Washington State
Energy Facility Site Evaluation Council

AGENDA

MONTHLY MEETING
Tuesday June 16, 2020
1:30 PM

CONFERENCE CALL ONLY
Conference number: (360) 407-3810 ID: 214817

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 19, 2020

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. Desert Claim

- Project Updates……Amy Moon, EFSEC Staff

e. Columbia Solar Project

- Project Updates……Ami Kidder, EFSEC Staff

f. Grays Harbor Energy Center

- Operational Updates……Chris Sherin, Grays Harbor Energy
- Title V update……Kyle Overton, EFSEC Staff

The Council may consider and take FINAL ACTION on issuing the Title V Permit.

g. WNP – 1/4

- Non-Operational Updates……Kip Whitehead, Energy Northwest

h. Columbia Generating Station

- Operational Updates……Kip Whitehead, Energy Northwest
- Resolution 347……Amy Moon, EFSEC Staff

The Council may consider and take FINAL ACTION on issuing Resolution 347.

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 19, 2020

BUELL REALTIME REPORTING
COURT REPORTING AND LEGAL VIDEO

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WASHINGTON STATE
ENERGY FACILITY SITE EVALUATION COUNCIL
Lacey, Washington
Tuesday, May 19, 2020
1:30 p.m.

TELEPHONIC MONTHLY COUNCIL MEETING
Verbatim Transcript of Proceedings

REPORTED BY: TAYLER GARLINGHOUSE, CCR 3358
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APPEARANCES

COUNCILMEMBERS:
Kathleen Drew, Chair
Kate Kelly, Department of Commerce
Robert Dengel, Department of Ecology
Dan Siemann, Department of Natural Resources
Stacey Brewster, Utilities and Transportation Commission

ASSISTANT ATTORNEY GENERAL:

Jon Thompson

EFSEC STAFF:
Sonia Bumpus
Ami Kidder
Tammy Mastro
Joan Aitken
Stew Henderson
Kyle Overton

ALSO PRESENT:
Eric Melbardis, Kittitas Valley
Jennifer Diaz, Wild Horse
Chris Sherin, Grays Harbor Energy
Mark Miller, Chehalis Generation Facility
Kip Whitehead, Energy NW
Tim McMahan, Stoel Rives
Kara Warner, Golder Associates
Bill Sherman, The Environment
Owen Hurd, TUUSSO Energy

LACEY, WASHINGTON; MAY 19, 2020
1:30 P.M.
--o0o--
P R O C E E D I N G S

CHAIR DREW: Okay. Welcome to the energy state -- the Washington State Energy Facility [brief interruption] meeting and call to order.

Ms. Mastro, will you please call the roll?

MS. MASTRO: Department of Commerce?

MS. KELLY: Kate Kelly, present.

MS. MASTRO: Department of Ecology?

MR. DENGEL: Robert Dengel, present.

MS. MASTRO: Department of Fish and Wildlife?

CHAIR DREW: Mike Livingston is excused.

MS. MASTRO: Department of Natural Resources?

MR. SIEMANN: Dan Siemann is on the line.

MS. MASTRO: Utilities and Transportation Commission?

MS. BREWSTER: Stacey Brewster, present.

MS. MASTRO: Chair?

CHAIR DREW: Yes, I am here.

MS. MASTRO: Chair, there is a quorum for

the EFSEC regular Council.

CHAIR DREW: Thank you.

Are there others on the line who wish to introduce themselves?

MR. MCMAHAN: Tim McMahan.

MS. WARNER: Kara Warner --

MR. SHERMAN: Bill Sherman, I'm present and counsel for The Environment.

MR. HURD: Owen Hurd, TUUSSO Energy.

MR. MELBARDIS: Eric Melbardis, EDP Renewables.

MR. MILLER: Mark Miller, PacifiCorp Chehalis plant.

MR. THOMPSON: Jon Thompson --

(Multiple speakers.)

MR. WHITEHEAD: -- Energy Northwest.

MR. THOMPSON: Jon Thompson, Attorney General's Office.

CHAIR DREW: We missed the Energy Northwest.

MR. WHITEHEAD: Kip Whitehead, Energy Northwest.

CHAIR DREW: Thank you.

And for the Staff, since we are remote and -- would you please introduce yourselves?

MS. BUMPUS: This is Sonia Bumpus with

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EFSEC.
MS. KIDDER: This is Ami Kidder with EFSEC.
MR. OVERTON: This is Kyle Overton with EFSEC.
MS. MASTRO: Tammy Mastro with EFSEC.
MS. AITKEN: And Joan Aitken with EFSEC.
MR. HENDERSON: Stew Henderson with EFSEC.
CHAIR DREW: And I think that's everyone. So our meeting is -- we have before us the proposed agenda. Councilmembers, you see that on the screen in front of you. Is there a motion to approve the agenda?
Ms. Brewster.
MS. BREWSTER: I move that we approve today's proposed agenda.
CHAIR DREW: Thank you.
Second?
MR. DENGEL: Second, Rob Dengel.
CHAIR DREW: Thank you.
Any questions or additions? Hearing none, all those in favor of approving the proposed agenda for today's meeting, say -- say "aye."
COUNCILMEMBERS: Aye.
CHAIR DREW: All opposed?
Agenda is approved.
Now moving on to the meeting minutes from

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March 17th, two months ago, was our last meeting. Is there a motion to approve the minutes as they -- you have seen them?
Ms. Brewster?
MS. BREWSTER: I move that we approve the meeting minutes from the March 17th council meeting.
CHAIR DREW: A second?
MR. DENGEL: Rob Dengel, I second.
CHAIR DREW: Thank you.
Are there any questions or changes on the draft minutes that you have before you?
Hearing none, all those in favor of approving the minutes from the March 17th, 2020 meeting, please say "aye."
COUNCILMEMBERS: Aye.
CHAIR DREW: All those opposed?
The minutes are approved.
Moving on to our project updates. Kittitas Valley Wind Power Project, Mr. Melbardis.
MR. MELBARDIS: Good afternoon, Chair Drew, EFSEC Council. This is Eric Melbardis with EDP Renewables for the Kittitas Valley Wind Power Project. There were two periods that I had sent updates on. Nothing nonroutine to report. We continue to operate under CDC and Governor Inslee Covid guidelines. Remote

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work, if possible, still continuing to run split shifts to firewall off our crews. So just adjusting to our new normal here.
CHAIR DREW: Are there any questions?
Thank you.
Next we have Wild Horse Wind Facility.
MS. DIAZ: Yes, thank you, Chair Drew. For the record, this is Jennifer Diaz with Puget Sound Energy at the Wild Horse Wind Facility. For March and April, due to the heightened level of caution regarding the Coronavirus, all PSE generation facilities were directed to limit access to only essential employees and contractors to ensure the safe and continued operation of the facility. In accordance with Governor Inslee's Stay Home, Stay Healthy order issued on March 23rd, employees who can work from home have been directed to do so. The entire wind farm and the renewable energy center were closed to the public during the month of April.
And then in accordance with the Operations Stormwater Pollution Prevention Plan, a semiannual stormwater inspection was completed following spring snow melt on March 10th. And overall, the site is stable and in excellent condition, and stormwater BMPs functioned properly and were maintained as needed. No

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further --
CHAIR DREW: Thank you.
Are there any questions from Councilmembers?
Okay. Thank you very much.
Next we have the Chehalis Generation Facility, Mr. Miller?
MR. MILLER: This is Mark Miller. Jeremy was going to give our report.
CHAIR DREW: Oh, okay.
MR. MILLER: I -- his phone may not be working because we are all continuing to isolate.
For the month of March report, the only nonroutine item to report there was we did receive the final verifiable emissions reduction credits from the National Climate Trust from the Lynden Power Project. So a total of 68,263 tons were delivered.
And then for the April report, we have been working with EFSEC Staff and the Southwest Clean Air Agency on a redo of RATA requirements for the NOx emissions. The contractor, Montrose, had used a calibration bottle that was out of date, and we reran the test, and all the preliminary tests is reviewed by Clint Lamoreaux by the Southwest Clean Air Agency in collaboration with our EFSEC site -- siting specialist, Kyle Overton, were all passing and approved.

