The plume mixes as it rises through the water column therefore much of the receiving water volume at lower depths in the mixing zone is not mixed with discharge. Similarly, because the discharge may stop rising at some depth due to density stratification, waters above that depth will not mix with the discharge. EFSEC determined it is impractical to specify in the permit the actual, much more limited volume in which the dilution occurs as the plume rises and moves with the current.

EFSEC minimizes the size of mixing zones by requiring dischargers to install diffusers when they are appropriate to the discharge and the specific receiving waterbody. When a diffuser is installed, the discharge is more completely mixed with the receiving water in a shorter time. Ecology also minimizes the size of the mixing zone (in the form of the dilution factor) using design criteria with a low probability of occurrence. For example, EFSEC uses the expected 95th percentile pollutant concentration, the 90th percentile background concentration, the centerline dilution factor, and the lowest flow occurring once in every ten years to perform the reasonable potential analysis.

Because of the above reasons, EFSEC has effectively minimized the size of the mixing zone authorized in the proposed permit.

6. **Maximum size of mixing zone.**

The authorized mixing zone does not exceed the maximum size restriction.

7. **Acute mixing zone.**

- **The discharge/receiving water mixture must comply with acute criteria as near to the point of discharge as practicably attainable.**

EFSEC determined the acute criteria will be met at 10% of the distance of the chronic mixing zone.

- **The pollutant concentration, duration, and frequency of exposure to the discharge will not create a barrier to migration or translocation of indigenous organisms to a degree that has the potential to cause damage to the ecosystem.**

As described above, the toxicity of any pollutant depends upon the exposure, the pollutant concentration, and the time the organism is exposed to that concentration. Authorizing a limited acute mixing zone for this discharge assures that it will not create a barrier to migration. The effluent from this discharge will rise as it enters the receiving water, assuring that the rising effluent will not cause translocation of indigenous organisms near the point of discharge (below the rising effluent).

- **Comply with size restrictions.**

The mixing zone authorized for this discharge complies with the size restrictions published in chapter 173-201A WAC.

8. **Overlap of mixing zones.**

This mixing zone does not overlap another mixing zone.

D. D. Designated uses and surface water quality criteria

Applicable designated uses and surface water quality criteria are defined in chapter 173-201A WAC. In addition, the U.S. EPA set human health criteria for toxic pollutants (EPA 1992). The table included below summarizes the criteria applicable to this facility's discharge.

- Aquatic Life Uses are designated based on the presence of, or the intent to provide protection for the key uses. All indigenous fish and non-fish aquatic species must be protected in waters of the state in addition to the key species. The Aquatic Life Uses for this receiving water are identified below.

Table 8 Freshwater Aquatic Life Uses and Associated Criteria

Salmonid Spawning, Rearing, and Migration	
Temperature Criteria – Highest 7-DAD MAX	17.5°C (63.5°F)
Dissolved Oxygen Criteria – Lowest 1-Day Minimum	8.0 mg/L
Turbidity Criteria	• 5 NTU over background when the background is 50 NTU or less; or • A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
Total Dissolved Gas Criteria	Total dissolved gas must not exceed 110 percent of saturation at any point of sample collection.
pH Criteria	The pH must measure within the range of 6.5 to 8.5 with a human-caused variation within the above range of less than 0.5 units.

- The *recreational uses* for this receiving water are identified below:

Table 9 Recreational Uses and Associated Criteria

Recreational Use	**Criteria**
Primary Contact Recreation	Fecal coliform organism levels must not exceed a geometric mean value of 100 colonies /100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample points exist) obtained for calculating the geometric mean value exceeding 200 colonies /100 mL.

- The *water supply uses* are domestic, agricultural, industrial, and stock watering.
- The *miscellaneous freshwater uses* are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

E. E. Water Quality Impairments

The Lower Chehalis River is not listed on the current 303(d) impaired surface water body (Ecology 2002a). However, the Lower Chehalis River has been assessed as having Category 2 (water of concern) impairment for temperature and Category 4a (polluted waters that do not require a Total Maximum Daily Load (TMDL) Analysis for excursions of bacteria. The Upper Chehalis River has been assessed as having Category 5 impairment for turbidity, Category 4a impairment for dissolved oxygen, temperature, and bacteria, and Category 2 for impairment for pH, dissolved oxygen, bacteria, and turbidity.

The TMDL analyses have been submitted for Upper Chehalis River for the following parameters: fecal coliform, bacteria, and temperature. The TMDL summary is located on the following website,
http://www.ecy.wa.gov/programs/wq/tmdl/ChehalisRvrTMDLSummary.html

F. F. Evaluation of Surface Water Quality-Based Effluent Limits for Narrative Criteria

EFSEC must consider the narrative criteria described in WAC 173-201A-160 when it determines permit limits and conditions. Narrative water quality criteria limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge which have the potential to adversely affect designated uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health.

EFSEC considers narrative criteria when it evaluates the characteristics of the wastewater and when it implements all known, available, and reasonable methods of treatment and prevention (AKART) as described above in the technology-based limits section. When EFSEC determines if a facility is meeting AKART, it considers the pollutants in the wastewater and the adequacy of the treatment to prevent the violation of narrative criteria. In addition, EFSEC considers the toxicity of the wastewater discharge by requiring whole effluent toxicity (WET) testing when there is a reasonable potential for the discharge to contain toxics. EFSEC's analysis of the need for WET testing for this discharge is described later in the fact sheet.

G. G. Evaluation of Surface Water Quality-Based Effluent Limits for Numeric Criteria

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near-field) or at a considerable distance from the point of discharge (far-field). Toxic pollutants, for example, are near-field pollutants; their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as biological oxygen demand (BOD) is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect. With technology-based controls (AKART), predicted pollutant concentrations in the discharge exceed water quality criteria.

EFSEC therefore authorizes a mixing zone in accordance with the geometric configuration, flow restriction, and other restrictions imposed on mixing zones by chapter 173-201A WAC.

The buried diffuser manifold at Outfall 001 is approximately 30 feet long with a diameter of 18 inches. The diffuser has a total of two 8 inch diameter ports. The distance between ports is approximately 10 feet. The diffuser depth is 5 feet. The mean lower low water (MLLW) depth is approximately 8 feet.

Chronic Mixing Zone--WAC 173-201A-400(7)(a) specifies that mixing zones must not extend in a downstream direction from the discharge ports for a distance greater than 300 feet plus the depth of water over the discharge ports or extend upstream for a distance of over 100 feet, not utilize greater than 25% of the flow, and not occupy greater than 25% of the width of the water body.
The horizontal distance of the chronic mixing zone downstream is 303 feet. The mixing zone extends from the bottom to the top of the water column.

Acute Mixing Zone--WAC 173-201A-400(8)(a) specifies that in rivers and streams a zone where acute toxics criteria may be exceeded must not extend beyond 10% of the distance towards the upstream and downstream boundaries of the chronic zone, not use greater than 2.5% of the flow and not occupy greater than 25% of the width of the water body.

The horizontal distance of the acute mixing zone is 30.3 feet. The mixing zone extends from the bottom to the top of the water column. The dilution factor is based on this distance.

EFSEC determined the dilution factors for Outfall 001 that occur within these zones at the critical condition from the Mixing Zone Analysis Summary prepared by URS dated February 27, 2014 (Appendix L of the 2018 Engineering Report). These are the same dilution factors from the modified permit dated November 1, 2010. The dilution factors for Outfall 001 are listed in Table 10 below.

Table 10 Dilution Factors for Outfall 001

Criteria	Acute	Chronic
Aquatic Life	4	51
Human Health, Carcinogen		67
Human Health, Non-carcinogen		67

EFSEC determined the impacts of pH, turbidity, total residual chlorine, ammonia, metals, other toxics, and temperature as described below, using the dilution factors in the above table. The derivation of surface water quality-based limits also takes into account the variability of pollutant concentrations in both the effluent and the receiving water.

EFSEC reviewed data submitted in GHEC's permit renewal application dated November 13, 2017 (Appendix A of the 2018 Engineering Report) and discharge monitoring reports from October 2014 through April 2018 (See **Appendix E**) to make the following determinations regarding the discharges at Outfalls 001 and 002B.

pH-- EFSEC predicts no violation of the pH criteria under critical conditions. The proposed permit includes technology-based effluent limits for pH of 6.0 to 9.0.

Turbidity-- EFSEC evaluated the impact of turbidity based on the range of turbidity in the effluent and the turbidity of the receiving water. Based on the surface water criteria and the DMR data (See **Appendix E**), EFSEC determined that there will be no violations of the turbidity criteria outside of the designated mixing zone.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require EFSEC to place limits in NPDES permits on toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. EFSEC does not exempt facilities with technology-based effluent limits from meeting the surface water quality standards.

The following toxic pollutants are present in the discharge at Outfall 001: ammonia, aluminum, antimony, arsenic, free available chlorine, chloroform, copper, cyanide, diethylphthalate, di-n-buthyl phthalate, iron, lead, manganese, mercury, nickel, nitrate-nitrite, selenium, and zinc. EFSEC conducted a reasonable potential analysis (See **Appendix F**) on these parameters to determine whether it would require effluent limits in this permit. Ammonia's toxicity depends on that portion which is available in the unionized form. The amount of unionized ammonia depends on the temperature and pH in the receiving freshwater. To evaluate ammonia toxicity, EFSEC used the available receiving water information and Ecology spreadsheet tools.

Valid ambient background data were available for the list of pollutants in the 2003 Receiving Water Study (Appendix E of the 2018 Engineering Report). EFSEC used this ambient data and all applicable effluent data to evaluate reasonable potential for the discharge at Outfall 001 to cause a violation of water quality standards. EFSEC chose not to use the ambient data from the 2012 Receiving Water Study in this evaluation. See Section II.B. Description of Receiving Water for a more detailed discussion of ambient conditions.

EFSEC determined that ammonia, aluminum, antimony, arsenic, chloroform, copper, chlorine, cyanide, diethylphthalate, di-n-buthyl phthalate, iron, lead, manganese, mercury, nickel, nitrate-nitrite, selenium, and zinc pose no reasonable potential to exceed the water quality criteria at the critical condition, using procedures given in EPA, 1991 and as described above. EFSEC's determination assumes that this facility meets the other effluent limits of this permit.

EFSEC used free available chlorine data for the discharge at Outfall 001 in the reasonable potential analysis to compare to the water quality standards for total residual chlorine. There was no total residual chlorine data available for the discharge. The proposed permit requires GHEC to monitor for total residual chlorine at Outfall 001 at least annually with other priority pollutants.

Water quality criteria for most metals published in chapter 173-201A WAC are based on the dissolved fraction of the metal (see footnotes to table WAC 173-201A-240(3); 2006).

GHEC may provide data clearly demonstrating the seasonal partitioning of the dissolved metal in the ambient water in relation to an effluent discharge. EFSEC may adjust a metal's translator on a site-specific basis when data is available clearly demonstrating the seasonal partitioning in the ambient water in relation to an effluent discharge.

Temperature--The state temperature standards (WAC 173-201A-200-210 and 600-612) include multiple elements:

- Annual summer maximum threshold criteria (June 15 to September 15)
- Supplemental spawning and rearing season criteria (September 15 to June 15)
- Incremental warming restrictions
- Protections against acute effects
- Annual summer maximum and supplementary spawning/rearing criteria

EFSEC evaluates each criterion independently to determine reasonable potential and derive permit limits.

Each water body has an annual maximum temperature criterion [WAC 173-201A-200(1)(c), 210(1)(c), and Table 602]. These threshold criteria (e.g., 12, 16, 17.5, 20°C) protect specific categories of aquatic life by controlling the effect of human actions on summer temperatures. Some waters have an additional threshold criterion to protect the spawning and incubation of salmonids (9°C for char and 13°C for salmon and trout) [WAC 173-201A-602, Table 602]. These criteria apply during specific date-windows.

The threshold criteria apply at the edge of the chronic mixing zone. Criteria for most fresh waters are expressed as the highest 7-Day average of daily maximum temperature (7-DADMax). The 7-DADMax temperature is the arithmetic average of seven consecutive measures of daily maximum temperatures. Criteria for marine waters and some fresh waters are expressed as the highest 1-Day annual maximum temperature (1-DMax).

- Incremental warming criteria

The water quality standards limit the amount of warming human sources can cause under specific situations [WAC 173-201A-200(1)(c)(i)-(ii), 210(1)(c)(i)-(ii)]. The incremental warming criteria apply at the edge of the chronic mixing zone.

At locations and times when background temperatures are cooler than the assigned threshold criterion, point sources are permitted to warm the water by only a defined increment. These increments are permitted only to the extent doing so does not cause temperatures to exceed either the annual maximum or supplemental spawning criteria.

At locations and times when a threshold criterion is being exceeded due to natural conditions, all human sources, considered cumulatively, must not warm the water more than 0.3°C above the naturally warm condition.

When Ecology has not yet completed a TMDL, EFSEC's policy allows each point source to warm water at the edge of the chronic mixing zone by 0.3°C.

This is true regardless of the background temperature and even if doing so would cause the temperature at the edge of a standard mixing zone to exceed the numeric threshold criteria. Allowing a 0.3°C warming for each point source is reasonable and protective where the dilution factor is based on 25% or less of the critical flow. This is because the fully mixed effect on temperature will only be a fraction of the 0.3°C cumulative allowance (0.075°C or less) for all human sources combined.

- Protections for temperature acute effects

Instantaneous lethality to passing fish: The upper 99th percentile daily maximum effluent temperature must not exceed 33°C, unless a dilution analysis indicates ambient temperatures will not exceed 33°C two seconds after discharge.

General lethality and migration blockage: Measurable (0.3°C) increases in temperature at the edge of a chronic mixing zone are not allowed when the receiving water temperature exceeds either a 1DMax of 23°C or a 7DADMax of 22°C.

Lethality to incubating fish: Human actions must not cause a measurable (0.3°C) warming above 17.5°C at locations where eggs are incubating.

GHEC routes all of its stormwater to the C-1 detention pond. EFSEC determined that temperature is not a significant stormwater pollutant parameter. Therefore, the proposed permit does not include a temperature limit at Outfall 002B and it does not require the facility to monitor temperature in the stormwater discharge. EFSEC may elect to develop procedures and guidance for regulating the effects of stormwater to comply with temperature water quality criteria in the future.

Annual summer maximum, supplementary spawning criterion, and incremental warming criteria: EFSEC calculated the reasonable potential for the discharge to exceed the annual summer maximum, the supplementary spawning criterion, and the incremental warming criteria (See temperature calculations in **Appendix F**).

The discharge is only allowed to warm the water by a defined increment when the background (ambient) temperature is cooler or warmer than the assigned threshold criterion. EFSEC allows warming increments only when they do not cause temperatures to exceed either the annual maximum or supplemental spawning criteria.

The incremental increase for this discharge is within the allowable amount. The reasonable potential to exceed analysis showed that no limit was required for temperature.

The proposed permit retains the daily maximum limit of 16°C for effluent temperature at Outfall 001 which was established by the Site Certification Agreement between EFSEC and GHEC in 2003. This limit was based on a Stipulated Agreement with the Washington State Department of Fish and Wildlife. Under critical conditions, the temperature criterion for the receiving water could be exceeded.

Although a temperature effluent limit of 18°C is normally considered protective of aquatic life in this receiving water, a temperature effluent limit of 16°C was imposed at Outfall 001 because it was found to be the threshold at which risk to Chinook salmon from disease, reduce oxygen, and abnormalities in alevins increases substantially.

Outfall 002B - The previous permit included stormwater benchmarks for the discharge at Outfall 002B. These benchmarks were based upon Ecology's Industrial Stormwater General Permit and were intended to indicate whether a discharge had potential to violate surface water quality standards. GHEC discharges all of its stormwater to the C-1 detention pond and the stormwater infiltrates into the ground. The proposed permit removes the stormwater benchmarks and requires monitoring at Outfall 002B to evaluate impacts to groundwater quality. See the discussion in Section III.J., Groundwater Quality Limits.

H. H. Human Health

Washington's water quality standards include numeric human health-based criteria for 97 priority pollutants that EFSEC must consider when writing NPDES permits.

EFSEC determined the effluent may contain chemicals of concern for human health, based on data or information indicating the discharge contains regulated chemical that EFSEC knows is present in the discharge.

EFSEC evaluated the discharge's potential to violate the water quality standards as required by 40 CFR 122.44(d) by following the procedures published in the *Technical Support Document for Water Quality-Based Toxics Control* (EPA/505/2-90-001) and ECOLOGY's *Permit Writer's Manual* to make a reasonable potential determination. The evaluation showed that the discharge has a reasonable potential to cause a violation of human health standards for arsenic.