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CHAIR DREW: Okay. Thank you.
Are there any questions from Councilmembers?
Thank you.
Grays Harbor Energy Center, Mr. Sherin?
MR. SHERIN: Good afternoon, Chair Drew, Councilmembers. This is Chris Sherin, plant manager, Grays Harbor Energy Center. For the month of March, only had one nonroutine item and that is on the -- or excuse me, the month of April. That's March's minutes, yeah, up there, operating notes. So the -- the one item for April is on the 9th, there's a restart of Gas Turbine 2, following the forced outage, a trip triggered potential deviations for PS -- PSD emissions. And EFSEC Staff was notified prior to Grays Harbor Energy Center proceeding to restart.
Also during that initial startup, the post gas turbine combustion hardware rebuild, emissions tuning is required to attain optimum or minimum emissions. And this required shutting of the ammonia flow to the SCR or catalyst during the portion of the tuning. So EFSEC Staff was again notified prior, and we're currently coordinating with ORCAA and EFSEC Staff to address our event. Other than that, I don't -- I don't have anything else. Any questions?
CHAIR DREW: Any questions from

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Councilmembers?
Thank you.
Energy North --
(Multiple speakers.)
MR. OVERTON: Kyle Overton, with -- the EFSEC site specialist for Grays Harbor. I have a quick update on the Air Permit if -- if --
CHAIR DREW: Oh, I'm sorry, thank you. Go ahead, Mr. Overton.
MR. OVERTON: Yeah, just a quick update on Grays Harbor's Title V Air Permit. The EPA comment period ended on April 30th. We -- we did not receive any comments, and in EFSEC Staff coordination with our contractor, ORCAA, in the facilitating of the process of finalizing that permit in preparation for final issuance by the Council. And that's my update.
CHAIR DREW: Okay. Thank you.
MR. DENGEL: That was what I was going to -- this is Rob Dengel with Ecology. So that's what I was going to check in about, so that's what I wanted to know. Thank you very much.
CHAIR DREW: Okay. Okay. Columbia Generating Station and WNP-1/4, Energy Northwest?
MR. WHITEHEAD: Good afternoon. This is Kip Whitehead reporting for Energy Northwest. For the

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Washington Nuclear Projects 1/4, we have no updates for the months of March and April.
And for the Columbia Generating Station, we have no updates for the months of March and April.
CHAIR DREW: Okay. Thank you.
Ms. Aitken, if you can put up the agenda again, I'd appreciate it. Thank you. There it is.
MS. AITKEN: Read your mind.
CHAIR DREW: I used to have paper in front of me and don't have that anymore, which is fine.
Okay. So now we are moving to the Council update on Air Rule 463-78, Ms. Kidder.
MS. KIDDER: Chair Drew, if I may jump in really quick.
CHAIR DREW: Resolution 157, I see it right there on the agenda. Thank you.
MS. KIDDER: Also, for the Columbia Solar Project, I wanted to provide an update to the Council.
CHAIR DREW: Okay. Which could still be there. Okay. And all -- okay. I apologize to everybody as I need to have the agenda in front of me.
Is there an update also on Desert Claim?
MS. KIDDER: Staff continue to coordinate with the certificate holder, but there are no project updates at this time for Desert Claim. And Staff are

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continuing to work with the certificate holder and our agency contractors to prepare for preconstruction plan review and related efforts for Columbia Solar.
CHAIR DREW: Okay. Any questions from Councilmembers?
Okay. Thank you.
Now we are going -- go ahead.
MS. KIDDER: Oh, I was just going to ask if I should jump into the Resolution 157 update.
CHAIR DREW: Yes, please.
MS. KIDDER: Thank you.
CHAIR DREW: And this is a new item on the agenda.
MS. KIDDER: This is. This is a new item for Council's attention.
So a brief history. Annual fish collection is required per the Columbia Generating Station Site Certification Agreement, or the SCA. The specifics of the fish collection requirements are detailed in the Environmental Monitoring Program as Attachment 1 of the SCA. Fish collection is required to determine the operational effects of Columbia Generating Station [inaudible] aquatics food chain.
Resolution 157 was approved by the EFSEC Council on September 24th, 1979, and amended on

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September 9th, 1985, to serve in lieu of a scientific collection permit. This resolution included fish collection from the Columbia River for WNP-1/4 and WNP-2 as well as in the Chehalis River for the plant nuclear facility near Satsup known as WNP-3/5. Currently, fish collection is only required for the operating WNP-2 facility that is currently known as Columbia Generating Station as construction of the other facilities was not completed.

In addition, the resolution also contains some outdated sampling provisions. For this reason, EFSEC Staff are recommending that Resolution 157 be rescinded. The annual Columbia Generating Station sampling period begins after the Upper -- the Upper Columbia River spring run Chinook salmon migration, which occurs April through June, and after the Upper Columbia River Steelhead migration that occurs April through mid May. Energy Northwest would begin sampling after June 30th each year to minimize impacts to these protected species under what Staff is proposing as a new resolution that we present to the Council in June.

This new resolution would serve in lieu of an annual scientific collection permit. EFSEC is preparing the new resolution in consultation with the Washington Department of Fish and Wildlife. The new

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resolution would follow the Department of Fish and Wildlife scientific collection permit guidelines and annual reporting requirements. The new resolution would include a list of resident fish species that may be consumed by fishermen and can be collected from the Columbia River to be used as indicator samples. Control fish will be collected from fish hatcheries owned by DFW at the Columbia River Ringold Fish Hatchery and the Snake River Lyons Fish Hatchery. The controlled fish will consist of Chinook salmon and/or Steelhead salmon.

Are there any questions?

CHAIR DREW: Are there any questions from Councilmembers?

So my understanding is that the Staff will prepare the draft resolution in consultation with Department of Fish and Wildlife and have that to Councilmembers for review before the June meeting; is that correct?

MS. KIDDER: That is correct.

CHAIR DREW: So all Councilmembers will have a chance to take a look at that, to contact Ms. Kidder or Ms. Moon or Ms. Bumpus with any questions you might have, and then we will bring it up for a vote at the June meeting.

MS. KIDDER: That is correct. We understand

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that no action has been taken on this issue for the Facility in quite some time as Resolution 157 has been in service since the '80s. So if any Councilmembers have any questions or concerns, Staff are welcome to answer any of those questions.

MR. SIEMANN: Chair Drew, this is Dan Siemann, I do have a question.

CHAIR DREW: Sure, go ahead.

MR. SIEMANN: Thank you.

I'm just curious if there is an appropriate role for tribal consultation on this topic and if that has been considered in any way.

MS. KIDDER: I am not sure off the top of my head. I'd have to look into whether or not DFW has coordinated any of their fish permit work with tribal representatives, but I can look into that further and get a better answer for you.

CHAIR DREW: And we'll make sure and have that before we send -- that answer before we send out the resolution.

MR. SIEMANN: Great, thank you.

MS. BUMPUS: And just to add to that, we will double-check, Councilmember Siemann, but I -- I believe that any coordination on the permit or rather the authorization for this, it would have been done

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years ago prior to the -- the original resolution. And so we'll double-check to see if there was anything done at that time that -- that would have been I think when they would have coordinated, and then our update would just be to ensure that it's consistent with DFW's current fish collection guidance.

MR. SIEMANN: Great, thank you.

CHAIR DREW: Okay. Thank you for that update.

Now we will move on to other items. The first is the Council update on Air Rule 463-78, Ms. Kidder.

MS. KIDDER: Thank you. Today, EFSEC Staff is seeking Council's approval to begin the rulemaking process to amend Washington Administrative Code, or WAC, Chapter 463-78-005, general and operating permit regulations for air pollution sources adoption by reference. In your packets, you will see a copy of the CR-105 as well as the revised version of WAC 463-78-005.

Because EFSEC would be adopting by reference rules that have already been through public comment via Department of Ecology's rulemaking process, this rulemaking qualifies for expedited processing.

With Council approval, Staff will file the CR-105 to the Code Reviser's Office tomorrow, May 20th.

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The purpose of the proposed rule revisions is to be consistent with Ecology and EPA rules and to ensure that EFSEC-issued permits are in line with current EPA and Ecology regulations.

These revisions help to fulfill the intent of RCW 80.50.040 and RCW 43.21(a), which lay the framework for EFSEC and Ecology to oversee air emissions within the state. The Council's action today would allow for Staff to file the CR-105 in time for the May 20th filing deadline. This would allow for the CR-105 to be noticed in the June 3rd publication, which would begin a 45-day public comment period continuing through July 20th. Are there any questions?

CHAIR DREW: So what our action is today is to approve the filing for public comment and the expedited process; is that correct?

MS. KIDDER: Correct.

MR. DENGEL: So -- hello. So this is Rob Dengel with Ecology.

CHAIR DREW: Go ahead.

MR. DENGEL: As noted by Staff -- good overview -- this is basically incorporating Ecology's existing rules, which was really done due to -- I'd say reason, but EPA -- EPA guidance that we actually had to encompass into the State implementation plan for air

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quality, so it -- it makes a lot of sense.

In addition to that, to meeting the EPA guidance, there was a lot of -- there was a number of additional changes and improvements that were kind of made clearing some things up and then some other -- some other editing as well. So I am frankly in support of it, but we're more than happy to have a conversation before making any motion to -- to approve.