Arsenic

Ecology submitted newly adopted state Human Health Water Quality Criteria to the EPA for Clean Water Act review and approval in August 2016. Parts of that submittal to EPA were new total arsenic criteria of 10 µg/L for both marine and freshwaters. Additional requirements in the new state rule included pollutant minimization requirements for anthropogenic inputs of arsenic from both indirect and direct discharges. The state's new total arsenic criteria match the EPA's Safe Drinking Water Act maximum contaminant level (MCL) used in Washington State for drinking water protection. The state's new arsenic criteria took into account existing scientific data, high concentrations of naturally occurring arsenic in the State of Washington, and EPA's CWA approval of 10 µg/L total arsenic criteria in almost all other western states.

Ecology intended the new total arsenic criteria to supersede the inorganic arsenic human health criteria adopted for the State of Washington by the EPA in the 1992 National Toxics Rule (NTR; 40 CFR 131.36). The EPA's 1992 risk based human health criterion for marine waters is 0.14 µg/L inorganic arsenic, and is based on exposure from fish and shellfish tissue ingestion.

The freshwater criterion is 0.018 µg/L, and is based on exposure from fish and shellfish tissue and surface water ingestion. The 2016 arsenic criteria adopted by Ecology eliminated uncertainties associated with the cancer potency factor used by the EPA in the 1992 NTR arsenic standards. However, the EPA disapproved Ecology's proposed total arsenic criteria in November 2016 and retained the inorganic arsenic human health criteria set in the 1992 NTR. The EPA's Technical Support Document for the approval/disapproval of Washington's Human Health Water Quality Criteria states that the federal agency intends to conduct a toxicological review of inorganic arsenic in 2017. The work has not yet been completed. This toxicological review could lead to an opportunity for Ecology to participate in a national dialogue associated with the update of the arsenic criteria in section 304(a) of the Clean Water Act. Until the EPA inorganic arsenic review is completed, scientific information is updated, and Washington State adopts into rule EPA CWA-approvable new total or inorganic arsenic criteria, the EPA's existing marine and freshwater inorganic arsenic criteria remain in effect at 0.14 and 0.018 µg/L.

The EPA's disapproval of Washington's new total arsenic criteria continues to create several difficulties in the wastewater discharge permitting process. One issue, as mentioned above, involves natural background concentrations of both marine and freshwaters that exceed the criteria. This can be particularly problematic for groundwater-sourced drinking waters with arsenic concentrations above 0.018 µg/L, which then pass through wastewater treatment plants after initial use. In this situation, no implementation tool exists to account for the naturally occurring element in the drinking water source. Intake credits do not apply in this situation because the source water and the receiving water must be the same body of water or proven to be hydraulically connected. Another issue is the lack of a 40 CFR 136-approved analytical method for inorganic arsenic that can be used for compliance assessment.

Evaluation of point source discharges for effluent limit compliance must use 40 CFR 136 methods. The current 40 CFR 136-approved method for arsenic measures the total recoverable portion of the metal, and does not differentiate the inorganic portion. The lack of federally approved translators for inorganic-to-total recoverable arsenic in discharges increases the difficulty in assigning an effluent limitation for discharges to surface waters. Attainment of Washington's inorganic arsenic criteria remains challenging if not improbable.

At best, current treatment technologies may be capable of arsenic removal to approximate concentrations ranging from 0.5- 1 µg/L. The difference between the best available treatment technology and numeric effluent limits based on the criteria creates difficulty for both existing and proposed discharges. Ecology intends to continue to pursue a solution to the regulatory issue of groundwater sources with high arsenic concentrations that would cause treatment plant effluent to exceed effluent limits based on the numeric criteria.

Where numeric effluent limits are infeasible, 40 CFR 122.44(k) provides for the use of best management practices (BMPs) to control or abate the discharge of pollutants. This provision in the federal regulations provides the basis for EFSEC's permitting strategy for inorganic arsenic until the EPA revisits their criteria development procedures and develops site specific total-to-inorganic arsenic translators for individual dischargers.

Components of EFSEC's permitting strategy include permit requirements to monitor for total recoverable arsenic, implementation of source control BMPs, and an adaptive management process to refine BMPs for continuous pollutant minimization. While numeric effluent limits based on the human health inorganic arsenic criteria remain infeasible, Washington NPDES permits will continue to contain numeric effluent limits for arsenic based on best available treatment technology and aquatic life-based criteria as appropriate.

EFSEC evaluated the discharge at Outfall 001 for the potential to exceed the arsenic human health criteria. This evaluation included a review of all total recoverable arsenic data and available dilution. EFSEC determined that there is a potential to exceed the arsenic human health criteria at Outfall 001. The proposed permit requires continued monitoring for total arsenic at Outfall 001, evaluating contributions from chemicals used in cooling tower maintenance, and reviewing quality assurance reports from bulk chemical suppliers to minimize the arsenic levels in the effluent.

I. I. Sediment Quality

The aquatic sediment standards (chapter 173-204 WAC) protect aquatic biota and human health. Under these standards EFSEC may require a facility to evaluate the potential for its discharge to cause a violation of sediment standards (WAC 173-204-400). You can obtain additional information about sediments at the Aquatic Lands Cleanup Unit website. ***http://www.ecy.wa.gov/programs/tcp/smu/sediment.html***

GHEC's discharge of an average 0.44 MGD consists primarily of non-contact cooling water with very low suspended solids concentrations and dissolved and non-dissolved fractions of metals. The metals tend not to bind to the sands and gravels in the river, therefore metals accumulation is not expected to be of concern. After a review of the discharger and effluent characteristics, EFSEC determined that the discharge at Outfall 001 has no reasonable potential to violate the sediment management standards.

Permit Condition S8. requires that GHEC observes the natural conditions and any solids deposition surrounding Outfall 001 during the outfall evaluation and document these observations in the report.

J. J. Groundwater Quality Limits

The groundwater quality standards (chapter 173-200 WAC) protect beneficial uses of groundwater. Permits issued by EFSEC must not allow violations of these standards (WAC 173-200-100).

GHEC discharges its stormwater to C-1 pond which is unlined allowing the stormwater to infiltrate into the ground. The stormwater monitoring data for Outfall 002B in Table 4 was compared to the Groundwater Quality Standards. Overall, the stormwater data was below the groundwater quality criteria except on one occasion when pH was lower than the minimum groundwater quality criteria of 6.5. GHEC is required to continue to monitor their stormwater quarterly throughout the next permit term.

EFSEC will evaluate the monitoring results at the end of the permit term and determine if limits are required to protect groundwater quality standards.

K. K. Whole Effluent Toxicity

The water quality standards for surface waters forbid discharge of effluent that has the potential to cause toxic effects in the receiving waters. Many toxic pollutants cannot be measured by commonly available detection methods. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. These tests measure the aggregate toxicity of the whole effluent, so this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

- *Acute toxicity tests measure mortality as the significant response* to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests find early indications of any potential lethal effect of the effluent on organisms in the receiving water.
- *Chronic toxicity tests measure various sublethal toxic responses,* such as reduced growth or reproduction. Chronic toxicity tests often involve either a complete life cycle test on an organism with an extremely short life cycle, or a partial life cycle test during a critical stage of a test organism's life. Some chronic toxicity tests also measure survival.

Laboratories accredited by Ecology for WET testing know how to use the proper WET testing protocols, fulfill the data requirements, and submit results in the correct reporting format. Accredited laboratory staff know how to calculate an NOEC, LC50, EC50, IC25, etc. Ecology gives all accredited labs the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* (https://fortress.wa.gov/ecy/publications/SummaryPages/9580.html) which is referenced in the permit. EFSEC recommends that each regulated facility send a copy of the acute or chronic toxicity sections(s) of its NPDES permit to the laboratory.

During the previous permit term, the facility conducted effluent characterization for acute and chronic toxicity in 2010 and 2012, respectively (https://fortress.wa.gov/ecy/paris/PermitLookup.aspx). Table 11 shows that all test results for Outfall 001 met the performance standards.

Table 11 WET Testing Summary for Outfall 001

Test Date	Test	Organism	Endpoint	NOEC	LOEC
9/20/2010	Acute	*Ceriodaphnia dubia*	48-Hour Survival	100%	>100%
		Water Flea			
9/20/2010	Acute	*pimephales promelas*	96-Hour Survival	100%	>100%
		Fathead Minnow			
9/20/2010	Chronic	*Ceriodaphnia dubia*	7 Day Survival	100%	>100%
		Water Flea	7 Day Reproduction	100%	>100%
9/20/2010	Chronic	*pimephales promelas*	7 Day Survival	100%	>100%
		Fathead Minnow	7 Day Biomass	100%	>100%
			7 Day Weight	100	>100%

Test Date	Test	Organism	Endpoint	NOEC	LOEC
9/30/2010	Chronic	*selenastrum*	96-Hour Cell Density	100%	>100%
		Green Algae			
8/14/2012	Acute	*Ceriodaphnia dubia*	48-Hour Survival	100%	>100%
		Water Flea			
8/14/2012	Acute	*pimephales promelas*	96-Hour Survival	100%	>100%
		Fathead Minnow			
8/14/2012	Chronic	*Ceriodaphnia dubia*	7 Day Survival	100%	>100%
		Water Flea	7 Day Reproduction	100%	>100%
8/14/2012	Chronic	*pimephales promelas*	7 Day Survival	100%	>100%
		Fathead Minnow	7 Day Biomass	100%	>100%
			7 Day Weight	100%	>100%
8/14/2012	Chronic	*selenastrum*	96-Hour Cell Density	100%	>100%
		Green Algae			

The previous permit required GHEC to conduct WET testing for one year to characterize both the acute and chronic toxicity of the effluent at Outfall 001. GHEC was only able to complete part of the characterization requirements as they were only operating intermittently during this time period. GHEC facility operating schedule depends upon the market demand for its power. Typically, the GHEC facility operates intermittently between June and February, although this timeframe can vary from year to year.

The proposed permit requires GHEC to repeat the characterization of the effluent at Outfall 001 for acute and chronic toxicity. The effluent must be sampled quarterly. If there is no discharge during the required quarter, GHEC must notify EFSEC and Ecology and conduct sampling on the next representative discharge that occurs in the following quarter.

L. L. Comparison of Effluent Limits with the Previous Permit.

Table 12 Comparison of Previous and Proposed Effluent Limits

		Previous Effluent Limits: Outfall # 001		Proposed Effluent Limits: Outfall # 001	
Parameter	**Basis of Limit**	**Average Monthly**	**Maximum Daily**	**Average Monthly**	**Maximum Daily**
Temperature	Site Certification Agreement	--	16 °C	--	16 °C
Ammonia	Performance-based	160 mg/L	321 mg/L	--	--
Total Suspended Solids (TSS)	Technology-based	30 mg/L	100 mg/L	30 mg/L	100 mg/L
Free Available Chlorine	Technology-based and BPJ	0.2 mg/L	0.5 mg/L	--	0.2 mg/L

Table 12 Comparison of Previous and Proposed Effluent Limits

		Previous Effluent Limits: Outfall # 001		Proposed Effluent Limits: Outfall # 001	
Parameter	**Basis of Limit**	**Average Monthly**	**Maximum Daily**	**Average Monthly**	**Maximum Daily**
Oil and Grease	Technology-based	15 mg/L	20 mg/L	15 mg/L	20 mg/L
Chromium, Total	Technology-based	0.2 mg/L	0.2 mg/L	--	0.2 mg/L
Iron, Total	Technology-based	1.0 mg/L	1.0 mg/L	--	--
pH	Technology-based	6 – 9 SU		6 – 9 SU	
Priority Pollutants and PCBs	Technology-based and BPJ	Non-detect		Non-detect	

	Previous Stormwater Benchmarks: Outfall 002B		Proposed Stormwater Benchmarks: Outfall 002B	
Parameter	**Average Monthly**	**Maximum Daily**	**Average Monthly**	**Maximum Daily**
Turbidity	--	25 NTU	--	--
Oil and Grease	--	15 mg/l	--	--
Zinc, Total	--	117 µg/l	--	--
Copper, Total	--	14 µg/l	--	--
pH	6 – 9 SU		--	

IV. Monitoring Requirements

EFSEC requires monitoring, recording, and reporting (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's effluent limits.

If a facility uses a contract laboratory to monitor wastewater, it must ensure that the laboratory uses the methods and meets or exceeds the method detection levels required by the permit. The permit describes when facilities may use alternative methods. It also describes what to do in certain situations when the laboratory encounters matrix effects.

When a facility uses an alternative method as allowed by the permit, it must report the test method, detection level (DL), and quantitation level (QL) on the discharge monitoring report or in the required report.

A. A. Wastewater Monitoring

The monitoring schedule for Outfalls 001 and 002B is detailed in the proposed permit under Special Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

EPA distributed guidance in April of 1996 entitled, "Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies". EPA's goal was to reduce the regulatory burden associated with monitoring and reporting on the basis of excellent performance. The guidance provides a tool to evaluate a facility's performance.

EFSEC may reduce monitoring frequency by examining the performance of a discharge. The amount of reduction is dependent upon the ratio of the long term effluent average to the monthly average effluent limit.

Total Suspended Solids, turbidity, Oil & Grease, Total Residual Chlorine, ammonia, chromium, and iron data for Outfall 001 were evaluated using the EPA guidance.
In addition to using the approach recommended in the guidance, maximum values were also compared with the daily maximum permit limits. Table 13 summarizes the performance of the parameters monitored at Outfall 001 for the last three years (See **Appendix E**) and the current, recommended, and proposed monitoring frequencies.

EFSEC is proposing to retain the monitoring of Free Available Chlorine to compare to a new water quality-based effluent limit to ensure compliance with the Total Residual Chlorine water quality standard. EFSEC is proposing to reduce the frequency of chromium monitoring based upon the evaluation below. EFSEC is proposing to remove the ammonia and iron limits from the previous permit and reduce the frequency of monitoring for these parameters based on the reasonable potential analysis and performance of the facility during the last 3 years (See **Appendix F**). GHEC is required to monitor turbidity, ammonia, and iron annually with other priority pollutants.

Table 13 Monitoring Frequency Reduction Evaluation

Parameter Name	Ratio of LTEA / AML	EPA Guidance	Current Permit	Proposed Permit
Free & Available Chlorine	18%	1/6 months	Continuous	Continuous
TSS	21%	1/6 months	1/month	1/month
Turbidity	11%	1/6 months	1/month	1/year
Chromium	40%	Quarterly	1/month	Quarterly
Oil & Grease	8%	1/6 months	1/month	1/month
Ammonia	22%	1/6 months	1/month	1/year
Iron	8%	1/6 months	1/month	1/year

Parameter Name	Ratio of LTEA / AML	EPA Guidance	Current Permit	Proposed Permit
Arsenic, Total			1/month	1/month

B. B. Lab Accreditation

EFSEC requires that facilities use a laboratory registered or accredited under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories, to prepare all monitoring data (with the exception of certain parameters). GHEC sends their final effluent and stormwater samples to the ALS Environmental Lab. Ecology has accredited the ALS Environmental Lab for: Total Residual Chlorine, TSS, turbidity, ammonia, chromium, oil & grease, arsenic, iron, zinc, and copper. GHEC submitted the Laboratory DMR-QA Evaluation Study 38 to Ecology on August 16, 2018.

C. C. Effluent Limits which are Near Detection or Quantitation Levels

The water quality-based effluent concentration limits in the permit are near the limits of current analytical methods to detect or accurately quantify. The method detection level (MDL), also known as detection level (DL), is the minimum concentration of a pollutant that a laboratory can measure and report with a 99 percent confidence that its concentration is greater than zero (as determined by a specific laboratory method). The quantitation level (QL) is the level at which a laboratory can reliably report concentrations with a specified level of error. Estimated concentrations are the values between the DL and the QL. EFSEC requires permitted facilities to report estimated concentrations.
When reporting maximum daily effluent concentrations, EFSEC requires the facility to report "less than X" where X is the required detection level if the measured effluent concentration falls below the detection level.

V. Other Permit Conditions

A. A. Reporting and Record Keeping

EFSEC based Special Condition S3 on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 173-220-210).

B. B. Spill Plan

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution if accidentally released. EFSEC can require a facility to develop best management plans to prevent this accidental release [Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

GHEC developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the facility to update this plan and submit it to EFSEC.

C. C. Solid Waste Control Plan

GHEC could cause pollution of the waters of the state through inappropriate disposal of solid waste or through the release of leachate from solid waste.

This proposed permit requires that the facility update the solid waste control plan designed to prevent solid waste from causing pollution of waters of the state. The facility must submit the updated plan to EFSEC for approval (RCW 90.48.080). Ecology's guidance document, which describes how to develop a Solid Waste Control Plan, can be obtained at: ***http://www.ecy.wa.gov/pubs/0710024.pdf***

D. D. Outfall Evaluation

The proposed permit requires that GHEC conduct an outfall inspection and submit a report detailing the findings of that inspection (Special Condition S.8.). The inspection must evaluate the physical condition of the discharge pipe and diffuser, and evaluate the extent of sediment accumulation in the vicinity of the outfall.

E. E. Operation and Maintenance Manual

EFSEC requires industries to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state and federal regulations [40 CFR 122.41(e) and WAC 463-76-053]. The facility will prepare and submit an operation and maintenance manual as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150). Implementation of the procedures in the operation and maintenance manual ensure the facility's compliance with the terms and conditions in the permit.

F. F. General Conditions

EFSEC bases the standardized General Conditions on state and federal law and regulations. They are included in all individual industrial NPDES permits issued by EFSEC.

VI. Permit Issuance Procedures

A. A. Permit Modifications

EFSEC may modify this permit to impose numerical limits, if necessary to comply with water quality standards for surface waters, with sediment quality standards, or with water quality standards for groundwater, after obtaining new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.
EFSEC may also modify this permit to comply with new or amended state or federal regulations.

B. B. Proposed Permit Issuance

This proposed permit includes all statutory requirements for EFSEC to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the state of Washington. EFSEC proposes to issue this permit for a term of 5 years.

VII. References for Text and Appendices

Environmental Protection Agency (EPA)

2016. Revision of Certain Federal Water Quality Criteria Applicable to Washington. Federal Register, V. 81, No. 228, Monday, November 28, 2016.

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1985. *Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water*. EPA/600/6-85/002a.

1983. *Water Quality Standards Handbook*. USEPA Office of Water, Washington, D.C.

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Washington State Department of Ecology

January 2015. *Permit Writer's Manual*. Publication Number 92-109 *(https://fortress.wa.gov/ecy/publications/SummaryPages/92109.html)*

September 2011. *Water Quality Program Guidance Manual – Supplemental Guidance on Implementing Tier II Antidegradation*. Publication Number 11-10-073 *(https://fortress.wa.gov/ecy/publications/summarypages/1110073.html)*

October 2010 (revised). *Water Quality Program Guidance Manual – Procedures to Implement the State's Temperature Standards through NPDES Permits*. Publication Number 06-10-100 *(https://fortress.wa.gov/ecy/publications/summarypages/0610100.html)*

Laws and Regulations (*http://www.ecy.wa.gov/laws-rules/index.html*)

Permit and Wastewater Related Information *(http://www.ecy.wa.gov/programs/wq/permits/guidance.html)*

February 2007. *Focus Sheet on Solid Waste Control Plan, Developing a Solid Waste Control Plan for Industrial Wastewater Discharge Permittees*, Publication Number 07-10-024. *http://www.ecy.wa.gov/pubs/0710024.pdf*

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Appendix A--Public Involvement Information

EFSEC tentatively plans to reissue a permit to GHEC. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and EFSEC's reasons for requiring permit conditions.

EFSEC will publish a Public Notice of Draft on April 23, 2019 in The Olympian and in the Vidette on April 25, 2019 to inform the public that a draft permit and fact sheet are available for review. Interested parties were mailed the notice on April XX, 2019 and are invited to submit written comments regarding the draft permit. The NPDES Permit and Permit Fact Sheet are available for public comment. These documents may be viewed at the EFSEC website: ***https://www.efsec.wa.gov/energy-facilities/grays-harbor-energy-center/grays-harbor-energy-center-permits.*** The draft permit, fact sheet, and related documents are also available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at EFSEC's office listed below.

Written comments should be mailed to:

Amí Kidder
Energy Facility Site Evaluation Council
PO Box 43172
Olympia, Washington 98504-3172

Any interested party may comment on the draft permit within the 30-day comment period to the address above. Comments should reference specific text in the permit followed by proposed modifications or concerns when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other content that would result from issuance of this permit. If changes to the schedule are necessary, EFSEC will notify the public as soon as possible.

EFSEC will consider all comments received by 5:00pm on May 21, 2019 in formulating a final determination to issue, revise, or deny the permit. EFSEC will provide a response to comments received at the time notice of the final permit decisions is provided.

Further information may be obtained from EFSEC by telephone at (360) 664-1345, or at the EFSEC website at ***www.efsec.wa.gov***.

Questions regarding the proposed permit and fact sheet may be directed to Amí Kidder of EFSEC at (360) 664-1305 or by email at ami.kidder@utc.wa.gov.

Appendix B--Your Right to Appeal

The terms and conditions of coverage under this permit are subject to judicial review pursuant to RCW 34.05 (WAC 463-76-063). EFSEC's reissuance, modification, or revocation of the permit is subject to these same provisions.

Appendix C--Glossary

1-DMax or 1-day maximum temperature -- The highest water temperature reached on any given day. This measure can be obtained using calibrated maximum/minimum thermometers or continuous monitoring probes having sampling intervals of thirty minutes or less.

7-DADMax or 7-day average of the daily maximum temperatures -- The arithmetic average of seven consecutive measures of daily maximum temperatures. The 7-DADMax for any individual day is calculated by averaging that day's daily maximum temperature with the daily maximum temperatures of the three days prior and the three days after that date.

Acute toxicity --The lethal effect of a compound on an organism that occurs in a short time period, usually 48 to 96 hours.

AKART -- The acronym for "all known, available, and reasonable methods of prevention, control and treatment." AKART is a technology-based approach to limiting pollutants from wastewater discharges, which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate point of compliance -- An alternative location in the groundwater from the point of compliance where compliance with the groundwater standards is measured. It may be established in the groundwater at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An "early warning value" must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ambient water quality -- The existing environmental condition of the water in a receiving water body.

Ammonia -- Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Annual average design flow (AADF) -- average of the daily flow volumes anticipated to occur over a calendar year.

Average monthly (intermittent) discharge limit-- The average of the measured values obtained over a calendar months' time taking into account zero discharge days.

Average monthly discharge limit -- The average of the measured values obtained over a calendar months' time.

Background water quality -- The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of groundwater at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95% upper tolerance interval with a 95% confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best management practices (BMPs) -- Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state.

BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD5 -- Determining the five-day Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD5 is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD_5 is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass -- The intentional diversion of waste streams from any portion of a treatment facility.

Categorical pretreatment standards -- National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties, which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Chlorine -- A chemical used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic toxicity -- The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean water act (CWA) -- The federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance inspection-without sampling -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance inspection-with sampling -- A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition it includes as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. ECOLOGY may conduct additional sampling.

Composite sample -- A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction activity -- Clearing, grading, excavation, and any other activity, which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous monitoring -- Uninterrupted, unless otherwise noted in the permit.

Critical condition -- The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Date of receipt – This is defined in RCW 43.21B.001(2) as five business days after the date of mailing; or the date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence. The recipient's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the agency, constitutes sufficient evidence of actual receipt. The date of actual receipt, however, may not exceed forty-five days from the date of mailing.

Detection limit -- The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the pollutant concentration is above zero and is determined from analysis of a sample in a given matrix containing the pollutant.

Dilution factor (DF) -- A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, for example, a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Distribution uniformity -- The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Early warning value -- The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, groundwater, surface water, the vadose zone or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement limit -- The concentration assigned to a contaminant in the groundwater at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a groundwater criterion will not be exceeded and that background water quality will be protected.

Engineering report -- A document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal coliform bacteria -- Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab sample -- A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Groundwater -- Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Industrial user -- A discharger of wastewater to the sanitary sewer that is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial wastewater -- Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated stormwater and, also, leachate from solid waste facilities.

Interference -- A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
- Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local limits -- Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Major facility -- A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum daily discharge limit -- The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Maximum day design flow (MDDF) -- The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

Maximum month design flow (MMDF) -- The largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

Maximum week design flow (MWDF) -- The largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

Method detection level (MDL) -- See Detection Limit.

Minor facility -- A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing zone -- An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The permit specifies the area of the authorized mixing zone that ECOLOGY defines following procedures outlined in state regulations (chapter 173-201A WAC).

National pollutant discharge elimination system (NPDES) -- The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH -- The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7 is defined as neutral and large variations above or below this value are considered harmful to most aquatic life.

Pass-through -- A discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

Peak hour design flow (PHDF) -- The largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

Peak instantaneous design flow (PIDF) -- The maximum anticipated instantaneous flow.

Point of compliance -- The location in the groundwater where the enforcement limit must not be exceeded and a facility must comply with the Ground Water Quality Standards. ECOLOGY determines this limit on a site-specific basis. ECOLOGY locates the point of compliance in the groundwater as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless it approves an alternative point of compliance.

Potential significant industrial user (PSIU) --A potential significant industrial user is defined as an Industrial User that does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

ECOLOGY may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation level (QL) -- Also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte.

It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer. (64 FR 30417).

ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

Reasonable potential -- A reasonable potential to cause a water quality violation, or loss of sensitive and/or important habitat.

Responsible corporate officer -- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sample Maximum -- No sample may exceed this value.

Significant industrial user (SIU) --

1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;

2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process waste stream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].
Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.
*The term "Control Authority" refers to the Washington State Department of ECOLOGY in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug discharge -- Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate that may cause interference or pass through with the POTW or in any way violate the permit conditions or the POTW's regulations and local limits.

Soil scientist -- An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Solid waste -- All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

Soluble BOD_5 -- Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD_5 test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD_5 test is sufficient to remove the particulate organic fraction.

State waters -- Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based effluent limit -- A permit limit based on the ability of a treatment method to reduce the pollutant.

Total coliform bacteria--A microbiological test, which detects and enumerates the total coliform group of bacteria in water samples.

Total dissolved solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total maximum daily load (TMDL) --A determination of the amount of pollutant that a water body can receive and still meet water quality standards.

Total suspended solids (TSS) -- Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Upset -- An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee.

An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water quality-based effluent limit -- A limit imposed on the concentration of an effluent parameter to prevent the concentration of that parameter from exceeding its water quality criterion after discharge into receiving waters.

Appendix D--Technical Calculation

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found in the PermitCalc workbook on ECOLOGY's webpage at: *http://www.ecy.wa.gov/programs/wq/permits/guidance.html.*

Simple Mixing:

ECOLOGY uses simple mixing calculations to assess the impacts of certain conservative pollutants, such as the expected increase in fecal coliform bacteria at the edge of the chronic mixing zone boundary. Simple mixing uses a mass balance approach to proportionally distribute a pollutant load from a discharge into the authorized mixing zone. The approach assumes no decay or generation of the pollutant of concern within the mixing zone. The predicted concentration at the edge of a mixing zone (C_{mz}) is based on the following calculation:

$$C_{mz} = Ca + \frac{(Ce - Ca)}{DF}$$

where: Ce = Effluent Concentration
Ca = Ambient Concentration
DF = Dilution Factor

Reasonable Potential Analysis:

The spreadsheets Input 2 – Reasonable Potential, and LimitCalc in ECOLOGY's PermitCalc Workbook determine reasonable potential (to violate the aquatic life and human health water quality standards) and calculate effluent limits. The process and formulas for determining reasonable potential and effluent limits in these spreadsheets are taken directly from the *Technical Support Document for Water Quality-based Toxics Control*, (EPA 505/2-90-001). The adjustment for autocorrelation is from EPA (1996a), and EPA (1996b).

Calculation of Water Quality-Based Effluent Limits:

Water quality-based effluent limits are calculated by the two-value wasteload allocation process as described on page 100 of the TSD (EPA, 1991) and shown below.

1. Calculate the acute wasteload allocation WLA_a by multiplying the acute criteria by the acute dilution factor and subtracting the background factor. Calculate the chronic wasteload allocation (WLA_c) by multiplying the chronic criteria by the chronic dilution factor and subtracting the background factor.

WLA_a = (acute criteria x DF_a) – [(background conc. x (DF_a - 1)]
WLA_c = (chronic criteria x DF_c) – [(background conc. x (DF_c -1)]
where: DF_a = Acute Dilution Factor
DF_c = Chronic Dilution Factor

2. Calculate the long term averages (LTA_a and LTA_c) which will comply with the wasteload allocations WLA_a and WLA_c.

$LTA_a = WLA_a \times e^{[0.5\square^2 - z\square]}$

where: $\square^2 = \ln[CV^2 + 1]$

$z = 2.326$

CV = coefficient of variation = std. dev/mean

$LTA_c = WLA_c \times e^{[0.5\square^2 - z\square]}$

where: $\square^2 = \ln[(CV^2 \square\ 4) + 1]$

$z = 2.326$

3. Use the smallest LTA of the LTA_a or LTA_c to calculate the maximum daily effluent limit and the monthly average effluent limit.

MDL = Maximum Daily Limit

$MDL = LTA \times e^{(z\sigma - 0.5\sigma^2)}$

where: $\square^2 = \ln[CV^2 + 1]$

$z = 2.326$ (99th percentile occurrence)

LTA = Limiting long term average

AML = Average Monthly Limit

$AML = LTA \times e^{(z\sigma_n - 0.5\sigma_n^2)}$

where: $\square^2 = \ln[(CV^2 \div n) + 1]$

n = number of samples/month

$z = 1.645$ (95^{th} % occurrence probability)

LTA = Limiting long term average

PROCESS WATER EFFLUENT: OUTFALL 00

Parameter	Ammonia (Total)	Ammonia (Total)	Arsenic (Total)	Chromium (Tota		Temperature	Turbidity
Units	(mg/L)	(mg/L)	(ug/L)	(ug/L)	(mg/L)	Degrees C	NTU
Statistical Base	Average Monthly	Daily Maximum	Daily Maximum	Average Monthlmum		Daily Maximum	Daily Maximum
Limits	160	321		200		16	
Date							
10/1/2015	0.2	0.2	19	4.6		16	1.31
11/1/2015	0.2	0.2	21.8	4.38		13	1.85
12/1/2015	0.2	0.2	19.4	2.98		13	2.16
1/1/2016	0.2	0.2	20	4.01		14	1.5
2/1/2016	0.2	0.2	24.2	4.52		14	0.73
3/1/2016	0.2	0.2	30	4.51		13	1.72
4/1/2016	0.2	0.2	35.1	4.1		15.1	3.51
5/1/2016	0.2	0.2	27.4	14.5		16	2.91
6/1/2016	0.2	0.2	22.5	6.93		14	3.22
7/1/2016	0.2	0.2	25.4	6.84		15	1.47
8/1/2016	0.2	0.2	10.5	3.58		15	1.24
9/1/2016	0.2	0.2	17.7	3.5		15	0.78
10/1/2016	0.2	0.2	22.1	4.45		15	0.51
11/1/2016	0.2	0.2	64.9	9.67		15	1.54
12/1/2016	0.2	0.2	41.9	8.3		15	3.93
1/1/2017	0.2	0.2	28.7	7.59		15	6.59
2/1/2017	0.2	0.2	12.7	5		15	3.91
3/1/2017	0.2	0.2	19.6	13		13	6.57
4/1/2017	0.2	0.2	16	11		11	25
5/1/2017	0.009	0.009	12.5	7.42		14	3.6
6/1/2017	0.02	0.02	5.64	5.27		15	3.61
7/1/2017	0.2	0.2	3.52	2.73		14	1.04
8/1/2017	0.2	0.2	3.17	2.15		15.5	1.91
9/1/2017	0.2	0.2	4	2		15.6	2
10/1/2017	0.2	0.2	3	2		14	0.2
11/1/2017	0	0	3	2		14	0.4
12/1/2017	0.02	0.02	4	2		15	0.6
1/1/2018	0.01	0.01	3	2		15	0.3
2/1/2018	0.2	0.2	5	3		14	0.5
3/1/2018	0.02	0.02	4	3		15	0.3
4/1/2018	0.1	0.2	4	3		15	1
5/1/2018	0.2	0.2	4	3		15.6	2
6/1/2018	0.2	0.2	5	4		14	2
7/1/2018	0.2	0.2	3	2		15	2
Min	0	0	3	2		11	0.2
Max	0.2	0.2	64.9	14.5		16	25
Average	0.16	0.17	16.05	4.97		14.49	2.70
Median	0.20	0.20	14.35	4.06		15.00	1.79
95th Percentile	0.20	0.20	37.48	11.70		15.74	6.58