CHAIR DREW: Are there any other -- are there any comments or questions?

Hearing none, why don't you go ahead with that motion to approve, Mr. Dengel.

MR. DENGEL: So a motion to approve the rule adoption of 46 -- the amendments to 46 -- 463-78.

CHAIR DREW: And that's the -- for public comment. I do have a question. Oh, wait a minute, is there a second?

MR. SIEMANN: This is Dan Siemann, I'll second that.

CHAIR DREW: Thank you.

I do have another question. Ms. Kidder, is this expedited process one which we will -- if there are no comments, then we'll proceed with adopting this rule or will it come back before the Council?

MS. KIDDER: If there are no public

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comments, the Council will take action to file the CR-103, which is adoption of the rule, after which the filing date for that would -- any -- would begin a 30-day waiting period, which is not a public comment period, it's just a 30-day waiting period between the adoption of the filing of the CR-103 and the actual enactment of the rule.

CHAIR DREW: Okay. Thank you.

Are there any other further -- or are there any comments or questions on this motion?

Hearing none, Ms. Mastro, will you call the role on the adoption of -- now I need the number in front of me.

MS. MASTRO: 463-78.

CHAIR DREW: WAC 463-78. Thank you.

MS. MASTRO: Department of Commerce?

MS. KELLY: Aye.

MS. MASTRO: Department of Ecology?

MR. DENGEL: Aye.

MS. MASTRO: Department of Natural Resources?

MR. SIEMANN: Aye.

MS. MASTRO: Utilities and Transportation Commission?

MS. BREWSTER: Aye.

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MS. MASTRO: Chair?

CHAIR DREW: Aye.

MS. MASTRO: That completes the vote.

CHAIR DREW: The motion is adopted. We will put these out for public comment and then proceed in the future. Thank you very much.

Next item on our agenda is the fourth quarter cost allocation. Ms. Bumpus.

MS. BUMPUS: Good afternoon, Chair Drew and Councilmembers. For the record, this is Sonia Bumpus. As we do at the beginning of every quarter, I have the cost allocation percentages for fourth quarter fiscal year 2020. This is based off of the accrued EFSEC cost allocation plan for the Energy Facility Site Evaluation Council approved September 2004.

For Kittitas Valley Wind Power Project, 10 percent; Wild Horse Wind Power Project, 10 percent; Columbia Generating Station, 25 percent; Columbia Solar, 14 percent; WNP-1, 3 percent; Whistling Ridge, 3 percent; Grays Harbor 1 & 2, 13 percent; Chehalis Generation Project, 11 percent; Desert Claim Wind Power Project, 8 percent; and Grays Harbor Energy 3 & 4, 3 percent. And that concludes my update for the cost allocation for fourth quarter fiscal year 2020.

CHAIR DREW: Thank you.

If we have no other business to come before us, I think this is -- completes our agenda, so I will now say that this meeting is adjourned. Thank you all very much, and welcome back to Dan Siemann. Meeting is adjourned.

(Adjourned at 1:58 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

May 2020

Project Status Update

Production Summary:

Power generated:	26,424 MWh
Wind speed:	7.5 m/s
Capacity Factor:	35.2%

Safety:
No incidents

Compliance:
Project is in compliance

Sound:
No complaints

Shadow Flicker:
No complaints

Environmental:
No incidents

Wild Horse Wind Facility

EFSEC – Monthly Compliance Report

May 2020

Safety

No lost-time accidents or safety injuries/illnesses.

Due to the heightened level of caution regarding Coronavirus, all PSE generation facilities were directed to restrict access to project buildings to only essential employees and contractors, to ensure safe and continued operation of the facility. Public access through Wild Horse and recreation within the wind farm boundary was reopened on May 5th. The Renewable Energy Center (visitor center) remained closed to the public during the month of May.

Compliance/Environmental

Nothing to report

Operations/Maintenance

Nothing to report

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

Chehalis Generation Facility----Monthly Plant Report – May 2020
Washington Energy Facility Site Evaluation Council

06.05.2020

Safety:

- There were no recordable incidents this reporting period and the plant staff has achieved 1737 days without a Lost Time Accident.

Environment:

- There were no air emission permit deviations during the month.
- There were no storm-water permit deviations during the month.
- There were no wastewater permit deviations during the month.

Operations and Maintenance Activities:

- The Plant generated 168,257 megawatt-hours in May for a total 2020 Year-To-Date generation equaling 868,159 megawatt-hours. The capacity factor for the month of May was 46.5% and the YTD is 56.9%.

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--P75451
Manager, Gas Plant
Chehalis Generation Facility

EFSEC Monthly Operational Report
Grays Harbor Energy Center

May 2020

Safety and Training

- There were no accidents or injuries during the month and the plant staff has achieved 4168 days without a lost time incident.
- Continued executing COVID-19 contingency measures.

Environmental & Compliance

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

Operations & Maintenance

- Grays Harbor Energy Center (GHEC) operated 0days during the month.
- GHEC generated 0MWh during the month and 869,587MWh YTD.
- The plant capacity factor was 0% for the month and 38.4% YTD.
- The plant completed our annual maintenance outage in May.

Noise and/or Odor

- None.

Site Visits

- None.

Other

- None.

STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC)

TECHNICAL SUPPORT DOCUMENT AND STATEMENT OF BASIS

GRAYS HARBOR ENERGY CENTER, LLC

June 17, 2020

PERMIT #:	**EFSEC/94-1 AOP - Initial**
PREPARTED FOR:	**Grays Harbor Energy, LLC** **401 Keys Road** **Elma, WA 98541-9149**
PLANT SITE:	**Grays Harbor Energy Center** **401 Keys Road** **Elma, WA 98541-9149**
PERMIT ENGINEER:	**Mark V. Goodin – ORCAA Professional Engineer**
REVIEWED BY:	**Sonia E. Bumpus – EFSEC Manager**

ENERGY FACILITY SITE EVALUATION COUNCIL
621 Woodland Square Loop SE
P.O. Box 43172
Lacey, Washington 98503-3172
Telephone: (360) 664-1345

TABLE OF CONTENTS

1. DISCLAIMER

Information contained in this Technical Support Document is for purposes of background information only and is not enforceable. Applicable requirements including emission limits and monitoring, recordkeeping and reporting requirements are contained in the associated Air Operating Permit (AOP) for the Grays Harbor Energy Center, permit EFSEC/94-1 AOP, which was issued by the Energy Facility Site Evaluation Council (EFSEC) on June 17, 2020.

2. GENERAL INFORMATION

2.1 Table 1: Administrative Information and Contact Information

Company Name	Grays Harbor Energy, LLC (GHE)
Facility/Source Name	Grays Harbor Energy Center (GHEC)
AOP Permit No.	EFSEC/94-1 AOP - Initial
Mailing Address	Grays Harbor Energy, LLC 401 Keys Road Elma, WA 98541-9149
Site Address	Grays Harbor Energy, LLC 401 Keys Road Elma, WA 98541-9149
Facility/Plant/Environmental Manager	Eric Pace Plant Engineer (360) 482-4353 (ext 224)
Responsible Official	Chris Sherin Plant Manager
Unified Business Identification Number	602 082 646
Standard Industrial Classification (SIC) Code	4911
Attainment Area Status	Unclassified for all criteria pollutants.
Permitting Authority	The Washington Energy Facility Site Evaluation Council (EFSEC) is the permitting authority for the GHEC. EFSEC implements an Air Operating Permit program through Chapter 463-78 WAC, which adopts by reference the Washington Operating Permits Regulations under Chapter 173-401 WAC.
Enforcement Manager	Sonia E. Bumpus – EFSEC Manager (360) 664-1363
Compliance Contractor	Olympic Region Clean Air Agency (ORCAA) (360) 539-7610
Permit Engineer	Mark V. Goodin – ORCAA Engineer Manager (360) 539-7610 ext 108
Compliance Supervisor	Robert Moody – Compliance Manager (360) 539-7610 ext 106

2.2 Facility Description

Grays Harbor Energy, LLC (GHE) owns and operates an electricity generation facility located at 401 Keys Road in Elma, Grays Harbor County, Washington. The facility is referred to as the Grays Harbor Energy Center (GHEC). GHEC is capable of generating up to 650 megawatts (MW) of electricity from a combined-cycle power plant comprised of two combustion turbines, each equipped with a duct burner and heat recovery steam generator and a single steam turbine and bank of cooling towers shared in common. GHEC also operates an auxiliary boiler, a diesel emergency generator and an emergency fire water pump. Commercial operation of GHEC began on April 25, 2008.