STORMWATER: OUTFALL 002B

Parameter	Copper (Total)	Oil & Grease	pH	pH
Units	(ug/L)	Yes/No	SU	SU
Benchmarks	14	NVS	9	6
Date				
10/1/2015	23.1	No	8.2	7.12
1/1/2016	2.3	No	7.39	7.39
7/1/2016	5.96	No	7.16	7.16
10/1/2016	3.04	No	7.2	7.2
1/1/2017	6.57	No	6.96	6.96
4/1/2017	6.38	No	7.56	7.56
10/1/2017	12	No	6.4	6.4
1/1/2018	1	No	8	7.5
4/1/2018	3	No	7.2	7.2
Min	1	0	6.4	6.4
Max	23.1	0	8.2	7.56
Average	7.04	#DIV/0!	7.34	7.17
Median	5.96	#NUM!	7.2	7.2
95th Percentile	18.66	#NUM!	8.12	7.536

Appendix F—Reasonable Potential Analysis

Instructions

Reasonable Potential Calculation

Facility	Grays Harbor Energy Center
Water Body Type	Freshwater
Rec. Water Hardness	Acute=104.5, Chronic=38.6 mg/L

Dilution Factors:	Acute	Chronic
Aquatic Life	4.0	51.0
Human Health Carcinogenic		67.0
Human Health Non-Carcinogenic		67.0

Pollutant, CAS No. & NPDES Application Ref. No.			AMMONIA, Criteria as Total NH3	ALUMINUM, total recoverable, pH 6.5-9.0 7429906	ANTIMONY (INORGANIC) 7440360 1M	ARSENIC (dissolved) 7440382 2M	CHLORINE (Total Residual) 7782505	CHLOROFORM 67663 11V	COPPER - 744058 6M Hardness dependent	CYANIDE 57125 14M	DIETHYLPHTHALATE 84662 24B	DI-n-BUTYL PHTHALATE 84742 26B	IRON 7439896
Effluent Data	# of Samples (n)		35	3	3	18	658	3	19	3	3	3	19
	Coeff of Variation (Cv)		0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, ug/L (Max. or 95th Percentile)		110	11.1	1.49	3.46	75	1.6	1.18	3	0.068	0.083	39
	Calculated 50th percentile Effluent Conc. (when n>10)												
Receiving Water Data	90th Percentile Conc., ug/L		28						2.34				
	Geo Mean, ug/L												
Water Quality Criteria	Aquatic Life Criteria, ug/L	Acute	#DIV/0!	750	-	360	19	-	17.73681	22	-	-	-
		Chronic	#DIV/0!	87	-	190	11	-	5.033199	5.2	-	-	1000
	WQ Criteria for Protection of Human Health, ug/L		-	-	6	-	-	100	1300	9	200	8	300
	Metal Criteria Translator, decimal	Acute	-	-	-	1	-	-	0.996	-	-	-	-
		Chronic	-	-	-	1	-	-	0.996	-	-	-	-
	Carcinogen?		N	N	N	Y	N	Y	N	N	N	N	N

Aquatic Life Reasonable Potential

Effluent percentile value			0.950	0.950		0.950	0.950		0.950	0.950		0.950
s	$s^2=\ln(CV^2+1)$		0.555	0.555		0.555	0.555		0.555	0.555		0.555
Pn	$Pn=(1\text{-confidence level})^{1/n}$		0.918	0.368		0.847	0.995		0.854	0.368		0.854
Multiplier			1.00	3.00		1.41	1.00		1.39	3.00		1.39
Max concentration (ug/L) at edge of...		Acute	49	8.324		1.222	18.750		2.163	2.250		13.53
		Chronic	30	0.653		0.096	1.471		2.326	0.176		1.06
Reasonable Potential? Limit Required?			#DIV/0!	NO		NO	NO		NO	NO		NO

Aquatic Life Limit Calculation

Waste Load Allocations, ug/L		Acute										
		Chronic										
		Acute										
		Chronic										
Limiting LTA, ug/L												
Average Monthly Limit (AML), ug/L												
Maximum Daily Limit (MDL), ug/L												

Human Health Reasonable Potential

s	$s^2=\ln(CV^2+1)$	0.554513	0.554513	0.554513	0.55451	0.55451	0.55451	0.554513029
Pn	$Pn=(1\text{-confidence level})1/n$	0.368	0.368	0.854	0.368	0.368	0.368	0.854
Multiplier		1.204861	1.204861	0.55731	1.20486	1.20486	1.20486	0.557310087
Dilution Factor		67	67	67	67	67	67	67
Max Conc. at edge of Chronic Zone, ug/L		0.026795	2.9E-02	9.8E-03	0.05395	0.00122	0.00149	0.324404379
Reasonable Potential? Limit Required?		NO	NO	NO	NO	NO	NO	NO

Human Health Limit Calculation

# of Compliance Samples Expected per Month												
Average Monthly Effluent Limit, ug/L												
Maximum Daily Effluent Limit, ug/L												

Comments/Notes:

References: WAC 173-201A.

Technical Support Document for Water Quality-based Toxics Control, US EPA, March 1991, EPA/505/2-90-001, pages 56/99

Override formatting & show Aq. Life Limit Calc?		N	N	N	N	N	N	N	N	N	N	N
Override formatting & show HH Limit Calc?		N	N	N	N	N	N	N	N	N	N	N

Instructions

Reasonable Potential Calculation - Page 2

Facility	Grays Harbor Energy Center
Water Body Type	Freshwater
Rec. Water Hardness	Acute=104.5, Chronic=38.6 mg/L

Dilution Factors:	Acute	Chronic
Aquatic Life	4.0	51.0
Human Health Carcinogenic		67.0
Human Health Non-Carcinogenic		67.0

Pollutant, CAS No. & NPDES Application Ref. No.		LEAD - 7439921 7M Dependent on hardness	MANGANESE 7439965	MERCURY 7439976 8M	NICKEL - 7440020 9M - Dependent on hardness	NITRATE/NITRITE (N)	SELENIUM 7782492 10M	ZINC- 7440666 13M hardness dependent				
Effluent Data	# of Samples (n)	3	3	19	3	3	3	17				
	Coeff of Variation (Cv)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Effluent Concentration, ug/L (Max. or 95th Percentile)	0.057	1.12	0.0101	1.16	7560	1.3	2.7				
	Calculated 50th percentile Effluent Conc. (when n>10)											
Receiving Water Data	90th Percentile Conc., ug/L	0.18		0	1.1		0.16	2.28				
	Geo Mean, ug/L											
Water Quality Criteria	Aquatic Life Criteria, ug/L Acute	67.7496	-	2.1	1469.11	-	20	118.7963				
	Aquatic Life Criteria, ug/L Chronic	0.88067	-	0.012	70.2682	-	5	46.65938				
	WQ Criteria for Protection of Human Health, ug/L	-	50	0.14	80	10000	60	1000				
	Metal Criteria Translator, decimal Acute	0.466	-	0.85	0.998	-	-	0.996				
	Metal Criteria Translator, decimal Chronic	0.466	-	-	0.997	-	-	0.996				
	Carcinogen?	N	N	N	N	N	N	N				

Aquatic Life Reasonable Potential

Effluent percentile value		0.950		0.950	0.950		0.950	0.950			
s	$s^2=\ln(CV^2+1)$	0.555		0.555	0.555		0.555	0.555			
Pn	$Pn=(1\text{-confidence level})^{1/n}$	0.368		0.854	0.368		0.368	0.838			
Multiplier		3.00		1.39	3.00		3.00	1.44			
Max concentration (ug/L) at edge of...	Acute	0.155		0.003	1.693		1.095	2.678			
	Chronic	0.178		0.000	1.146		0.233	2.311			
Reasonable Potential? Limit Required?		**NO**		**NO**	**NO**		**NO**	**NO**			

Aquatic Life Limit Calculation

# of Compliance Samples Expected per month											
LTA Coeff. Var. (CV) - decimal											
Permit Limit Coeff. Var. (CV) - decimal											
Waste Load Allocations, ug/L	Acute										
	Chronic										
Long Term Averages, ug/L	Acute										
	Chronic										
Limiting LTA, ug/L											
Metal Translator or 1.0											
Average Monthly Limit (AML), ug/L											
Maximum Daily Limit (MDL), ug/L											

Human Health Reasonable Potential

s	$s^2=\ln(CV^2+1)$	0.55451	0.554513	0.55451	0.554513	0.554513	0.554513
Pn	$Pn=(1\text{-confidence level})1/n$	0.368	0.854	0.368	0.368	0.368	0.838
Multiplier		1.20486	0.55731	1.20486	1.204861	1.204861	0.578173
Dilution Factor		67	67	67	67	67	67
Max Conc. at edge of Chronic Zone, ug/L		0.02014	8.4E-05	0.02086	135.9514	2.3E-02	2.3E-02
Reasonable Potential? Limit Required?		**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Human Health Limit Calculation

# of Compliance Samples Expected per month	
Average Monthly Effluent Limit, ug/L	
Maximum Daily Effluent Limit, ug/L	

Comments/Notes:

References: WAC 173-201A,
Technical Support Document for Water Quality-based Toxics Control, US EPA, March 1991, EPA/505/2-90-001, pages 56/99

Override formatting & show Aq. Life Limit Calc?	N	N	N	N	N	N	N	N	N	N	N
Override formatting & show HH Limit Calc?	N	N	N	N	N	N	N	N	N	N	N

Freshwater Temperature Reasonable Potential and Limit Calculation

Based on WAC 173-201A-200(1)(c)(i)--(ii) and the Water Quality Program Guidance. All data inputs must meet WQ guidelines. The Water Quality temperature guidance document may be found at: https://fortress.wa.gov/ecy/publications/summarypages/0610100.html

	Core Summer Critera	Supplemental Criteria
INPUT	**July 1-Sept 14**	**Sept 15-July 1**
1. Chronic Dilution Factor at Mixing Zone Boundary	51.0	51.0
2. 7DADMax Ambient Temperature (T) (Upstream Background 90th percentile)	19.5 °C	19.5 °C
3. 7DADMax Effluent Temperature (95th percentile)	15.7 °C	15.7 °C
4. Aquatic Life Temperature WQ Criterion in Fresh Water	17.5 °C	17.5 °C
OUTPUT		
5. Temperature at Chronic Mixing Zone Boundary:	19.4 °C	19.4 °C
6. Incremental Temperature Increase or decrease:	-0.1 °C	-0.1 °C
7. Maximum Allowable Incremental Temperature Increase:	0.3 °C	0.3 °C
8. Maximum Allowable Temperature at Mixing Zone Boundary:	19.8 °C	19.8 °C
A. If ambient temp is warmer than WQ criterion		
9. Does temp fall within this warmer temp range?	YES	YES
10. Temperature Limit if Required:	NO LIMIT	NO LIMIT
B. If ambient temp is cooler than WQ criterion but within 28/(T_{amb}+7) and within 0.3 °C of the criterion		
11. Does temp fall within this incremental temp. range?	---	---
12. Temp increase allowed at mixing zone boundary, if required:	---	---
C. If ambient temp is cooler than (WQ criterion-0.3) but within 28/(T_{amb}+7) of the criterion		
13. Does temp fall within this Incremental temp. range?	---	---
14. Temp increase allowed at mixing zone boundary, if required:	---	---
D. If ambient temp is cooler than (WQ criterion - 28/(T_{amb}+7))		
15. Does temp fall within this Incremental temp. range?	---	---
16. Temp increase allowed at mixing zone boundary, if required:	---	---
RESULTS		
17. Do any of the above cells show a temp increase?	**NO**	**NO**
18. Temperature Limit if Required?	**NO LIMIT**	**NO LIMIT**

Appendix G--Response to Comments

Public Participation

EFSEC published notice of the opportunity to comment on the renewal of this permit at EFSEC website: https://www.efsec.wa.gov/energy-facilities/grays-harbor-energy-center/grays-harbor-energy-center-permits on May 19, 2019. In the notice, EFSEC invited public review of the proposed permit and provided a 30-day public comment period. EFSEC made the draft NPDES permit and fact sheet available for public review and comment beginning on April 20, 2019 before issuing the final permit. The deadline for submittal of electronic and written comments was close of business, May 21, 2019.

During the comment period, EFSEC received written comments from the following entity:

- Grays Harbor Energy Center

Changes were made to the permit and fact sheet to improve clarity and address the comment. The comment and EFSEC's response are presented below. The original comment comprises part of the legal record for this permit. The record is available for public review at EFSEC's office in Olympia, Washington. Anyone interested in reading the full text of the comments or in obtaining a copy of the comment, will need to contact the Public Records Office to make a formal request. Their contact information is provided below:

E-mail: efsec@utc.wa.gov

Mail: Energy Facility Site Evaluation Council, PO Box 43172, Olympia, WA 98504-3172

Comments appear in regular text, followed by EFSEC's response in italicized text.

EFSEC will send a copy of the permit documents and response to comments to each entity who provided comments.

Comment from Grays Harbor Energy Center

There seems to be conflicting requirements between paragraphs 2 and 3 of section S2.D of the draft NPDES permit for flow device calibration. Paragraph 2, Section S2.D of the draft NPDES permit allows for calibrating and maintaining Flow Measurement Devices per the manufacturer's recommendation. However, Paragraph 3, Section S2.D of the draft NPDES permit states "Calibrate continuous monitoring instruments (pH, flow, and temperature) at least monthly…" Grays Harbor Energy Center (GHEC) uses a Badger Meter – Recordall Turbo Series Meter for Outfall 001 Flow Measurement. The user manual for this flow measurement device does not provide a recommended calibration interval. The user manual states that "The accuracy of the Recordall Turbo Series meter is tested at the factory before shipment. However, after a long period of service, it may be necessary to recalibrate a meter".
GHEC currently performs calibration of the flow measurement device on an annual basis, which is a conservative (more frequent) interval than the manufacturer recommends in the user manual. Is the intent for GHEC to perform monthly calibrations of the Outfall 001 flow measurement

device as indicated by Paragraph 3, Section S2.D of the draft NPDES permit? Or, is an annual calibration suitable, based on the manufacturer's recommendation and Paragraph 2, Section S2.D of the draft NPDES permit? GHEC believes that an annual calibration is sufficient and is more frequent than the manufacturer recommends.

Response to Comment:

Permit Condition S2.D.3 was revised to require the continuous flow monitoring instrument to be calibrated at least annually.

Issuance Date: June 19, 2019
Effective Date: July 1, 2019
Expiration Date: June 30, 2024

National Pollutant Discharge Elimination System
Waste Discharge Permit No. WA0024961

State of Washington
Energy Facility Site Evaluation Council
1300 S. Evergreen Park Dr. SW
PO Box 43172
Olympia, WA 98504

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
The State of Washington Energy Facility Siting Law
Chapter 80.50 Revised Code of Washington; and

The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1342 et seq.

Grays Harbor Energy Center
401 Keys Road
Elma, WA 98541

is authorized to discharge in accordance with the Special and General Conditions that follow.

Facility Location: 401 Keys Road Elma, WA 98541 **Treatment Type:** Industrial Watewater **Industrial Type:** Electric Generating Plant	**Receiving Water:** Chehalis River **Discharge Location:** Outfall 001: Latitude 46.972056 Longitude -123.490528 Outfall 002B: Latitude 46.97218333 Longitude -123.48277778 **SIC Code:** 4911

Kathleen Drew
Chair, Energy Facility Site Evaluation Council

Table of Contents

Summary of Permit Report Submittals

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.	Discharge Monitoring Report (DMR)	Monthly	August 15, 2019
S3.A.	Discharge Monitoring Report (DMR)	Quarterly	November 15, 2019
S3.A.	Priority Pollutant Data - Single Sample Discharge Monitoring Report	Annually	April 15, 2020
S3.F.	Reporting Permit Violations	As necessary	
S4.A.a.1	Operations and Maintenance Manual Update	1/permit cycle	January 1, 2020
S4.A.a.2	Operations and Maintenance Manual Review Confirmation Letter	Annually	January 1, 2021
S4.A.c	Treatment System Operating Plan	1/permit cycle	With the permit renewal application by January 1, 2024
S4.B.	Reporting Bypasses	As necessary	
S5.C.	Solid Waste Control Plan Update	1/permit cycle	July 1, 2021
S5.C.	Modification to Solid Waste Plan	As necessary	
S6.A.	Application for Permit Renewal	1/permit cycle	January 1, 2024
S6.B.	Modification for Facility Changes	As necessary	
S7.A.	Spill Plan Update	1/permit cycle, other updates submitted as necessary	July 1, 2021
S8.	Outfall Evaluation Inspection Report	Every other year	Within 90 days of conducting inspection and no later than October 1, 2021
S9.A.2	Acute Toxicity: Characterization Written Report	Quarterly for one year	May 15, 2020

Permit Section	Submittal	Frequency	First Submittal Date
S9.D.3	Acute Toxicity: Compliance Monitoring Reports	As necessary	
S9.E.	Acute Toxicity: Response to noncompliance reporting	As necessary	
S9.E.	Acute Toxicity: TI/TRE Plan	As necessary	
S9.F.4	Acute Toxicity Effluent Test Results - Submit with Permit Renewal Application	Once	January 1, 2024
S10.A.2	Chronic Toxicity: Characterization Written Report	Quarterly for one year	May 15, 2020
S10.D.3	Chronic Toxicity: Compliance Monitoring Reports	As necessary	
S10.E.	Chronic Toxicity: Response to noncompliance reporting	As necessary	
S10.E	Chronic Toxicity: TI/TRE Plan	As necessary	
S10.F.	Chronic Toxicity Effluent Test Results with Permit Renewal Application	Once	January 1, 2024
S11.1	Receiving Water Study Sampling and Quality Assurance Plan	1/permit cycle	June 30, 2021
S11.4	Receiving Water Study Sampling Report	1/permit cycle	January 1, 2024
S12.	Pollutant Minimization Evaluation and Review	At least annually	KEEP RECORDS ON-SITE FOR REVIEW
G1.3	Notice of Change in Authorization	As necessary	
G4.3	Permit Application for Substantive Changes to the Discharge	As necessary	
G5.	Engineering Report for Construction or Modification Activities	As necessary	
G7.2.b	Notice of Permit Transfer	As necessary	
G10.	Duty to Provide Information	As necessary	
G21.	Compliance Schedules	As necessary	

Special Conditions

S1. Discharge Limits

S1.A. Process Wastewater Discharges

All discharges and activities authorized by this permit must be consistent with the terms and conditions of this permit.