2.3 Basis for Title V Applicability

Facilities with a potential to emit (PTE) at or above the "major source" thresholds defined in WAC 173-401-200(19) are required to operate under an Air Operating Permit (AOP) issued through an approved Washington State AOP program, according to Title V of the federal Clean Air Act. GHEC has the potential to emit several regulated air pollutants above their major source thresholds. In addition, GHEC is an affected source under Title IV (Acid Deposition Control) of the federal Clean Air Act, which independently triggers the requirement to obtain a Title V AOP.

EFSEC received delegation from EPA Region 10 on August 13, 2001 to implement an AOP program for electric power generating plants in Washington State with capacities exceeding 350 MW. EFSEC implements their AOP program through Chapter 463-78 WAC, which adopts by reference the Washington Operating Permits Regulations under Chapter 173-401 WAC.

Because GHEC is capable of generating up to 650 MW of electricity and is a "major source" as defined in WAC 173-401-200(19), GHEC is required to operate under an AOP issued by EFSEC.

2.4 Preconstruction Permitting

EFSEC is responsible for issuing pre-construction permits to electric power generating plants in Washington with capacities exceeding 350 MW, including Notice of Construction (NOC) permits and Prevention of Significant Deterioration (PSD) permits. Both types of permits have been issued to GHEC by EFSEC.

EFSEC issued the initial PSD approval to the previous owner of the facility (Duke Energy) in 2001 and approved transfer of the PSD permit to GHE in April 2005. The PSD permit for GHEC has been amended four separate times since it was originally issued in 2001. The following list summarizes the PSD permitting history of the facility:

1. Original PSD Approval (EFSEC/2001-01, approved November 2, 2001) – Includes both PSD and minor NOC permits to construct the GHEC;
2. Amendment 1 (EFSEC/2001-01 Amendment 1, January 2, 2003) - Approved modified operating requirements and emission limitations, added equipment as part of the project and removed certain operational restrictions;

3. Amendment 2 (EFSEC/2001-01 Amendment 2, October 19, 2004) - Approved a delay in continuous construction to no later than January 20, 2006 and modified the monitoring requirements and BACT emission limitations based on recently available information;
4. Amendment 3 (EFSEC/2001-01 Amendment 3, approved April 3, 2006) - Approved a second delay in continuous construction to no later than July 20, 2007 and made several administrative corrections; and,
5. Amendment 4 (EFSEC/2001-01 Amendment 4, approved June 28, 2018) corrected certain minor errors in the permit and adopted specific emissions limits for startup and shutdown operations.

2.5 Regulatory History

The regulatory history of GHEC is fairly complicated due to:

1. Delays in starting and completing construction of the facility; and,
2. Delays in securing approval of Amendment 4 by Region 10 of the U.S. Environmental Protection Agency (EPA).

Start of construction and construction delays necessitated the need for permit extensions. In addition, construction delays triggered the need to re-permit the facility because effective versions of applicable regulations, which depend on when an affected facility begins construction, required re-evaluation.

PSD Amendment 4 is the effective pre-construction air permit for GHEC. Approval of PSD Amendment 4 was significantly delayed in order to address issues raised by EPA regarding startup/shutdown emissions limits and other technical permit issues. These issues were resolved in 2018 and PSD Amendment 4 was issued September 29, 2018. Table 2 summarizes the permitting history for GHEC.

2.6 Table 2: Permitting History

1995	Construction Authorized - EFSEC authorizes construction and operation
1996	Original PSD Approval - Site Certification Agreement (SCA) with PSD (EFSEC 95-01)
March 1998	Permit extension
September 1999	Permit extension
April 2001	Re-Application - Duke submitted a new PSD application for project
June 2001	EPA Consent Order - Administrative Order on Consent issued by EPA allowing start of construction prior to issuance of the new PSD approval.
September 1, 2001	Start of Construction – authorized by EFSEC

November 2, 2001	PSD Approval - (EFSEC/2001-01)
January 2, 2003	PSD Amendment 1 (EFSEC/2001-01 Amendment 1) - EFSEC approves Amendment 1, which modified operating requirements and emission limitations in the original approval, added equipment as part of the project and removed certain operational restrictions.
October 19, 2004	PSD Amendment 2 (EFSEC/2001-01 Amendment 2) - approved by EFSEC authorizing a delay in continuous construction to not later than January 20, 2006 and modifying the monitoring requirements and BACT emission limitations based on recently available information. Amendment 2 did not change or add any emission units that were either proposed for installation or already installed at the facility.
February 23, 2005	Transfer of Ownership - to Grays Harbor Energy LLC approved by EFSEC.
April 3, 2006	Amendment 3 (EFSEC/2001-01 Amendment 3) - approved by EFSEC authorizing a second delay in continuous construction to not later than July 20, 2007 and making several administrative corrections to errors in Amendment 2.
April 25, 2008	Start of Commercial Operation.
April 24, 2009	Date Complete Title V Application Submitted
August 7, 2009	Application for PSD Amendment 4 was submitted to EFSEC
September 29, 2018	Amendment 4 (EFSEC/2001-01 Amendment 4) - requested by GHE in 2009 to: 1. Rectify issues with the PSD permit identified during development of the Air Operating Permit for the facility; 2. Add specific startup/shutdown emissions limits; and, 3. Rectify permit issued raised by EPA.
December 18, 2019	Draft AOP - issued for public comment
March 16, 2020	Proposed AOP – submitted to EPA for review
June 17, 2020	Final AOP - issued by EFSEC

2.7 Effective Versions of Applicable Requirements

Effective versions of each applicable requirement in the AOP for GHEC are the versions that

were effective on the date the AOP. The two key dates for determining the effective versions of applicable air requirements are the date GHEC commenced continuous construction (January 20, 2006) and the date the complete AOP application for GHEC was received by EFSEC (April 24, 2009).

However, an additional layer of complexity regarding effective versions of applicable requirements in GHEC's AOP is due to the fact that EFSEC adopts by reference in their own regulations the applicable state and federal air regulations. This rule adoption approach is referred to as "adoption-by-reference" (ABR). EFSEC's rules under WAC 463-78-005 ABR all state air regulations relevant to electricity power generating facilities. Therefore, the adoption date of EFSEC's WAC 463-78-005 is a key date that determines the latest version of applicable state air regulations. The current effective version of EFSEC's WAC 463-78-005 is the July 27, 2015 version. This version adopts by reference:

- The November 25, 2018 version of Chapter 173-400 WAC (WA General Regulations for Air Pollution Sources);
- The September 16, 2018 version of Chapter 173-401 WAC (WA AOP Regulations);
- The March 1, 2005 version of Chapter 173-406 WAC (WA Acid Rain Regulation);
- The June 20, 2009 version of Chapter 173-460 WAC (WA Controls for New Sources of Toxic Air Pollutants); and,
- The January 1, 2011 version of Chapter 173-441 WAC (Reporting of Emissions of Greenhouse Gases).

Likewise, EFSEC's rules under WAC 463-78-115 ABR federal Standards of Performance for New Stationary Sources (NSPS) relevant to electricity power generating facilities. Therefore, the adoption date of EFSEC's WAC 463-78-115 is a key date that determines the latest version of applicable federal NSPS. The current effective version of EFSEC's WAC 463-78-115 is the August 27, 2015 version. This version ABR relevant NSPS in effect on July 1, 2014.

2.8 AOP Enforcement

Terms and conditions in the AOP apply continuously and are enforceable by EFSEC. Each condition in the AOP cites both the regulatory origin and authority for each permit condition. Any disputes regarding the exact language of an applicable requirement listed in GHEC's AOP should be settled by consulting the regulation cited in the regulatory origin of the condition.

2.9 AOP Enforcement Contractor

Through a Memorandum of Agreement (MOA) signed by EFSEC on November 20, 2007, Olympic Region Clean Air Agency (ORCAA) was given the contract to serve as the air compliance /permitting contractor under EFSEC. Through this agreement, ORCAA is tasked with performing all air-related compliance monitoring and Title V permitting duties for GHEC on behalf of EFSEC. Under EFSEC's oversight and direction, ORCAA performs such tasks as annual inspections, source testing oversight, review of monitoring reports, responding to complaints, drafting the AOP and reporting findings to EFSEC. While ORCAA serves as the compliance/permitting contractor, EFSEC remains the regulatory authority over GHEC. This

means that ORCAA reports findings directly to EFSEC who then may act on the findings at their discretion. Only EFSEC can issue Notices of Violation (NOVs) and penalties for non-compliance.

2.10 Owner and Operator

GHE is the current owner and operator of the GHEC and is the entity responsible for complying with the AOP. Ownership of the facility was transferred from the former owners, Duke Energy and Energy Northwest to GHE on February 23, 2005. GHE, a subsidiary of Invenergy, is a private company categorized under Electric Power Generation, and is located in Elma, WA. The parent company, Invenergy and its affiliates develop, own and operate large-scale renewable and other clean energy generation facilities in North America and Europe. Invenergy specializes in developing and operating clean power sources of energy such as combined cycle power plants that operate using natural gas.