The discharge of any of the following pollutants more frequently than, or at a level in excess of that identified and authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date of this permit, the Permittee is authorized to discharge treated process wastewater to the Chehalis River subject to complying with the following limits:

Effluent Limits: Outfall 001 Latitude 46.972056 Longitude -123.490528		
Parameter	**Average Monthly [a]**	**Maximum Daily [b]**
Temperature	--	16° C
Free Available Chlorine	--	0.2 mg/L
Total Suspended Solids (TSS)	30 mg/L	100 mg/L
Oil and Grease	15 mg/L	20 mg/L
Chromium, Total	--	0.2 mg/L
Priority Pollutants and PCBs	Non-Detect	
	Minimum	**Maximum**
pH [d]	6.0 standard units	9.0 standard units

a	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.
b	Maximum daily effluent limit is the highest allowable daily discharge. The daily discharge is the average discharge of a pollutant measured during a calendar day. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged over the day. This does not apply to pH or temperature.
c	Priority pollutants (except copper and zinc) contained in chemicals added for cooling tower maintenance.
d	When pH is continuously monitored, excursions between 5.0 and 6.0, or 9.0 and 10.0 are not considered violations if no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 26 minutes per month. Any excursions below 5.0 and above 10.0 for any length of time are violations. The Permittee must report the instantaneous maximum and minimum pH monthly. Do not average pH values.

S1.B. Mixing Zone Authorization

Mixing Zone for Outfall 001

The paragraph below defines the maximum boundaries of the mixing zones.

Chronic Mixing Zone

The width of the chronic mixing zone is limited to a distance of 65 feet. The length of the chronic mixing zone extends 100 feet upstream and 303 feet downstream of the outfall. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the chronic zone must meet chronic aquatic life criteria and human health criteria.

Acute Mixing Zone

The width of the acute mixing zone is limited to a distance of 6.5 feet in any horizontal direction from the outfall. The length of the acute mixing zone extends 10 feet upstream and 30.3 feet downstream of the outfall. The mixing zone extends from the bottom to the top of the water column. The concentration of pollutants at the edge of the acute zone must meet acute aquatic life criteria.

Available Dilution (dilution factor)	
Acute Aquatic Life Criteria	4
Chronic Aquatic Life Criteria	51
Human Health Criteria - Carcinogen	67
Human Health Criteria - Non-carcinogen	67

S2. Monitoring Requirements

S2.A. Monitoring Schedule

The Permittee must monitor in accordance with the following schedule and the requirements specified in **Appendix A**.

Parameter	Units	Minimum Sampling Frequency	Sample Type
(1) Wastewater Effluent – Outfall 001			
Temperature	Degree Centigrade (°C)	Continuous [a]	Meter
Flow	MGD	Continuous [a]	Meter
pH [b]	Standard Units	Continuous [a]	Meter
Free Available Chlorine	mg/L	Continuous [a]	Meter

Parameter	Units	Minimum Sampling Frequency	Sample Type
Total Suspended Solids (TSS)	mg/L	Monthly [c]	Grab [d]
Oil and Grease	mg/L	Monthly [c]	Grab [d]
Arsenic, Total	µg/L	Monthly [c]	Grab [d]
Chromium, Total	mg/L	Quarterly [e]	Grab [d]
(2) Stormwater Effluent – Outfall 002B			
Copper, Total	µg/L	Quarterly [e]	Grab [d]
Iron, Total	mg/L	Quarterly [e]	Grab [d]
Zinc, Total	µg/L	Quarterly [e]	Grab [d]
Chloride	mg/L	Quarterly [e]	Grab [d]
pH	Standard units	Quarterly [e]	Grab [d]
(3) Priority Pollutants and PCBs – Final Wastewater Effluent			
See **Appendix A** to identify the specific pollutants in the priority pollutant groups listed below.			
Priority Pollutants (PP) – Total Metals, Ammonia, Iron, Total Residual Chlorine, and Turbidity	µg/L; ng/L for mercury; NTU for turbidity	Annually	Grab [d]
PP – Volatile Organic Compounds	µg/L	Every two years	Grab [d]
PP – Acid-extractable Compounds	µg/L	Every two years	Grab [d]
PP – Base-neutral Compounds	µg/L	Every two years	Grab [d]
PP – Pesticides/PCBs	µg/L	Every two years	Grab [d]
Conventional Pollutants, Nonconventional Pollutants, Cyanide, and Total Phenols	µg/L	Once per permit cycle (with permit renewal application)	Grab [d]
(4) Production			
Production	Megawatts	Monthly Average	
(5) Whole Effluent Toxicity Testing – Final Wastewater Effluent			
Acute Toxicity Testing as specified in Special Condition **S9**.			
Chronic Toxicity Testing as specified in Special Condition **S10**.			
(6) Receiving Water - as specified in Special Condition S11.			
Notes:			

	Parameter	Units	Minimum Sampling Frequency	Sample Type
a	Continuous means uninterrupted except for brief lengths of time for calibration, power failure, or unanticipated equipment repair or maintenance. The time interval for the associated data logger must be no greater than 30 minutes. The Permittee must collect grab samples every 4 hours when continuous monitoring is not possible. Temperature grab sampling must occur when the effluent is at or near its daily maximum temperature, which usually occurs in the late afternoon. If measuring temperature continuously, the Permittee must determine and report a daily maximum from half-hour measurements in a 24-hour period. Continuous monitoring instruments must achieve an accuracy of 0.2 degrees C and the Permittee must verify accuracy annually.			
b	The Permittee must record and report the: • Number of minutes the pH value measured between 5.0 and 6.0 and between 9.0 and 10.0 for each day. • Total minutes the pH value measured between 5.0 and 6.0 and between 9.0 and 10.0 for the month. • Monthly instantaneous maximum and minimum pH. If multiple excursions occur during the day, note the duration for each excursion in the notation field in the parameter notes.			
c	Monthly means once every calendar month.			
d	Grab means an individual sample collected over a fifteen (15) minute, or less, period.			
e	Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must begin quarterly monitoring for the quarter beginning on 7/1/2019 and submit results by 11/15/2019. The Permittee may petition EFSEC to reduce or suspend monitoring for any or all of these parameters when monitoring results for eight (8) consecutive quarters show there is no reasonable potential to exceed groundwater quality standards.			

S2.B. Stormwater Prohibitions and Monitoring Requirements – Outfall 002B

1. Authorized Stormwater Discharges

   Beginning on the effective date of this permit and lasting through its expiration date, the Permittee is authorized to discharge stormwater from the facility to the stormwater retention pond (C-1). All discharges and activities authorized by this permit must be consistent with the terms and conditions of this permit.

2. General Prohibitions

The Permittee must manage all stormwater discharges to prevent the discharge of crude, synthetic or processed oil, or oil-containing products as identified by an oil sheen.

3. Monitoring Requirements

Beginning on the effective date of this permit, the Permittee must monitor stormwater at Outfall 002B for the parameters listed in Permit Condition S2.A.(2).

If there is no discharge during an entire quarter, the Permittee must submit a discharge monitoring report to EFSEC and Ecology stating that no discharge occurred.

The Permittee must sample the stormwater discharge during the first fall storm event each year. "First fall storm event" means the first time after October 1st of each year that precipitation occurs and results in a stormwater discharge from a facility.

The Permittee must collect samples within the first 12 hours of stormwater discharge events. If it is not possible to collect a sample within the first 12 hours of a stormwater discharge event, the Permittee must collect the sample as soon as practicable after the first 12 hours, and keep documentation with the sampling records explaining why they could not collect samples within the first 12 hours.

The Permittee is not required to sample outside of regular environmental staff business hours (Monday-Friday from 8:00am - 5:00pm), during unsafe conditions, or during quarters where there is no discharge.

For each stormwater sample taken, the Permittee must record the following information and retain it on-site for EFSEC and/or Ecology review.

a. Sample date.
b. Sample time.
c. A notation describing if the Permittee collected the sample within the first 12 hours of stormwater discharge events.
d. An explanation of why it could not collect a sample within the first 12 hours of a stormwater discharge event, if it was not possible.
e. Sample location (using SWPPP identifying number).
f. Method of sampling, and method of sample preservation, if applicable.
g. Individual who performed the sampling.

Each inspection must include visual observations made at the stormwater sampling locations and areas where the stormwater is discharged off-site. The inspection must include observations for the presence of floating materials, visible sheen, discoloration, turbidity, odor, or presence of illicit discharges. The inspection must include an assessment of all Best Management Practices (BMPs) that have been implemented, the effectiveness of the BMPs, and whether any maintenance or changes in BMPs are needed.

If an illicit discharge is discovered, the Permittee must notify EFSEC and/or Ecology within 7 days. The Permittee must eliminate the illicit discharge within 30 days.

The Permittee must record the results of each inspection including:

a. Time and date of the inspection
b. Locations inspected.
c. Any observations of non-compliance and the remedial actions the Permittee plans to take.
d. Name, title, and signature of the person conducting the inspection.

The Permittee must submit the results of quarterly stormwater monitoring and monthly visual inspections to EFSEC and/or Ecology by the due dates below:

Reporting Period	Months	Quarterly Results
1st Quarter	January, February, and March	May 15
2nd Quarter	April, May, and June	August 15
3rd Quarter	July, August, and September	November 15
4th Quarter	October, November, and December	February 15

S2.C. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

Sampling and analytical methods used to meet the monitoring requirements specified in this permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 (or as applicable in 40 CFR subchapters N [Parts 400–471] or O [Parts 501-503]) unless otherwise specified in this permit. EFSEC may only specify alternative methods for parameters without limits and for those parameters without an EPA approved test method in 40 CFR Part 136.

S2.D. Flow Measurement, Field Measurement, and Continuous Monitoring Devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.

2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard, the manufacturer's recommendation, and approved O&M manual procedures for the device and the wastestream.

3. Calibrate continuous monitoring instruments (pH, chlorine, and temperature) at least monthly and (flow) at least annually. The Permittee:
   a. Must calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.
   b. Must calibrate continuous pH measurement instruments with standard buffers.
   c. Must calibrate continuous chlorine measurement instruments with standard buffers.

4. Calibrate micro-recording temperature devices, known as thermistors, using protocols from Ecology's Quality Assurance Project Plan Development Tool (*Standard Operating Procedures for Continuous Temperature Monitoring of Fresh Water Rivers and Streams Version 1.0 10/26/2011*). This document is available online at: https://fortress.wa.gov/ecy/publications/documents/1803205.pdf

   Calibration as specified in this document is not required if the Permittee uses recording devices certified by the manufacturer.

5. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.

6. Maintain calibration records for at least three years.

S2.E. Laboratory Accreditation

The Permittee must ensure that all monitoring data required by EFSEC for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. The Permittee must obtain accreditation for conductivity and pH if it must receive accreditation or registration for other parameters.

S2.F. Request for Reduction in Monitoring (Stormwater)

The Permittee may request a reduction of the sampling frequency after twelve (12) months of monitoring or eight (8) consecutive quarters for stormwater. EFSEC will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:
1. Provide a written request to EFSEC and Ecology.
2. Clearly state the parameters for which it is requesting reduced monitoring.
3. Clearly state the justification for the reduction.

S3. Reporting and Recording Requirements

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology and/or EFSEC is a violation of the terms and conditions of this permit.

S3.A. Discharge Monitoring Reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified). The Permittee must:
1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic discharge monitoring report (DMR) form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form.

Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

To find out more information and to sign up for the Water Quality Permitting Portal go to: http://ecyapwq/wqwebportal/

2. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.

3. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below.

   The Permittee must:
   a. Submit **monthly** DMRs by the 15th day of the following month.
   b. Submit **quarterly DMRs**, unless otherwise specified in the permit, by the 15th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must submit the first quarterly DMR on November 15 for the quarter beginning on 7/1/2019.
   c. Submit **single sample DMRs**, unless otherwise specified in the permit, by April 15 for the previous calendar year.

4. Enter the "No Discharge" reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.

5. Report single analytical values below detection as "less than the detection level (DL)" by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.

6. Report single analytical values between the detection level (DL) and the quantitation level (QL) by entering the estimated value, the code for estimated value/below quantitation limit (j) and any additional information in the comments. Submit a copy of the laboratory report as an attachment using WQWebDMR.

7. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in **Appendix A**.

8. Calculate average values and calculated total values (unless otherwise specified in the permit) using:
   a. The reported numeric value for all parameters measured between the detection value and the quantitation value for the sample analysis.
   b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.

c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.

9. Report single-sample grouped parameters (for example: priority pollutants, PAHs, pulp and paper chlorophenolics, TTOs) on the WQWebDMR form and include: sample date, concentration detected, detection limit (DL) (as necessary), and laboratory quantitation level (QL) (as necessary).

   The Permittee must also submit an electronic copy of the laboratory report as an attachment using WQWebDMR. The contract laboratory reports must also include information on the chain of custody, QA/QC results, and documentation of accreditation for the parameter.

10. In addition to reporting through WQWebDMR, permittee must submit a copy of the DMR to EFSEC at the following address:

    EFSEC
    P.O. Box 43172
    Olympia, WA 98504-7250

S3.B. Permit Submittals and Schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard-copy) report, the Permittee must ensure that it is postmarked or received by Ecology and EFSEC no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
Department of Ecology
Industrial Section
PO Box 47706
Olympia, WA 98504-7600

And to EFSEC at:

EFSEC
PO Box 43172
Olympia, WA 98504-3172

S3.C. Records Retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by EFSEC.

S3.D. Recording of Results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement.
2. The individual who performed the sampling or measurement.
3. The dates the analyses were performed.
4. The individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

S3.E. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

S3.F. Reporting Permit Violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology and EFSEC within thirty (30) days of sampling.

a. Immediate Reporting

The Permittee must immediately report to EFSEC, the Department of Ecology, and the Department of Health, Drinking Water Program (at the numbers listed below), all:

- Collection system overflows discharging to a water body used as a source of drinking water.
- Plant bypasses discharging to a waterbody used as a source of drinking water.

EFSEC	360-664-1345
Ecology Industrial Section	360-407-6955
Department of Health,	800-521-0323 (business hours)
Drinking Water Program	877-481-4901 (after business hours)
Grays Harbor County Health	360-249-4222 (business hours)

b. Twenty-Four-Hour Reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology and EFSEC at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.
2. Any unanticipated bypass that causes an exceedance of any effluent limit in the permit (See Part S4.B., "Bypass Procedures").

3. Any upset that causes an exceedance of an effluent limit in the permit (See G.15, "Upset").
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.
5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit. This requirement does not include industrial process wastewater overflows to impermeable surfaces which are collected and routed to the treatment works.

c. Report Within Five Days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report must contain:

1. A description of the noncompliance and its cause.
2. The period of noncompliance, including exact dates and times.
3. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
4. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
5. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of Written Reports

EFSEC may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All Other Permit Violation Reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

S3.G. Other Reporting

a. Spills of Oil or Hazardous Materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill.

The Permittee must also notify EFSEC at the telephone number listed in S3.F.a within 24 hours.

b. Failure to Submit Relevant or Correct Facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to EFSEC and Ecology, it must submit such facts or information promptly.