2.11 GHEC Responsible Official

AOP regulations under Chapter 173-401 WAC require a "Responsible Official" certify any submittals regarding compliance with the AOP as being true, accurate and complete based on their belief formed after reasonable inquiry. To form a reasonable belief of the truth, accuracy, and completeness of a compliance certification or other AOP-related submittal, the Responsible Official needs to understand the significance of the submittal with respect to assuring compliance with the AOP. The Responsible Official must have a basic understanding of the Title V permitting program, an understanding of the deviations being reported, how permit deviations are determined and the role of credible evidence in certifying compliance.

AOP compliance-related submittals covers practically every report and submittal associated with an AOP, such as deviation reports, malfunction reports, periodic monitoring reports, test reports, quarterly reports and annual compliance certifications. The AOP as written for GHEC does allow for "batch-wise" certification of routine compliance reports. This is facilitated by condition P21, which states:

> *"Provided, however, where a report is sent more frequently than once every six months, the responsible official's certification need only be submitted once every six months, covering all required reporting since the date of the last certification."*

This allows the Responsible Official to batch-wise certify retroactively all reports submitted since the last certification.

According to WAC 173-401-200(29), the responsible official means one of the following:

a) For a corporation: 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 a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) The facilities employ more than two hundred fifty persons or have gross annual sales or expenditures exceeding forty-three million in 1992 dollars; or
(ii) The delegation of authority to such representative is approved in advance by the permitting authority;

b) For a partnership or sole proprietorship: A general partner or the proprietor, respectively;
c) For a municipality, state, federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a regional administrator of EPA); or
d) For affected sources:
(i) The designated representative in so far as actions, standards, requirements, or prohibitions under Title IV of the FCAA or the regulations promulgated thereunder and in effect on April 7, 1993 are concerned; and
(ii) The designated representative for any other purposes under 40 C.F.R. Part 70.

Because GHEC is subject to an acid rain permit under Title IV of the federal Clean Air Act, the definitions under "d" apply. Therefore, for GHEC, the Responsible Official and "Designative Representative" for the Acid Rain Permit should be the same person.

3. FACILITY DESCRIPTION

3.1 General Overview

GHEC is an electricity production facility occupying approximately 20 acres within the Satsop Redevelopment Park in Grays Harbor County, which is approximately four miles southwest of Elma, Washington. The facility consists of a combined-cycle electric power generating plant including two General Electric natural gas-fired combustion turbine generators (GE 7FA), operated in a "2-x-1" combined cycle gas turbine configuration with one steam turbine (GE D11) shared in common. The steam turbine is part of a steam power cycle that generates additional electric power from the waste heat in the exhaust of the combustion turbines. Each turbine is followed by a duct burner and a heat recovery steam generator (HRSG) to generate the steam used by the steam turbine. The steam turbine itself is not a direct source of air emissions, but requires operation of duct burners, heat recovery steam generators (HRSGs) and a cooling tower. The duct burners and the cooling towers are sources of air emissions themselves. GHEC also includes an auxiliary natural gas fired boiler, a diesel-fired emergency generator and a diesel-fired water pump.

3.2 Fuel

All combustion equipment except the diesel-fired emergency generator and diesel-fired water pump are fueled by natural gas received from the Williams Co.'s., Northwest Pipeline. The natural gas is sampled monthly by GHE and analyzed to determine its sulfur and heat content.

The diesel fuel allowed for use in the emergency generator and fire water pump engines is non-road specification diesel fuel with a maximum sulfur content of 15 ppm.

3.3 Combined Cycle Gas Turbines (CGT1 & CGT2)

Description

The combustion turbine generators are identical GE 7FA units and are each rated at maximum power generating capacity of 175 MW. Each combustion turbine has a design maximum heat-rate of 1,671 million British thermal units per hour (MMBtu/hr). Each combustion turbine is equipped with a heat recovery steam generator (HRSG) which has a duct burner. Each duct burner has a design maximum heat-rate of 505 MMBtu/hr.

In this Technical Support Document and the associated AOP, each combustion turbine, duct burner and HRSG combination is referred to as a "Combined–Cycle Gas Turbine Unit" or CGT unit. Each CGT unit has a separate exhaust stack. The western-most CGT is designated as CGT1 and the eastern-most CGT is designated as CGT2.

The combustion turbines take in filtered air that is compressed in the compressor stage of the turbine and then mixed with natural gas. The compressed fuel and air mixture is then burned in the combustion chamber of the turbine where it is expanded through a series of turbines to convert the energy to mechanical rotating shaft power. This mechanical energy is then used to run the compressor section of the turbine and to directly power the electric generator.

High temperature exhaust produced by each combustion turbine is augmented with supplemental heat from its duct burner to generate high pressure steam in its connected HRSG. Each HRSG produces steam that is used by the steam turbine to generate power in a standard steam power cycle.

Each CGT exhaust through its own exhaust stack at a height of 180 feet above ground level. Exhaust stacks are each equipped with a caged ladder and stack testing platform that provide a permanent and safe access to stack testing ports. The testing ports conform to the requirements of 40 CFR, Part 60, Appendix A, Method 20.

Air emissions from the CGTs result from combustion of natural gas both in the combustion turbines and duct burners. Natural gas is the only fuel combusted. Air pollutant emissions from the CGTs include nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM_{10}), sulfur dioxide (SO_2), volatile organic compounds (VOCs), sulfuric acid mist (H_2SO_4), ammonia (NH_3) and several Hazardous Air Pollutants (HAPs). Actual as well as potential emissions rates are described in section 4 of this TSD below.

CGT NO_x Control and Monitoring

The combustion turbines incorporate "Advanced, Dry Low NO_x" combustor technology. This technology is guaranteed by the manufacturer to reduce NO_x emissions from the combustion turbines to 9 ppm. It accomplishes NO_x reduction by maintaining a "lean" premix of fuel to air, staging the combustion into three-stages and utilizing a central diffusion flame for overall flame

stabilization. The lean, premixed technology burns a lean fuel-to-air mixture for a lower peak combustion flame temperature, which results in lower "thermal NO_x" formation. The combustion turbines operate with just one of the lean premixed stages and the diffusion pilot at lower loads, and additional stages at higher loads. This provides efficient combustion and lower temperatures throughout the combustor-loading regime.

The duct burners also incorporate low NO_x combustor technology. This burner technology is capable of maintaining NO_x emissions below 10 ppmvd at 15% oxygen.

The typical NO_x emission concentration from each CGT is in the 3 to 9 ppm range. NOx from each CGT is further treated by separate selective catalytic reduction (SCR) units downstream of each HRSG. The SCR units are capable of maintaining NO_x concentrations to less than 3 ppm during steady state operation of the CGTs.

SCR is a post-combustion NO_x control technology where ammonia (NH_3) is injected into the flue gas upstream of a vanadium oxide catalytic reactor. The catalyst bed operates most efficiently at temperatures between 600 and 800°F, which match the temperature range typically found within HRSG units. On the catalyst surface, the NH_3 reacts with NO_x to form molecular nitrogen and water. The process uses approximately 1 – 1.3 moles of NH_3 per mole of NO_x reduced. The rate of NH_3 injection is automatically controlled based on the amount of "NH_3 slip," which is the concentration of unreacted NH_3 downstream of the SCR units. NH_3 slip is continuously monitored.

The primary variable affecting SCR performance is temperature. If operating below the optimum temperature range, the catalyst activity is reduced, allowing unreacted NH_3 to slip through into the exhaust stream. If operating above the optimum temperature range, NH_3 is oxidized, forming additional NO_x. In addition, the catalyst may suffer thermal stress damage. Temperature of the catalyst beds as well as NO_x concentrations are required to be continuously monitored in order to maintain NO_x rates below the permitted limits.

An aqueous solution of NH_3 is used as the source for NH_3 in order to minimize impacts of possible spills or the unlikely event of rupture of an NH_3 tank. The solution is approximately 19% NH_3 as received and used. The rate of NH_3 solution injection is automatically regulated based on the NH_3 slip rate, which is continuously monitored. NH_3 slip is limited to 5 ppm on a 24-hour average basis. The NH_3 pump is controlled to maintain NH_3 slip between 1 and 3 ppm.

Per the PSD permit, NO_x emission concentrations and rates from the CGTs are required to be continuously monitored. As such, both CGTs are equipped with continuous emissions monitoring systems (CEMS) for both NO_x and O_2. The CEMSs for NO_x and O_2 are subject to the requirements contained in 40 CFR Part 75, Continuous Emission Monitoring, which contains the continuous emissions monitoring requirements for facilities subject to the Acid Rain program. Because 40 CFR Part 75 establishes the monitoring requirements for all pollutants and parameters required to be monitored under the acid Rain program (NO_x, O_2, SO_2, CO_2, volumetric flow, and opacity), and for different types of combustion units, much of it is not applicable to GHEC. For this reason, 40 CFR Part 75 is incorporated by reference in the permit.

On a real-time basis, GHEC can verify compliance with any of the short-term NO_x limits from the NO_x CEMS. In addition, the NO_x CEMS triggers an alarm to notify the operator when

concentrations approach any short-term limit. NO_x and O_2 concentrations measured by the CEMS are used to determine the NO_x concentrations in terms of parts per million by volume at 15%O_2, which is the metric of the CGT emissions concentration limits. For pollutant mass rate (PMR) limits, measured NO_x concentrations are coupled with the natural gas combustion rate measured by the fuel monitoring system and a Fuel Factor (Fd) measured monthly to calculate the NO_x PMR in terms of pounds per hour.

The natural gas combustion rate is monitored continuously by separate fuel flow meters on each CGT and Duct Burner (DB) in terms of cubic feet per hour. Cubic feet per hour of natural gas combusted by each unit is multiplied by the Fd (measured monthly) to compute the exhaust gas flowrate for each unit in terms of dry standard cubic feet per hour at 15% O_2. This result is then multiplied by the concentration to compute the NO_x PMR as shown in the following equation.

Pollution Mass Rate Calculation Method

$$PMRx = (NG)(HHV)(Fd)(Cx)(MW_{pollutant})/[(1000)(Molar\ Volume_{stp}]$$

Where:

- *PMRx = The calculated pollutant mass rate of pollutant "x" in terms of pound per hour (lbs/hr).*
- *NG = The actual amount of natural gas combusted by the unit over the hour per condition M6(a) in terms of dry standard cubic feet of natural gas (dscfng/hr).*
- *HHV = The Higher Heat Value of the natural gas determined for the month per condition M6(b)(i) in terms of million Btu per dry standard cubic feet of natural gas ($MMBtu/dscf_{ng}$).*
- *Fd = The dry basis fuel factor determined for the month per condition M6(b)(ii) in terms of dry standard cubic feet of exhaust per million Btu of natural gas combusted ($dscf_{exhaust}/MMBtu$)*
- *Cx = The average concentration of pollutant "x" monitored by CEMS over the hour in terms of parts per million by volume, dry (ppmvd), uncorrected.*

CGT CO Control and Monitoring

The dry low NO_x combustors in the CGTs also minimize the formation of CO. Minimizing NO_x is usually at the expense of higher CO emissions, however, the "Advanced, Dry Low NO_x" combustor technology is able to optimize the combustors to minimize emissions of both pollutants. The dry low NO_x combustors are expected to maintain a CO emission rate well below 9 ppm. In addition to CO control through the dry low NO_x combustors, exhaust from each CGT passes through a platinum catalyst (following the SCR units) where oxygen in the gas stream reacts with CO to produce CO_2. The CO oxidation catalyst technology is capable of reducing CO concentration by 90+%.

Per the PSD permit, CO emission concentrations and rates from the CGTs are required to be continuously monitored. The CO CEMS must meet the requirements contained in 40 CFR Part 60, Appendix B: Performance Specification 4 or 4a, and in 40 CFR, Part 60, Appendix F: Quality

Assurance Procedures. CO CEMS requirements are incorporated by reference in the permit.

From the CO CEMS data, GHE can verify compliance with both short-term and long-term average limits. In addition, the CEMS triggers an alarm when CO concentrations approach any of the short-term average CO limits. This is done automatically by the CO data acquisition system (DAS).

CGT SO_2, H_2SO_4 and PM_{10} Control and Monitoring

Combusting only natural gas is the principle means for minimizing emissions of particulate matter, sulfur dioxide and sulfuric acid from each CGT. Per the PSD permit, continuous monitoring of the rate of natural gas combustion by each turbine and DB is required. In addition, natural gas is required to be sampled monthly and analyzed to determine sulfur and heat content.

For SO_2 and H_2SO_4, the PSD permit imposes only PMR limits. Monitoring compliance is accomplished by calculating emissions rated using sulfur balance calculations based on the actual amount and composition of natural gas combusted and emissions factors from stack testing relating the percent of H_2SO_4 to SO_2. The amount of natural gas combusted is continuously monitored by a gas flow meters on each turbine and DB. Meters measure the gas flow rate and automatically correct to standard temperature and pressure units based on the monitored pipeline gas temperature and pressure. This data is periodically crossed checked by GHE against fuel certifications provided by the Williams Pipeline Company.

Per the PSD permit, gas flow meters are required to be installed, operated and maintained according to 40 CFR Part 75, Appendix D. Also, natural gas heat and sulfur content are required to be determined monthly through direct sampling and analyzing the natural gas per 40 CFR Part 75, Appendix D. 40 CFR Part 75, Appendix D is incorporated by reference in the permit.

PM_{10} emissions from the CGTs are each limited to no more than 22.6 lb/hr of filterable plus condensable PM_{10}. The required monitoring means is to calculate PM_{10} emissions based on the actual amount of natural gas combusted during each 24-hr period time an emissions factor based on the most recent particulate stack testing.

Reference method testing is the required means for monitoring compliance with the particulate grain loading limit. For the first three years of operation testing was required annually. Provided testing verifies compliance, the required testing frequency is relaxed to once every 5-years. Stack testing results must be reported as total particulate, filterable particulate and condensable particulate.

CGT Ammonia Emissions Monitoring

Per the PSD permit, NH_3 emissions (NH_3 slip) from each CGT is required to be continuously monitored. NH_3 CEMSs must meet the requirements contained in 40 CFR, Part 63, Appendix A, Reference Method 301, Validation Protocol (Validation Protocol), and 40 CFR, Part 60, Appendix F, Quality Assurance Procedures (Appendix F), or other EFSEC-approved performance specifications and quality assurance procedures. Because neither the Validation Protocol nor Appendix F contain actual performance specifications for operating NH_3 CEMSs, performance specifications needed to be adopted into the AOP to fill this void. Washington's Title V regulations under WAC 173-401-615(1)(b) allow adopting monitoring requirements into

a Title V AOP when requirements are not adequately specified. This approach to adding monitoring to a Title V AOP is referred to as "gap-filling monitoring".

Until NH_3 CEMS performance specifications are adopted as final by EPA, EPA's Preliminary Performance Specification for Ammonia Continuous Emission Monitors (PPS-001, EPA, 2005) can serve as a surrogate performance specification. PPS-001 has not yet been published in the Federal Register but is proposed by EPA as their preferred performance specifications for NH_3 CEMS. PPS-001 establishes specifications for the allowable range, calibration drift and accuracy for NH_3 CEMS. The PPS-001 performance specifications are then inserted into the Validation Protocol for initial testing of NH_3 CEMS and Appendix F for ongoing quality assurance and control of NH_3 monitors.

CGT Opacity Monitoring

Per PSD permit EFSEC/2001-01 Amendment 4 (PSD), opacity of the exhaust from each CGT must be monitored. Two options are provided for opacity monitoring:

- A certified opacity reader can read and record the opacity of each operating unit during daylight hours daily and then weekly of compliance is maintained for the previous calendar month; or,
- Opacity can be monitored using a Continuous Opacity Monitoring System (COMS) on each CGT as an alternative.

Per the PSD permit, COMS must meet the requirements contained in 40 CFR Part 60, Appendix B, Performance Specification 1 and in 40 CFR, Part 60, Appendix F, Quality Assurance Procedures. Both are incorporated by reference in the permit.

3.4 Steam Turbine

Description

The GE D11 steam turbine generates electricity using steam produced by the Heat Recovery Steam Generators (HRSGs). Each HRSG produces superheated steam using leftover heat energy from its associated gas turbine plus supplemented heat energy from its associated DB. The steam turbine itself is not an emissions unit but is an integral part of the combined cycle power plant. The steam turbine power cycle requires operation of the CGTs (turbines + DBs), Cooling Tower and Auxiliary Boiler. The steam turbine generator can produce up to an additional 300 MW of electric power. The steam power cycle is a closed loop process where exhaust steam from the steam turbine is condensed by passing through the cooling towers and then pumped as liquid water back to the HRSGs in a continuous closed-loop arrangement. Since the steam turbine has no direct air pollutant emissions, it is not designated as an emissions unit.