S3.H. Maintaining a Copy of this Permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to EFSEC and/or Ecology inspectors.

S4. Operation and Maintenance

The Permittee must, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances), which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls, and appropriate quality assurance procedures. This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.

The Permittee must schedule any facility maintenance, which might require interruption of wastewater treatment and degrade effluent quality, during non-critical water quality periods and carry this maintenance out according to the approved O&M manual or as otherwise approved by EFSEC.

S4.A. Operations and Maintenance (O&M) Manual

a. O&M Manual Submittal and Requirements

The Permittee must:

1. Submit an updated O&M Manual that meets the requirements of 173-240-150 WAC to EFSEC for approval by **January 1, 2020**.
2. Review the O&M Manual at least annually and confirm this review by letter to EFSEC by the **1st day** of each year.
3. Submit to EFSEC for review and approval substantial changes or updates to the O&M Manual whenever it incorporates them into the manual.
4. Keep the approved O&M Manual at the permitted facility.
5. Follow the instructions and procedures of this manual.

b. O&M Manual Components

In addition to the requirements of WAC 173-240-150, the O&M Manual must be consistent with the guidance in Table G1-3 in the *Criteria for Sewage Works Design* (Orange Book) 2008. The O&M Manual must include:

1. Emergency procedures for plant shutdown and cleanup in the event of a wastewater system upset or failure.
2. A review of system components which if failed could pollute surface water or could impact human health. Provide a procedure for a routine schedule of checking the function of these components.

3. Wastewater system maintenance procedures that contribute to the generation of process wastewater.
4. Any directions to maintenance staff when cleaning, or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine).
5. Wastewater sampling protocols and procedures for compliance with the sampling and reporting requirements in the wastewater discharge permit.
6. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
7. Specify other items on case-by-case basis such as O&M for any pump stations, lagoon liners, etc.

c. Treatment System Operating Plan

The Permittee must summarize the following information in the initial chapter of the O&M Manual entitled the "Treatment System Operating Plan."
For the purposes of this permit, a Treatment System Operating Plan (TSOP) is a concise summary of specifically defined elements of the O&M Manual.

The Permittee must submit an updated Treatment System Operating Plan to EFSEC by **January 1, 2024** (with the application for renewal). The Permittee must update and submit this plan, as necessary, to include requirements for any major modifications of the treatment system.

The TSOP must not conflict with the O&M Manual and must include the following information:

1. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limits of S1 at the production levels used in developing these limits.
2. In the event of production rates below the baseline levels used to establish these limits, the plan must describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting must be described in the plan.
3. In the event of an upset due to plant maintenance activities, severe stormwater events, startups or shut downs, or other causes, the plan must describe the operating procedures and conditions employed to mitigate the upset. The monitoring and reporting must be described in the plan.
4. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or character of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).

S4.B. Bypass Procedures

A bypass is the intentional diversion of waste streams from any portion of a treatment facility. This permit prohibits all bypasses except when the bypass is for essential maintenance, as authorized in special condition S4.B.1, or is approved by EFSEC as an anticipated bypass following the procedures in S4.B.2.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   This permit allows bypasses for essential maintenance of the treatment system when necessary to ensure efficient operation of the system. The Permittee may bypass the treatment system for essential maintenance only if doing so does not cause violations of effluent limits. The Permittee is not required to notify EFSEC when bypassing for essential maintenance. However the Permittee must comply with the monitoring requirements specified in special condition S2.B.

2. Anticipated bypasses for non-essential maintenance

   EFSEC may approve an anticipated bypass under the conditions listed below. This permit prohibits any anticipated bypass that is not approved through the following process.

   a. If a bypass is for non-essential maintenance, the Permittee must notify EFSEC, if possible, at least ten (10) days before the planned date of bypass. The notice must contain:
      - A description of the bypass and the reason the bypass is necessary.
      - An analysis of all known alternatives which would eliminate, reduce, or mitigate the potential impacts from the proposed bypass.
      - A cost-effectiveness analysis of alternatives.
      - The minimum and maximum duration of bypass under each alternative.
      - A recommendation as to the preferred alternative for conducting the bypass.
      - The projected date of bypass initiation.
      - A statement of compliance with SEPA.
      - A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.
      - Details of the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

   b. For probable construction bypasses, the Permittee must notify EFSEC of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during the project planning and design process. The project-specific engineering report as well as the plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

c. EFSEC will determine if the Permittee has met the conditions of special condition S4.B.2 a and b and consider the following prior to issuing a determination letter, an administrative order, or a permit modification as appropriate for an anticipated bypass:
   - If the Permittee planned and scheduled the bypass to minimize adverse effects on the public and the environment.
   - If the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
   - If feasible alternatives to the bypass exist, such as:
     - The use of auxiliary treatment facilities.
     - Retention of untreated wastes.
     - Stopping production.
     - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
     - Transport of untreated wastes to another treatment facility.

S5. Solid Wastes

S5.A. Solid Waste Handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

S5.B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S5.C. Solid Waste Control Plan

The Permittee must submit all proposed revisions or modifications to the solid waste control plan to EFSEC for review at least 30 days prior to implementation. The Permittee must comply with the approved solid waste control plan and any modifications once approved. The Permittee must submit an update of the solid waste control plan by **July 1, 2021**.

S6. Application for Permit Renewal or Modification for Facility Changes

S6.A. Application for Permit Renewal

The Permittee must submit an application for renewal of this permit to EFSEC by **January 1, 2024**.

S6.B. Modification for Facility Changes

The Permittee must also submit a new application or addendum at least one hundred eighty (180) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S7. Spill Control Plan

S7.A. Spill Control Plan Submittals and Requirements

The Permittee must:

1. Submit to EFSEC an update to the existing spill control plan consistent with the timeline identified in the site certification agreement by **July 1, 2021**.
2. Review the plan at least annually and update it at intervals no longer than every two years.
3. Send changes to the plan to EFSEC.
4. Follow the plan and any supplements throughout the term of the permit.

S7.B. Spill Control Plan Components

The spill control plan must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on-site, which when spilled, or otherwise released into the environment, designate as Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on-site which may become pollutants or cause pollution in stormwater runoff or upon reaching state's waters.
2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

The Permittee may submit plans and manuals required by 40 CFR Part 112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies, which meet the intent of this section.

S8. Outfall Evaluation

The Permittee must inspect the submerged portion of the outfall line and diffuser to document its integrity and continued function, every other year of the permit term. If conditions allow for a photographic verification, the Permittee must include such verification in the report.
The Permittee must submit the inspection report to EFSEC and Ecology through the Water Quality Permitting Portal – Permit Submittals application within 90 days of conducting the inspection.

The Permittee must submit hard-copies of any video files to Ecology and EFSEC as required by Permit Condition S3.B. The Portal does not support submittal of video files.

The inspector must at a minimum:

- Assess the physical condition of the outfall pipe, diffuser, and associated couplings.
- Determine the extent of sediment accumulation in the vicinity of the diffuser.
- Ensure diffuser ports are free of obstructions and are allowing uniform flow.
- Confirm physical location (latitude/longitude) and depth at mean lower low water (MLLW) of the diffuser section of the outfall.
- Assess physical condition of the submarine line.
- Assess physical condition of anchors used to secure the submarine line.

S9. Acute Toxicity

S9.A. Effluent Characterization

The Permittee must:

1. Conduct quarterly acute toxicity testing on the final effluent for one year starting in 1st Quarter 2020. Quarters means January through March, April through June, July through September, and October through December. If no discharge occurs during the required quarter, the Permittee must notify Ecology and EFSEC by the end of the quarter and conduct sampling on the next representative discharge that occurs in the following quarter.

2. Submit a written report to Ecology and EFSEC within 45 days of sampling and starting no later than May 15th. Each subsequent report is due on August 15th, November 15th, and February 15th of each year. Further instructions on testing conditions and test report content are in Section G below.

3. Use a dilution series consisting of a minimum of five concentrations and a control. The five concentrations should include the acute critical effluent concentration (ACEC) of 20% effluent.

4. Conduct the following **two** acute toxicity tests on each sample:

Acute Toxicity Tests	Species	Method
Fathead minnow 96-hour static-renewal test	*Pimephales promelas*	EPA-821-R-02-012
Daphnid 48-hour static test	*Ceriodaphnia dubia, Daphnia pulex,* or *Daphnia magna*	EPA-821-R-02-012

5. The effluent limit for acute toxicity listed in Section B below applies if after one year of effluent characterization:
   - The median survival of any species in 100% effluent is below 80%.
   - Any one test of any species exhibits less than 65% survival in 100% effluent.

If the limit applies, then the Permittee must immediately follow the instructions in Sections B, C, D, E, and G. If the limit does not apply, then the Permittee must follow the instructions in Sections F and G.

S9.B. Effluent Limit for Acute Toxicity

The effluent limit for acute toxicity is:
No acute toxicity detected in a test concentration representing the ACEC.

The ACEC means the maximum concentration of effluent during critical conditions at the boundary of the acute mixing zone, defined in Section S1.B. of this permit. The ACEC equals 20% effluent.

S9.C. Compliance with the Effluent Limit for Acute Toxicity

Compliance with the effluent limit for acute toxicity means the results of the testing specified in Section D show no statistically significant difference in survival between the control and the ACEC.

If the test results show a statistically significant difference in survival between the control and the ACEC, and Ecology has not determined the test result to be anomalous under Section E, and the test is otherwise valid, the result is a violation of the effluent limit for acute toxicity. The Permittee must immediately conduct the additional testing described in Section E.

The Permittee must determine the statistical significance by conducting a hypothesis test at the 0.05 level of significance (Appendix H, EPA/600/4-89/001). If the difference in survival between the control and the ACEC is less than 10%, the Permittee must conduct the hypothesis test at the 0.01 level of significance.

S9.D. Compliance Testing for Acute Toxicity

The Permittee must:

1. Perform the acute toxicity tests with 100% effluent, the ACEC, and a control, or with a full dilution series.

2. Conduct quarterly acute toxicity testing on the final effluent if characterization determines that the effluent limit for acute toxicity applies.

   Testing must begin by January 1, 2020. Quarters means January through March, April through June, July through September, and October through December. If no discharge occurs during the required quarter, the Permittee must notify Ecology and EFSEC by the end of the quarter and conduct sampling on the next representative discharge that occurs in the following quarter.

3. Submit a quarterly written report to Ecology and EFSEC within 45 days of sampling and starting no later than April 30th. Each subsequent report is due on April 30th, July 30th, October 30th, and January 30th of each year. Further instructions on testing conditions and test report content are in Section G below.

4. The Permittee must perform compliance tests using each of the species and protocols listed below on a rotating basis:

Acute Toxicity Tests	Species	Method
Fathead minnow 96-hour static-renewal test	*Pimephales promelas*	EPA-821-R-02-012
Daphnid 48-hour static test	*Ceriodaphnia dubia, Daphnia pulex,* or *Daphnia magna*	EPA-821-R-02-012

S9.E. Response to Noncompliance with the Effluent Limit for Acute Toxicity

If a toxicity test conducted under Section D determines a statistically significant difference in response between the ACEC and the control, using the statistical test described in Section C, the Permittee must begin additional testing within one week from the time of receiving the test results. The Permittee must:

1. Test the next four discharge events using the same test and species as the failed compliance test.

2. Test at least five effluent concentrations and a control to determine appropriate point estimates. One of these effluent concentrations must equal the ACEC. The results of the test at the ACEC will determine compliance with the effluent limit for acute toxicity as described in Section C.

3. Return to the original monitoring frequency in Section D after completion of the additional compliance monitoring.

Anomalous test results: If a toxicity test conducted under Section D indicates noncompliance with the acute toxicity limit and the Permittee believes that the test result is anomalous, the Permittee may notify Ecology that the compliance test result may be anomalous. The Permittee may take one additional sample for toxicity testing and wait for notification from Ecology before completing the additional testing. The Permittee must submit the notification with the report of the compliance test result and identify the reason for considering the compliance test result to be anomalous.

If Ecology determines that the test result was not anomalous, the Permittee must complete all of the additional monitoring required in this section. Or,

If the one additional sample fails to comply with the effluent limit for acute toxicity, then the Permittee must complete all of the additional monitoring required in this section. Or,

If Ecology determines that the test result was anomalous, the one additional test result will replace the anomalous test result for the purpose of determining compliance with the acute toxicity limit.

If all of the additional testing in S9.E.1 complies with the permit limit, the Permittee must submit a report to Ecology and EFSEC on possible causes and preventive measures for the transient toxicity event, which triggered the additional compliance monitoring. This report must include a search of all pertinent and recent facility records, including:

- Operating records
- Monitoring results
- Inspection records
- Spill reports
- Weather records
- Production records
- Raw material purchases
- Pretreatment records, etc.

If the additional testing in this section shows another violation of the acute toxicity limit, the Permittee must submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to Ecology and EFSEC within sixty (60) days after the sample date (WAC 173-205-100(2)).

S9.F. Testing When There is no Permit Limit for Acute Toxicity

The Permittee must:

1. Conduct acute toxicity testing on final effluent once in the last summer and once in the last winter prior to submission of the application for permit renewal.

2. Conduct acute toxicity testing on a series of at least five concentrations of effluent, including 100% effluent and a control.

3. Use each of the following species and protocols for each acute toxicity test:

Acute Toxicity Tests	Species	Method
Fathead minnow 96-hour static-renewal test	*Pimephales promelas*	EPA-821-R-02-012
Daphnid 48-hour static test	*Ceriodaphnia dubia, Daphnia pulex,* or *Daphnia magna*	EPA-821-R-02-012

4. Submit the results to Ecology and EFSEC by **January 1, 2024** (with the permit renewal application).

S9.G. Sampling and Reporting Requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.

2. The Permittee must collect grab samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.

3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.

4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Subsection C and the Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.

5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Section A or pristine natural water of sufficient quality for good control performance.

6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.

7. The Permittee must chemically dechlorinate final effluent samples for whole effluent toxicity testing with sodium thiosulfate just prior to test initiation. Do not add more sodium thiosulfate than is necessary to neutralize the chlorine. Provide in the test report the calculations to determine the amount of sodium thiosulfate necessary to just neutralize the chlorine in the sample.

8. The Permittee must collect effluent samples for whole effluent toxicity testing just prior to the chlorination step in the treatment process.

9. The Permittee may sample receiving water at the same time as the effluent and instruct the lab to measure the hardness of both and increase the hardness of the effluent sample to match the hardness of the receiving water sample prior to beginning the toxicity test. Otherwise, the Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.

10. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five

effluent concentrations and a control. The series of concentrations must include the ACEC. The ACEC equals 20% effluent.

11. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing must comply with the acute statistical power standard of 29% as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.

S10. Chronic Toxicity

S10.A. Effluent Characterization

The Permittee must:

1. Conduct quarterly chronic toxicity testing on the final effluent for one year starting in 1st Quarter 2020. Quarters means January through March, April through June, July through September, and October through December. If no discharge occurs during the required quarter, the Permittee must notify Ecology and EFSEC by the end of the quarter and conduct sampling on the next representative discharge that occurs in the following quarter.

2. Submit a written report to Ecology and EFSEC for within 45 days of sampling and starting no later than May 15th. Each subsequent report is due on August 15th, November 15th, and February 15th of each year. Further instructions on testing conditions and test report content are in Section G below.

3. Conduct chronic toxicity testing during effluent characterization on a series of at least five concentrations of effluent and a control. This series of dilutions must include the ACEC.

   The ACEC equals 20% effluent. The series of dilutions should also contain the chronic critical effluent concentration (CCEC) of 2% effluent.

4. Conduct the following **two** chronic toxicity tests on each sample:

Freshwater Chronic Test	Species	Method
Fathead minnow survival and growth	*Pimephales promelas*	EPA-821-R-02-013
Water flea survival and reproduction	*Ceriodaphnia dubia*	EPA-821-R-02-013

5. The effluent limit for chronic toxicity listed in Section B below applies if after one year of effluent characterization any test shows a significant difference between the control and the ACEC at the 0.05 level of significance using hypothesis testing (Appendix H, EPA/600/4-89/001).

- If the limit applies, then the Permittee must immediately follow the instructions in Sections B, C, D, E, and G. If the limit does not apply, then the Permittee must follow the instructions in Sections F and G.

S10.B. Effluent Limit for Chronic Toxicity

The Effluent Limit for Chronic Toxicity is:
No toxicity detected in a test concentration representing the CCEC.

The CCEC means the maximum concentration of effluent during critical conditions at the boundary of the mixing zone, defined in Section S1.B. of this permit. The CCEC equals 2% effluent.

S10.C. Compliance with the Effluent Limit for Chronic Toxicity

Compliance with the effluent limit for chronic toxicity means the results of the testing specified in Subsection D. show no statistically significant difference in response between the control and the CCEC.

If the test results show a statistically significant difference in survival between the control and the CCEC, and Ecology has not determined the test result to be anomalous under Section E, and the test is otherwise valid, the result is a violation of the effluent limit for chronic toxicity. The Permittee must immediately conduct the additional testing described in Section E.

The Permittee must determine the statistical significance by conducting a hypothesis test at the 0.05 level of significance (Appendix H, EPA/600/4-89/001). If the difference in response between the control and the CCEC is less than 20%, the Permittee must conduct the hypothesis test at the 0.01 level of significance.
Ecology will reevaluate the need for the chronic toxicity limit in future permits.
Therefore, the Permittee must also conduct this same hypothesis test
(Appendix H, EPA/600/4-89/001) to determine whether a statistically significant difference in response exists between the ACEC and the control.

S10.D. Compliance Testing for Chronic Toxicity

The Permittee must:

1. Perform the chronic toxicity tests using the CCEC, the ACEC, and a control, or with a full dilution series.

2. Conduct quarterly chronic toxicity testing on the final effluent if characterization determines that the effluent limit for chronic toxicity applies. Testing must begin by January 1, 2020. Quarters means January through March, April through June, July through September, and October through December. If no discharge occurs during the required quarter, the Permittee must notify Ecology and EFSEC by the end of the quarter and conduct sampling on the next representative discharge that occurs in the following quarter.

3. Submit a quarterly written report to Ecology and EFSEC within 45 days of sampling and starting no later than April 30th, 2020. Each subsequent report is due on April 30th, July 30th, October 30th, and January 30th of each year. Further instructions on testing conditions and test report content are in Section G below.

4. Perform compliance tests using the following species on a rotating basis and the most recent version of the following protocols:

Freshwater Chronic Test	Species	Method
Fathead minnow survival and growth	*Pimephales promelas*	EPA-821-R-02-013
Water flea survival and reproduction	*Ceriodaphnia dubia*	EPA-821-R-02-013

S10.E. Response to Noncompliance with the Effluent Limit for Chronic Toxicity

If a toxicity test conducted under Subsection D determines a statistically significant difference in response between the CCEC and the control using the statistical test described in Subsection C, the Permittee must begin additional testing within one week from the time of receiving the test results. The Permittee must:

1. Test the next three discharge events using the same test and species as the failed compliance test.

2. Use a series of at least five effluent concentrations and a control to determine appropriate point estimates. One of these effluent concentrations must equal the CCEC. The results of the test at the CCEC will determine compliance with the effluent limit for chronic toxicity as described in Subsection B.

3. Return to the original monitoring frequency in Subsection D after completion of the additional compliance monitoring.

Anomalous test results: If a toxicity test conducted under Subsection D indicates noncompliance with the chronic toxicity limit and the Permittee believes that the test result is anomalous, the Permittee may notify Ecology that the compliance test result may be anomalous. The Permittee may take one additional sample for toxicity testing and wait for notification from Ecology before completing the additional testing. The Permittee must submit the notification with the report of the compliance test result and identify the reason for considering the compliance test result to be anomalous.

If Ecology determines that the test result was not anomalous, the Permittee must complete all of the additional monitoring required in this section. Or,

If the one additional sample fails to comply with the effluent limit for chronic toxicity, then the Permittee must complete all of the additional monitoring required in this section. Or,

If Ecology determines that the test result was anomalous, the one additional test result will replace the anomalous test result for the purpose of determining compliance with the chronic toxicity limit.

If all of the additional testing required in S10.E.1 complies with the permit limit, the Permittee must submit a report to Ecology and EFSEC on possible causes and preventive measures for the transient toxicity event, which triggered the additional compliance monitoring. This report must include a search of all pertinent and recent facility records, including:

- Operating records
- Monitoring results
- Inspection records
- Spill reports
- Weather records
- Production records
- Raw material purchases
- Pretreatment records, etc.

If the additional testing required by this section shows another violation of the chronic toxicity limit, the Permittee must submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to Ecology and EFSEC within 60 days after the sample date (WAC 173-205-100(2)).

S10.F. Testing When There is no Permit Limit for Chronic Toxicity

The Permittee must:

1. Conduct chronic toxicity testing on final effluent once in the last winter and once in the last summer prior to submission of the application for permit renewal.

2. Conduct chronic toxicity testing on a series of at least five concentrations of effluent and a control. This series of dilutions must include the aACEC. The ACEC equals 25% effluent. The series of dilutions should also contain the CCEC of 2% effluent.

3. Compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

4. Submit the results to Ecology and EFSEC by **January 1, 2024** (with the permit renewal application).

5. Perform chronic toxicity tests with all of the following species and the most recent version of the following protocols:

Freshwater Chronic Test	Species	Method
Fathead minnow survival and growth	*Pimephales promelas*	EPA-821-R-02-013
Water flea survival and reproduction	*Ceriodaphnia dubia*	EPA-821-R-02-013

S10.G. Sampling and Reporting Requirements

1. The Permittee must submit all reports for toxicity testing in accordance with the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. Reports must contain toxicity data, bench sheets, and reference toxicant results for test methods. In addition, the Permittee must submit toxicity test data in electronic format (CETIS export file preferred) for entry into Ecology's database.

2. The Permittee must collect grab samples for toxicity testing. The Permittee must cool the samples to 0 - 6 degrees Celsius during collection and send them to the lab immediately upon completion. The lab must begin the toxicity testing as soon as possible but no later than 36 hours after sampling was completed.

3. The laboratory must conduct water quality measurements on all samples and test solutions for toxicity testing, as specified in the most recent version of Ecology Publication No. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*.

4. All toxicity tests must meet quality assurance criteria and test conditions specified in the most recent versions of the EPA methods listed in Section C. and the Ecology Publication no. WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If Ecology determines any test results to be invalid or anomalous, the Permittee must repeat the testing with freshly collected effluent.

5. The laboratory must use control water and dilution water meeting the requirements of the EPA methods listed in Subsection C. or pristine natural water of sufficient quality for good control performance.

6. The Permittee must conduct whole effluent toxicity tests on an unmodified sample of final effluent.

7. The Permittee may choose to conduct a full dilution series test during compliance testing in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the CCEC and the ACEC. The CCEC and the ACEC may either substitute for the effluent concentrations that are closest to them in the dilution series or be extra effluent concentrations. The CCEC equals 2% effluent. The ACEC equals 25% effluent.

8. All whole effluent toxicity tests that involve hypothesis testing must comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020. If the test does not meet the power standard, the Permittee must repeat the test on a fresh sample with an increased number of replicates to increase the power.

S11. Receiving Water Study

The Permittee must collect receiving water information necessary to determine if the effluent has a reasonable potential to cause a violation of the water quality standards. If reasonable potential exists, Ecology will use the study information to calculate effluent limits.

The Permittee must:

1. Submit a Sampling and Quality Assurance Plan for EFSEC and/or Ecology review and approval by **June 30, 2021**. Prepare all quality assurance plans in accordance with the guidelines given in *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies* (Ecology Publication No. 04-03-030). This document is available at: https://fortress.wa.gov/ecy/publications/documents/0403030.pdf

2. Conduct all sampling and analysis in accordance with the approved sampling and quality assurance plan.
   a. Locate the receiving water sampling locations outside the zone of influence of the effluent.
   b. Use sampling station accuracy requirements of ± 20 meters.
   c. Time the sampling as close as possible to the critical period for the receiving water.
   d. Follow the clean sampling techniques (Method 1669: *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels*, EPA Publication No. 821-R-95-034, April 1995).
   e. Collect at least ten receiving water samples from the Chehalis River and analyze the samples for both the total and dissolved fractions for copper and zinc.
   f. Analyze samples for the list of total metals and conventional parameters from the 2012 Receiving Water Study.
   g. Conduct all chemical analysis using the methods and the detection levels identified in Appendix A.

3. Submit data to Ecology's Environmental Information Management system (EIM). Data must be submitted to EIM according to the instructions on the EIM website. The data submittal portion of the EIM website (https://ecology.wa.gov/Research-Data/Data-resources/Environmental-Information-Management-database/EIM-submit-data) provides information and help on formats and requirements for submitting tabular data. Specific questions about data submittal may be directed to the EIM Data Coordinator.

4. Submit the final report, summarizing the results of the study to EFSEC and Ecology by **January 1, 2024**. The final report must document when the data was successfully loaded into EIM.

Any subsequent sampling and analysis must also meet these requirements. The Permittee may conduct a cooperative receiving water metals study with other NPDES Permittees discharging in the same vicinity.

S12. Pollutant Minimization

The Permittee must continue to review and implement BMPs to reduce pollutant loading to the Chehalis River at Outfall 001 with emphasis on arsenic, mercury, and phosphorus. The Permittee must evaluate contributions from chemicals used in cooling tower maintenance and review quality assurance reports from bulk chemical suppliers at least annually to ensure that there are no significant changes to arsenic, mercury, and phosphorus levels in the effluent and to look for ways to reduce those levels.

General Conditions

G1. Signatory Requirements

1. All applications submitted to EFSEC must be signed and certified.
   a. In the case of corporations, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      - A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or
      - The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

   b. In the case of a partnership, by a general partner.

   c. In the case of sole proprietorship, by the proprietor.

   d. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

   Applications for permits for domestic wastewater facilities that are either owned or operated by, or under contract to, a public entity shall be submitted by the public entity.

2. All reports required by this permit and other information requested by EFSEC must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
   a. The authorization is made in writing by a person described above and submitted to EFSEC.

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

3. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G1.2, above, must be submitted to EFSEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section must make the following certification:

   "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. Right of Inspection and Entry

The Permittee must allow an authorized representative of EFSEC and/or Ecology, upon the presentation of credentials and such other documents as may be required by law:

1. To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit.

2. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

3. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

4. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G3. Permit Actions

This permit may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon EFSEC's initiative. However, the permit may only be modified, revoked and reissued, or terminated for the reasons specified in 40 CFR 122.62, 122.64 or WAC 463-76-055(2) according to the procedures of 40 CFR 124.5 and WAC 463-76-062 as applicable.

G4. Reporting Planned Changes

The Permittee must, as soon as possible, but no later than one hundred eighty (180) days prior to the proposed changes, give notice to EFSEC of planned physical alterations or additions to the permitted facility, production increases, or process modification which will result in:

1. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

2. A significant change in the nature or an increase in quantity of pollutants discharged.

3. A significant change in the Permittee's sludge use or disposal practices. Following such notice, and the submittal of a new application or supplement to the existing application, along with required engineering plans and reports, this permit may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G5. Plan Review Required

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to EFSEC for approval in accordance with chapter 463-76 WAC. Engineering reports, plans, and specifications must be submitted at least one hundred eighty (180) days prior to the planned start of construction unless a shorter time is approved by EFSEC. Facilities must be constructed and operated in accordance with the approved plans.

G6. Compliance with Other Laws and Statutes

Nothing in this permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. Transfer of This Permit

Transfer of coverage may only be authorized by the EFSEC Council.

G8. Reduced Production for Compliance

The Permittee, in order to maintain compliance with its permit, must control production and/or all discharges upon reduction, loss, failure, or bypass of the treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power of the treatment facility is reduced, lost, or fails.

G9. Removed Substances

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must not be resuspended or reintroduced to the final effluent stream for discharge to state waters.

G10. Duty to Provide Information

The Permittee must submit to EFSEC and Ecology, within a reasonable time, all information which EFSEC may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to EFSEC and/or Ecology upon request, copies of records required to be kept by this permit.

G11. Other Requirements of 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. Additional Monitoring

EFSEC may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. Payment of Fees

The Permittee must submit payment of fees for costs incurred associated with this permit as assessed by EFSEC.

G14. Penalties for Violating Permit Conditions

Enforcement actions for violations of this permit, including the issuance of penalties, shall be consistent with RCW 80.50.150, RCW 80.50.155, RCW 90.48, WAC 463-70 and WAC 463-76. Any person who is found guilty of willfully violating the terms and conditions of this permit is deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit may incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is deemed to be a separate and distinct violation.

G15. Upset

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limits if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the Permittee can identify the cause(s) of the upset.
2. The permitted facility was being properly operated at the time of the upset.
3. The Permittee submitted notice of the upset as required in Special Condition S3.F.
4. The Permittee complied with any remedial measures required under S3.F of this permit.

In any enforcement action the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. Duty to Comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. Toxic Pollutants

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two (2) years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $25,000 per day of violation, or by imprisonment of not more than four (4) years, or by both.

G20. Reporting Requirements Applicable to Existing Manufacturing, Commercial, Mining, and Silvicultural Dischargers

The Permittee belonging to the categories of existing manufacturing, commercial, mining, or silviculture must notify EFSEC as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels:"
   a. One hundred micrograms per liter (100 µg/L).
   b. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony.
   c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
   d. The level established by the Director in accordance with 40 CFR 122.44(f).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels:"
   a. Five hundred micrograms per liter (500µg/L).
   b. One milligram per liter (1 mg/L) for antimony.

c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7).
d. The level established by the Director in accordance with 40 CFR 122.44(f).

G21. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than fourteen (14) days following each schedule date.

APPENDIX A

LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to EFSEC with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

EFSEC added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances which are required to be reported by dischargers if expected to be present. This permit's Appendix A list does not include those parameters. The list also includes pulp and paper pollutants identified in 40 CFR Part 430 and the dioxin and furan congeners identified using EPA Method 1613.

CONVENTIONAL POLLUTANTS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Biochemical Oxygen Demand, Soluble		SM5210-B [3]		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H^+ B	N/A	N/A
Total Suspended Solids		SM2540-D		5 mg/L

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO3
Aluminum, Total	7429-90-5	200.8	2.0	10
Ammonia, Total (as N)		SM4500-NH3-B and C/D/E/G/H		20
Barium Total	7440-39-3	200.8	0.5	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)		EPA SW 846 8021/8260	1	2
Boron, Total	7440-42-8	200.8	2.0	10.0
Chemical Oxygen Demand		SM5220-D		10 mg/L
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Chlorine, Total Residual		SM4500 Cl G		50.0
Cobalt, Total	7440-48-4	200.8	0.05	0.25
Color		SM2120 B/C/E		10 color units
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
Flow		Calibrated device		
Fluoride	16984-48-8	SM4500-F E	25	100
Hardness, Total		SM2340B		200 as CaCO3
Iron, Total	7439-89-6	200.7	12.5	50
Magnesium, Total	7439-95-4	200.7	10	50
Manganese, Total	7439-96-5	200.8	0.1	0.5
Molybdenum, Total	7439-98-7	200.8	0.1	0.5
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO3- E/F/H		100

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
Nitrogen, Total Kjeldahl (as N)		SM4500-N_{org}B/C and SM4500NH_3-B/C/D/EF/G/H		300
NWTPH Dx [4]		Ecology NWTPH Dx	250	250
NWTPH Gx [5]		Ecology NWTPH Gx	250	250
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF	3	10
Salinity		SM2520-B		3 practical salinity units or scale (PSU or PSS)
Settleable Solids		SM2540 -F		Sample and limit dependent
Soluble Reactive Phosphorus (as P)		SM4500-P E/F/G	3	10
Sulfate (as mg/L SO_4)		SM4110-B		0.2 mg/L
Sulfide (as mg/L S)		SM4500-S^2F/D/E/G		0.2 mg/L
Sulfite (as mg/L SO_3)		SM4500-SO3B		2 mg/L
Temperature (max. 7-day avg.)		Analog recorder or Use micro-recording devices known as thermistors		0.2° C
Tin, Total	7440-31-5	200.8	0.3	1.5
Titanium, Total	7440-32-6	200.8	0.5	2.5
Total Coliform		SM 9221B, 9222B, 9223B	N/A	Specified in method - sample aliquot dependent
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Total dissolved solids		SM2540 C		20 mg/L