3.5 Auxiliary Boiler

Description

Start-up of the combined cycle power plant requires an auxiliary heat source to provide heat while the CGTs are warming up. This is accomplished by a separate, 29.3 MMBtu/hr natural

gas-fired Auxiliary Boiler. The Auxiliary Boiler provides initial steam for the steam turbine during startup.

Auxiliary Boiler Emissions Control and Monitoring

The Auxiliary Boiler employs low NO_x burners, good combustion practices and the use of natural gas for controlling air pollutant emissions.

The PSD permit establishes hourly and annual emissions limits for the Auxiliary Boiler for NO_x, CO, SO_2, VOC, PM_{10}, and opacity. The PSD permit does not require CEMS for the Auxiliary Boiler but does require periodic stack testing to demonstrate compliance with permit limits. The PSD permit also requires monthly calculation of emissions over the previous 12-consecutive month period to monitor compliance with annual emissions limits to verify compliance with annual emissions limits. The prescribed calculation method for all pollutants except SO_2 requires using actual natural gas consumption data and emissions factors based on the most recent stack testing results. For SO_2, emissions must be based on fuel sulfur monitoring data and sulfur balance calculations. For opacity, certified opacity readings are required once per month.

3.6 Cooling Tower

Description

As mentioned previously, the steam power cycle is a closed-loop process whereby steam remaining after expanding through the steam turbine is condensed so the entire flowrate of the "working fluid" can be pumped back to the HRSGs in order to complete the steam power cycle. Pumping produces the high pressures in the working fluid loop, which is needed by the steam turbine to generate power. The Cooling Tower enables the closed loop steam power cycle by expelling waste heat through one, nine-cell, forced draft cooling unit. The Cooling Tower transfers heat to the ambient air through evaporation of water. Water used by the Cooling Tower is pumped from a well located nearby on the Chehalis River.

GHE maintains Cooling Tower water quality to prevent high concentrations of chemicals and dissolved solids that would lead to particulate emissions and odors. Cooling Tower water is continuously monitored for pH, free chlorine, oxidation reduction potential (ORP) and conductivity to assure water quality. Sodium Hypochlorite (bleach) is added to prevent biological growth in the Cooling Tower. The sodium hypochlorite is added automatically to maintain 0.2 – 0.6 ppm free chlorine. Sulfuric acid (H_2SO_4) to prevent scaling is added automatically to maintain pH between 8.1 and 8.5. The bleach and H_2SO_4 are added to the water via constant volume pumps that are automatically controlled based on continuous monitoring of the water quality.

Design operating specifications for GHEC's Cooling Tower are as follows:

- 1,535,200 cubic feet per minute (ft3/min) air flow at design conditions (9 fans total)
- 175,000 gallons per minute (gpm) recirculating water flow
- 1165 milligrams per liter (mg/L) total dissolved solids

- Addition of 93% H_2SO_4 (sulfuric acid) to water at a variable rate, but approximately 70 gallons per day (gpd) average when the plant is running.
- Addition of 12.5% NaClO (sodium hypochlorite) to water at a variable rate, but approximately 104 gal/day average when the plant is running.
- 2H Drift Eliminators manufactured by ENEXIO with a drift rate less than 0.0005 percent.

Cooling Tower Monitoring

The Cooling Tower emits PM_{10} in the form of particulate suspended or dissolved in tiny airborne water droplets, which are referred to as "drift." VOCs and chlorine compounds may also be emitted in drift if Cooling Tower water quality is not maintained. The GHEC Cooling Tower is equipped with "drift eliminators" to reduce drift and air emissions associated with the drift. GHEC's Cooling Tower employs drift eliminators rated at a drift loss rate of less than 0.0005% of the recirculating cooling water flow rate.

The permit requires monthly calculation of the daily (annual average) and annual cooling tower PM_{10} emissions rates based on design flow rates for the circulating water pumps, circulating water pump operating records, conductivity, conductivity to total dissolved solids (TDS) correlation factor and a drift loss rate of 0.000005 gallons per gallon of recirculating water. The level of TDS in the cooling tower water determines the potential for PM_{10} emissions as dissolved solids precipitate to particulate as the cooling tower water evaporates using the following formula:

$$\frac{Q \times C \times 0.000005 \times 60 \times 8.34}{1000000} = D$$

Where:

Q = Either the actual or design recirculating water flow rate in gallons per minute
C = total dissolved solids concentration in parts per million by weight (ppmw)
D = particulate emission rate in lb/hr.
0.000005 = the drift loss rate in gallon lost/gallon of recirculating cooling water

TDS is monitored indirectly by monitoring conductivity of the cooling tower water (TDS is directly related to conductivity). The level of TDS is controlled by adjusting the rate of make-up water to the cooling tower to maintain conductivity below 1200 microohms conductivity. Conductivity is monitored continuously and an alarm is triggered in the control room when conductivity reaches 1200 micro ohms to alert operators to manually adjust the make-up water-up water rate.

3.7 Emergency Generator

Description

GHEC relies on one 400 kilowatt (536 horsepower) Caterpillar, model 3456, diesel-fired emergency generator (Emergency Generator) to provide electricity during power outages. This is critical for GHEC to power down equipment and maintain operation of lubricating oil pumps during power outages. The manufacture date of the Emergency Engine was 2002.

Engine Make & Model	Caterpillar, model 3456
Engine Serial #	CER00348
Date engine was ordered	7/22/2002
Model year of engine	2002
Engine BHP	536 BHP
Engine KW	400 KW

40 CFR Part 60, Subpart IIII (Subpart IIII) does not apply to the Emergency Generator at GHEC because the order date of the Emergency Generator precedes the effective date of Subpart IIII. 40 CFR Part 63, Subpart ZZZZ (Subpart ZZZZ) does apply. In addition to Subpart ZZZZ, the Emergency Generator is subject to requirements from PSD Amendment 4.

Emergency Generator Monitoring

The permit requires monitoring sufficient to verify the Emergency Generator engine is operated, maintained and repaired in a manner consistent with the manufacturer's emissions-related specifications. In addition, total hours of operation and hours of maintenance testing must be tracked and recorded.

3.8 Diesel-fired Water Pump Engine (Fire Water Pump Engine)

Description

The facility includes a 205 kilowatt (275 horsepower) Fire Water Pump Engine for fire suppression during electrical power outages.

Engine Make & Model	John Deere, model No. 6081AF001
Engine Serial #	RG6081A146553
Date engine was ordered	Pre 2002
Model year of engine	2001
Engine BHP	275 BHP
Engine KW	205 KW

40 CFR Part 60, Subpart IIII (Subpart IIII) does not apply to the Fire Water Pump Engine at GHEC because the order date of the Fire Water Pump Engine precedes the effective date of Subpart IIII. 40 CFR Part 63, Subpart ZZZZ (Subpart ZZZZ) does apply. In addition to Subpart ZZZZ, the Fire Water Pump Engine is subject to requirements from PSD Amendment 4.

Fire Water Pump Engine Emissions Control and Monitoring

The permit requires monitoring sufficient to verify the Fire Water Pump Engine is operated,

maintained and repaired in a manner consistent with the manufacturer's emissions-related specifications. In addition, total hours of operation and hours of maintenance testing must be tracked and recorded.

3.9 Table 3: Summary of Emissions Units

ID	Description	Control Devices	Permit #s
EU-1	**Combined Cycle Gas Turbine 1 (CGT1)**: • Combustion Turbine 1 (CT1) – General Electric 7FA natural gas turbine with a maximum design heat rate of 1,671 mmBtu/hr and an output of 234 KVA. • Duct Burner 1 (DB1) – 505 mmBtu/hr natural gas duct burner	• CT1 equipped with Dry-Low NO_x Combustors • DB1 equipped with Low NO_x Burners. • Exhaust from both CT1 and DB1 pass through Selective Catalytic Reduction (SCR) and CO catalyst systems	EFSEC/2001-01 Amendment 4
EU-2	**Combined Cycle Gas Turbine 2 (CGT2):** • Combustion turbine – General Electric 7FA natural gas turbine with a maximum design heat rate of 1,671 mmBtu/hr and an output of 234 KVA. • Duct Burner – 505 mmBtu/hr natural gas duct burner	• CT2 equipped with Dry-Low NO_x Combustors • DB2 equipped with Low NO_x Burners. • Exhaust from both CT2 and DB2 pass through Selective Catalytic Reduction (SCR) and CO catalyst systems	
EU-3	**Auxiliary Boiler:** 29.3 mmBtu/hr natural gas fired boiler used to assist with start-up.	• Low NO_x burners	
EU-4	**Cooling Tower:** Nine cell, 175,000 gal/min forced draft cooling tower	• Equipped with drift eliminators	
EU-5	**Emergency Generator:** 400 kW (536 hp) emergency generator used to help power down equipment and maintain operation of lubricating oil pumps in the event of power outages.	None	
EU-6	**Emergency Fire Water Pump:** 205 kW (275 bhp) diesel-fired water pump to provide for fire suppression during electrical power outages.	None	

3.10 Insignificant Emissions Units (IEUs)

The equipment listed in Table 4 were identified by the GHE as insignificant emissions units (IEUs) as defined under WAC 173-401-200(17). IEUs are exempt from Title V permit program requirements as provided under WAC 173-401-530. None of the IEUs listed in Table 4 are a significant source of emissions or subject to equipment-specific air quality requirements. Because all of the IEUs listed in Table 4 are "categorically exempt" IEUs, they are not required

to be listed in in the GHEC AOP.