PRIORITY POLLUTANTS	**PP #**	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1]** *µg/L unless specified*	**Quantitation Level (QL)[2]** *µg/L unless specified*
METALS, CYANIDE & TOTAL PHENOLS					
Antimony, Total	114	7440-36-0	200.8	0.3	1.0
Arsenic, Total	115	7440-38-2	200.8	0.1	0.5
Beryllium, Total	117	7440-41-7	200.8	0.1	0.5
Cadmium, Total	118	7440-43-9	200.8	0.05	0.25
Chromium (hex) dissolved	119	18540-29-9	SM3500-Cr C	0.3	1.2
Chromium, Total	119	7440-47-3	200.8	0.2	1.0
Copper, Total	120	7440-50-8	200.8	0.4	2.0
Lead, Total	122	7439-92-1	200.8	0.1	0.5
Mercury, Total	123	7439-97-6	1631E	0.0002	0.0005
Nickel, Total	124	7440-02-0	200.8	0.1	0.5
Selenium, Total	125	7782-49-2	200.8	1.0	1.0
Silver, Total	126	7440-22-4	200.8	0.04	0.2
Thallium, Total	127	7440-28-0	200.8	0.09	0.36
Zinc, Total	128	7440-66-6	200.8	0.5	2.5
Cyanide, Total	121	57-12-5	335.4	5	10
Cyanide, Weak Acid Dissociable	121		SM4500-CN I	5	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	121		SM4500-CN G	5	10
Phenols, Total	65		EPA 420.1		50

PRIORITY POLLUTANTS	**PP #**	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1]** *µg/L unless specified*	**Quantitation Level (QL)[2]** *µg/L unless specified*
ACID COMPOUNDS					
2-Chlorophenol	24	95-57-8	625.1	3.3	9.9
2,4-Dichlorophenol	31	120-83-2	625.1	2.7	8.1
2,4-Dimethylphenol	34	105-67-9	625.1	2.7	8.1
4,6-dinitro-o-cresol (2-methyl-4,6,-dinitrophenol)	60	534-52-1	625.1/1625B	24	72
2,4 dinitrophenol	59	51-28-5	625.1	42	126
2-Nitrophenol	57	88-75-5	625.1	3.6	10.8
4-Nitrophenol	58	100-02-7	625.1	2.4	7.2
Parachlorometa cresol (4-chloro-3-methylphenol)	22	59-50-7	625.1	3.0	9.0
Pentachlorophenol	64	87-86-5	625.1	3.6	10.8
Phenol	65	108-95-2	625.1	1.5	4.5
2,4,6-Trichlorophenol	21	88-06-2	625.1	2.7	8.1

PRIORITY POLLUTANTS	**PP #**	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
VOLATILE COMPOUNDS					
Acrolein	2	107-02-8	624	5	10
Acrylonitrile	3	107-13-1	624	1.0	2.0
Benzene	4	71-43-2	624.1	4.4	13.2
Bromoform	47	75-25-2	624.1	4.7	14.1
Carbon tetrachloride	6	56-23-5	624.1/601 or SM6230B	2.8	8.4
Chlorobenzene	7	108-90-7	624.1	6.0	18.0
Chloroethane	16	75-00-3	624/601	1.0	2.0
2-Chloroethylvinyl Ether	19	110-75-8	624	1.0	2.0
Chloroform	23	67-66-3	624.1 or SM6210B	1.6	4.8
Dibromochloromethane (chlordibromomethane)	51	124-48-1	624.1	3.1	9.3
1,2-Dichlorobenzene	25	95-50-1	624	1.9	7.6
1,3-Dichlorobenzene	26	541-73-1	624	1.9	7.6
1,4-Dichlorobenzene	27	106-46-7	624	4.4	17.6
Dichlorobromomethane	48	75-27-4	624.1	2.2	6.6
1,1-Dichloroethane	13	75-34-3	624.1	4.7	14.1
1,2-Dichloroethane	10	107-06-2	624.1	2.8	8.4
1,1-Dichloroethylene	29	75-35-4	624.1	2.8	8.4
1,2-Dichloropropane	32	78-87-5	624.1	6.0	18.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene)[6]	33	542-75-6	624.1	5.0	15.0
Ethylbenzene	38	100-41-4	624.1	7.2	21.6
Methyl bromide (Bromomethane)	46	74-83-9	624/601	5.0	10.0
Methyl chloride (Chloromethane)	45	74-87-3	624	1.0	2.0
Methylene chloride	44	75-09-2	624.1	2.8	8.4
1,1,2,2-Tetrachloroethane	15	79-34-5	624.1	6.9	20.7
Tetrachloroethylene	85	127-18-4	624.1	4.1	12.3
Toluene	86	108-88-3	624.1	6.0	18.0
1,2-Trans-Dichloroethylene (Ethylene dichloride)	30	156-60-5	624.1	1.6	4.8
1,1,1-Trichloroethane	11	71-55-6	624.1	3.8	11.4
1,1,2-Trichloroethane	14	79-00-5	624.1	5.0	15.0
Trichloroethylene	87	79-01-6	624.1	1.9	5.7
Vinyl chloride	88	75-01-4	624/SM6200B	1.0	2.0

PRIORITY POLLUTANTS	**PP #**	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Acenaphthene	1	83-32-9	625.1	1.9	5.7
Acenaphthylene	77	208-96-8	625.1	3.5	10.5

PRIORITY POLLUTANTS	**PP #**	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1]** *µg/L unless specified*	**Quantitation Level (QL)[2]** *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Anthracene	78	120-12-7	625.1	1.9	5.7
Benzidine	5	92-87-5	625.1	44	132
Benzyl butyl phthalate	67	85-68-7	625.1	2.5	7.5
Benzo(*a*)anthracene	72	56-55-3	625.1	7.8	23.4
Benzo(b)fluoranthene (3,4-benzofluoranthene)[7]	74	205-99-2	610/625.1	4.8	14.4
Benzo(j)fluoranthene[7]		**205-82-3**	625	0.5	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene)[7]	75	207-08-9	610/625.1	2.5	7.5
Benzo(r,s,t)pentaphene		**189-55-9**	625	1.3	5.0
Benzo(*a*)pyrene	73	50-32-8	610/625.1	2.5	7.5
Benzo(*ghi*)Perylene	79	191-24-2	610/625.1	4.1	12.3
Bis(*2-chloroethoxy)*methane	43	111-91-1	625.1	5.3	15.9
Bis(*2-chloroethyl*)ether	18	111-44-4	611/625.1	5.7	17.1
Bis(*2-chloroisopropyl*)ether	42	39638-32-9	625	0.5	1.0
Bis(*2-ethylhexyl*)phthalate	66	117-81-7	625.1	2.5	7.5
4-Bromophenyl phenyl ether	41	101-55-3	625.1	1.9	5.7
2-Chloronaphthalene	20	91-58-7	625.1	1.9	5.7
4-Chlorophenyl phenyl ether	40	7005-72-3	625.1	4.2	12.6
Chrysene	76	218-01-9	610/625.1	2.5	7.5
Dibenzo (a,h)acridine		**226-36-8**	610M/625M	2.5	10.0
Dibenzo (a,j)acridine		**224-42-0**	610M/625M	2.5	10.0
Dibenzo(a-*h*)anthracene (1,2,5,6-dibenzanthracene)	82	53-70-3	625.1	2.5	7.5
Dibenzo(a,e)pyrene		192-65-4	610M/625M	2.5	10.0
Dibenzo(a,h)pyrene		189-64-0	625M	2.5	10.0
3,3-Dichlorobenzidine	28	91-94-1	605/625.1	16.5	49.5
Diethyl phthalate	70	84-66-2	625.1	1.9	5.7
Dimethyl phthalate	71	131-11-3	625.1	1.6	4.8
Di-n-butyl phthalate	68	84-74-2	625.1	2.5	7.5
2,4-dinitrotoluene	35	121-14-2	609/625.1	5.7	17.1
2,6-dinitrotoluene	36	606-20-2	609/625.1	1.9	5.7
Di-n-octyl phthalate	69	117-84-0	625.1	2.5	7.5
1,2-Diphenylhydrazine (*as Azobenzene*)	37	122-66-7	1625B	5.0	20
Fluoranthene	39	206-44-0	625.1	2.2	6.6
Fluorene	80	86-73-7	625.1	1.9	5.7
Hexachlorobenzene	9	118-74-1	612/625.1	1.9	5.7
Hexachlorobutadiene	52	87-68-3	625.1	0.9	2.7
Hexachlorocyclopentadiene	53	77-47-4	1625B/625	2.0	4.0
Hexachloroethane	12	67-72-1	625.1	1.6	4.8
Indeno(*1,2,3-cd*)Pyrene	83	193-39-5	610/625.1	3.7	11.1
Isophorone	54	78-59-1	625.1	2.2	6.6
3-Methyl cholanthrene		**56-49-5**	625	2.0	8.0
Naphthalene	55	91-20-3	625.1	1.6	4.8

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
BASE/NEUTRAL COMPOUNDS (compounds in bold are Ecology PBTs)					
Nitrobenzene	56	98-95-3	625.1	1.9	5.7
N-Nitrosodimethylamine	61	62-75-9	607/625	2.0	4.0
N-Nitrosodi-n-propylamine	63	621-64-7	607/625	0.5	1.0
N-Nitrosodiphenylamine	62	86-30-6	625	1.0	2.0
Perylene		**198-55-0**	625	1.9	7.6
Phenanthrene	81	85-01-8	625.1	5.4	16.2
Pyrene	84	129-00-0	625.1	1.9	5.7
1,2,4-Trichlorobenzene	8	120-82-1	625.1	1.9	5.7

PRIORITY POLLUTANT	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
DIOXIN					
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (2,3,7,8 TCDD)	129	1746-01-6	1613B	1.3 pg/L	5 pg/L

PRIORITY POLLUTANTS	PP #	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] *µg/L unless specified*	Quantitation Level (QL)[2] *µg/L unless specified*
PESTICIDES/PCBs					
Aldrin	89	309-00-2	608.3	4.0 ng/L	12 ng/L
alpha-BHC	102	319-84-6	608.3	3.0 ng/L	9.0 ng/L
beta-BHC	103	319-85-7	608.3	6.0 ng/L	18 ng/L
gamma-BHC (Lindane)	104	58-89-9	608.3	4.0 ng/L	12 ng/L
delta-BHC	105	319-86-8	608.3	9.0 ng/L	27 ng/L
Chlordane[8]	91	57-74-9	608.3	14 ng/L	42 ng/L
4,4'-DDT	92	50-29-3	608.3	12 ng/L	36 ng/L
4,4'-DDE	93	72-55-9	608.3	4.0 ng/L	12 ng/L
4,4' DDD	94	72-54-8	608.3	11ng/L	33 ng/L
Dieldrin	90	60-57-1	608.3	2.0 ng/L	6.0 ng/L
alpha-Endosulfan	95	959-98-8	608.3	14 ng/L	42 ng/L
beta-Endosulfan	96	33213-65-9	608.3	4.0 ng/L	12 ng/L
Endosulfan Sulfate	97	1031-07-8	608.3	66 ng/L	198 ng/L
Endrin	98	72-20-8	608.3	6.0 ng/L	18 ng/L
Endrin Aldehyde	99	7421-93-4	608.3	23 ng/L	70 ng/L
Heptachlor	100	76-44-8	608.3	3.0 ng/L	9.0 ng/L
Heptachlor Epoxide	101	1024-57-3	608.3	83 ng/L	249 ng/L
PCB-1242[9]	106	53469-21-9	608.3	0.065	0.195
PCB-1254	107	11097-69-1	608.3	0.065	0.195
PCB-1221	108	11104-28-2	608.3	0.065	0.195
PCB-1232	109	11141-16-5	608.3	0.065	0.195
PCB-1248	110	12672-29-6	608.3	0.065	0.195

PRIORITY POLLUTANTS	**PP #**	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1]** ***µg/L unless specified***	**Quantitation Level (QL)[2]** ***µg/L unless specified***
PESTICIDES/PCBs					
PCB-1260	111	11096-82-5	608.3	0.065	0.195
PCB-1016 [9]	112	12674-11-2	608.3	0.065	0.195
Toxaphene	113	8001-35-2	608.3	240 ng/L	720 ng/L

PULP & PAPER POLLUTANTS (40CFR Part 430)

Pollutant	**CAS Number (if available)**	**Recommended Analytical Protocol**	**Detection (DL)[1] µg/L unless specified**	**Quantitation Level (QL)[2] µg/L unless specified**
Adsorbable Organic Halides (AOX)		EPA 1650		20
2,3,7,8- Tetrachlorodibenzo-*p*-dioxin (TCDD) (this is also priority pollutant and is listed above)	1746-01-6	EPA 1613	1.3 pg/L	5 pg/L
2,3,7,8- Tetrachlorodibenzofuran (TCDF)	51207-31-9	EPA 1613	1.3 pg/L	5 pg/L
Trichlorosyringol		EPA 1653		2.5
3,4,5-Trichlorocatechol		EPA 1653		5.0
3,4,6-Trichlorocatechol		EPA 1653		5.0
3,4,5-Trichloroguaiacol		EPA 1653		2.5
3,4,6-Trichloroguaiacol		EPA 1653		2.5
4,5,6-Trichloroguaiacol		EPA 1653		2.5
2,4,5-Trichlorophenol		EPA 1653		2.5
2,4,6-Trichlorophenol		EPA 1653		2.5
Tetrachlorocatechol		EPA 1653		5.0
Tetrachloroguaiacol		EPA 1653		5.0
2,3,4,6-Tetrachlorophenol		EPA 1653		2.5
Pentachlorphenol (this is also priority pollutant and is listed above)		EPA 1653		5.0

NONCONVENTIONALS – DIOXIN & FURAN CONGENERS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)[1] µg/L unless specified	Quantitation Level (QL)[2] µg/L unless specified
2,3,7,8- Tetrachlorodibenzo-*p*-dioxin (TCDD) (this is a priority pollutant and is also listed above)	1746-01-6	EPA 1613	1.3 pg/L	5 pg/L
Total TCDD	41903-57-5			
2,3,7,8- Tetrachlorodibenzofuran (TCDF)	51207-31-9		1.3 pg/L	5 pg/L
Total-TCDF	55722-27-5			
1,2,3,7,8- Pentachlorodibenzo-*p*-dioxin (PeCDD)	40321-76-4			
Total-PeCDD	36088-22-9			
1,2,3,7,8- Pentachlorodibenzofuran (PeCDF)	57117-41-6			
2,3,4,7,8-PeCDF	57117-31-4			
Total-PeCDF	30402-15-4			
1,2,3,4,7,8- Hexachlorodibenzo-*p*-dioxin (HxCDD)	39227-28-6			
1,2,3,6,7,8-HxCDD	57653-85-7			
1,2,3,7,8,9-HxCDD	19408-74-3			
Total-HxCDD	34465-46-8			
1,2,3,4,7,8- Hexachlorodibenzofuran (HxCDF)	70648-26-9			
1,2,3,6,7,8-HxCDF	57117-44-9			
1,2,3,7,8,9-HxCDF	72918-21-9			
2,3,4,6,7,8-HxCDF	60851-34-5			
Total-HxCDF	55684-94-1			
1,2,3,4,6,7,8- Heptachlorodibenzo-*p*-dioxin (HpCDD)	35822-46-9			
Total-HpCDD	37871-00-4			
1,2,3,4,6,7,8- Heptachlorodibenzofuran (HpCDF)	67562-39-4			
1,2,3,4,7,8,9-HpCDF	55673-89-7			
Total-HpCDF	38998-75-3			
Octachlorodibenzo-*p*-dioxin (OCDD)	3268-87-9			
Octachlorodibenzofuran (OCDF)	39001-02-0			

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.

2. Quantitation Level (QL) also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1, 2, or 5) x 10^n, where n is an integer. (64 FR 30417).

   ALSO GIVEN AS:
   The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

3. Soluble Biochemical Oxygen Demand method note: First, filter the sample through a Millipore Nylon filter (or equivalent) - pore size of 0.45-0.50 um (prep all filters by filtering 250 ml of laboratory grade deionized water through the filter and discard). Then, analyze sample as per method 5210-B.

4. NWTPH Dx - Northwest Total Petroleum Hydrocarbons Diesel Extended Range – see ***https://fortress.wa.gov/ecy/publications/documents/97602.pdf***

5. NWTPH Gx - Northwest Total Petroleum Hydrocarbons Gasoline Extended Range – see ***https://fortress.wa.gov/ecy/publications/documents/97602.pdf***

6. 1, 3-dichloroproylene (mixed isomers) You may report this parameter as two separate parameters: cis-1, 3-dichlorpropropene (10061-01-5) and trans-1, 3-dichloropropene (10061-02-6).

7. Total Benzofluoranthenes - Because Benzo(b)fluoranthene, Benzo(j)fluoranthene and Benzo(k)fluoranthene co-elute you may report these three isomers as total benzofluoranthenes.

8. Chlordane – You may report alpha-chlordane (5103-71-9) and gamma-chlordane (5103-74-2) in place of chlordane (57-74-9). If you report alpha and gamma-chlordane, the DL/PQLs that apply are 14/42 ng/L.

9. PCB 1016 & PCB 1242 – You may report these two PCB compounds as one parameter called PCB 1016/1242.