3.11 Table 4: Insignificant Emissions Units (IEUs)

ID	Description	Size/Capacity	IEU Basis
IEU	Mobile Fugitive Emissions	Na	WAC 173-401-530(1)(d)
IEU	Lubricating Oil Tank	Na	WAC 173-401-532(3)
IEU	Hydraulic Oil Tank	Na	WAC 173-401-532(4)
IEU	Storage of Pressurized Gases	Na	WAC 173-401-532(5)
IEU	Maintenance Shops	Na	WAC 173-401-532(7)
IEU	Continuous Emissions Monitoring Systems (CEMs)	Na	WAC 173-401-532(7)
IEU	Vents	Na	WAC 173-401-532(9)
IEU	Vehicle Internal Combustion Engines	Na	WAC 173-401-532(10)
IEU	Welding Operations	Na	WAC 173-401-532(12)
IEU	Plant Upkeep Activities	Na	WAC 173-401-532(33)
IEU	Pavement Cleaning and Sweeping	Na	WAC 173-401-532(35)
IEU	Food Preparation	Na	WAC 173-401-532(41)
IEU	Portable Drums and Totes	Na	WAC 173-401-532(42)
IEU	Lawn and Landscaping Activities	Na	WAC 173-401-532(43)
IEU	General Vehicle Maintenance	Na	WAC 173-401-532(45)
IEU	Comfort Air Conditioning	Na	WAC 173-401-532(46)
IEU	Office Activities	Na	WAC 173-401-532(49)
IEU	Sampling Connections	Na	WAC 173-401-532(51)
IEU	Parking Lot Exhaust	Na	WAC 173-401-532(54)
IEU	Indoor Activities	Na	WAC 173-401-532(55)
IEU	Repair and Maintenance	Na	WAC 173-401-532(74)
IEU	Air Compressors	Na	WAC 173-401-532(88)
IEU	Steam Leaks	Na	WAC 173-401-532(89)
IEU	Vacuum System Exhaust	Na	WAC 173-401-532(108)

4. Emissions

GHEC's emissions of criteria air pollutants and ammonia are characterized in the following tables. Table 5 shows cumulative, facility-wide emissions in terms of maximum potential to emit (PTE). PTE values represent maximum permitted emissions from all emissions units at GHEC based on enforceable emissions limits and maximum operating rates for all regulated emissions units. Table 6 shows actual emissions for calendar year 2017. Actual emissions are based on monitored fuel consumption rates, measured natural gas heat and sulfur content, and monitored emissions concentrations over calendar 2017. Table 7 shows cumulative, facility-wide HAP emissions in terms of maximum potential to emit (PTE).

4.1 Table 5: Criteria Pollutant Potential to Emit (PTE)

Pollutant	Potential to Emit (tons per year)	Source of Data

CO (Carbon Monoxide)	144	AOP Permit Application
PM 2.5 (Fine Particulate (<= 2.5 microns))	203	AOP Permit Application
PM-10 (Fine Particulate (<=10 microns))	203	AOP Permit Application
NO_x (Nitrogen Oxides)	245	AOP Permit Application
VOC as Volatile Organic Compounds	76	AOP Permit Application
SO_2 (Sulfur Dioxide)	29	AOP Permit Application
H_2SO_4 (sulfuric acid)	19	AOP Permit Application
NH_3 (ammonia)	141	AOP Permit Application

4.2 Table 6: 2017 Actual Emissions

Pollutant	2017Emissions (tons)	Source of Data
CO (Carbon Monoxide)	11.9	ORCAA 2017 Inventory
PM 2.5 (Fine Particulate: <= 2.5 microns)	24.1	ORCAA 2017 Inventory
PM-10 (Fine Particulate:<=10 microns)	24.1	ORCAA 2017 Inventory
NO_x (Nitrogen Oxides)	84.9	ORCAA 2017 Inventory
VOC as Volatile Organic Compounds	2.8	ORCAA 2017 Inventory
SO_2 (Sulfur Dioxide)	2.9	ORCAA 2017 Inventory
H_2SO_4 (sulfuric acid)	0.2	ORCAA 2017 Inventory
NH_3 (ammonia)	10.3	ORCAA 2017 Inventory

4.3 Table 7: HAP Potential to Emit (PTE)

Pollutant	Potential to Emit (tons per year)	Source of Data
Acedaldehyde	0.59	AOP Permit Application
Acrolein	0.094	AOP Permit Application
Arsenic	0.00087	AOP Permit Application
Benzene	0.19	AOP Permit Application
Beryllium	5.23E-5	AOP Permit Application
1,3-Butadiene	0.0063	AOP Permit Application
Cadmium	0.0048	AOP Permit Application
Chromium, trivalent	0.0030	AOP Permit Application
Chromium, hexavalent	0.0030	AOP Permit Application
Cobalt	0.00037	AOP Permit Application
Ethylbenzene	0.47	AOP Permit Application
Formaldehyde	1.6	AOP Permit Application
Hexane	7.8	AOP Permit Application
Manganese	0.0017	AOP Permit Application
Mercury	0.0011	AOP Permit Application
Naphthalene	0.022	AOP Permit Application

Nickel	0.0091	AOP Permit Application
Poly Aromatic Hydrocarbons	0.032	AOP Permit Application
Propylene Oxide	0.42	AOP Permit Application
Selenium	0.00010	AOP Permit Application
Toluene	1.9	AOP Permit Application
Xylenes	0.94	AOP Permit Application
Total HAP	**14.2**	**AOP Permit Application**

5. Regulatory Determinations

Table 8 summarizes regulatory determinations made for GHEC's AOP.

Table 8 Applicability Determinations

Citation	Description	Applicable?	Basis
40 CFR Part 60 Subpart GG	Stationary Gas Turbine NSPS	Yes	Applies to both combustion turbines since they are greater than 10 MMBtu/hr and were constructed after 1977. Establishes emissions standards for NO_x and SO_2 emissions. Also establishes a fuel sulfur content limit.
40 CFR Part 60 Subpart Da	Electric Utility Steam-Generation Units	Yes	Applies to the duct burners since they are greater than 250 MMBtu/hr and were constructed after 1971. Establishes emissions standards for NO_x and SO_2 emissions.
40 CFR Part 60 Subpart Dc	Small Institutional-Commercial-Industrial Steam Generation Units	Yes	Applies to the Auxiliary Boiler since it is greater than 10 MMBtu/hr and constructed after 1987. However, Subpart Dc only requires fuel monitoring for the GHEC Auxiliary Boiler.
WAC 463-78-100	Registration	No	The latest version of EFSECs registration regulations in WAC 463-78-100 (effective 3/26/06) exempts air operating permit sources from EFSECs registration program.
WAC 173-400-112	Requirements for Sources in Nonattainment Areas	No	GHEC is not located in a nonattainment area for any criteria pollutant. Therefore, this regulation is not applicable facility-wide.
WAC 173-400-120	Bubble Rules	No	GHEC has not requested an emission bubble for any regulated pollutant. Therefore, this regulation is not applicable.
WAC 173-400-131	Issuance of Emission Reduction Credits	No	GHEC has not sought emission reduction credits (ERCs). Therefore, this regulation is not applicable.
WAC 173-400-136	Use of Emission Reduction Credits	No	GHEC has not sought to use emission reduction credits (ERCs). Therefore, this regulation is not applicable.
40 CFR Part 63.6080 et seq. Subpart YYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines	No	Subpart YYYY applies to combustion turbines built after January 14, 2003 and located at major sources of HAP emissions. GHEC is facility is not a major source of HAP emissions. Therefore, Subpart YYYY does not apply.
40 CFR Part 64	Compliance Assurance Monitoring	No	For NOx, CO, Ammonia and opacity emissions, 40 CFR 64.2(b)(iv) provides an exemption from the requirements of Part 64 when a CEMS is otherwise required.

Citation	Description	Applicable?	Basis
			Compliance Assurance Monitoring rule requirements do not apply to particulate, SO2, and H2SO emissions per 40 CFR 64.2(a)(2), which includes an applicability criteria that the unit uses a control device to achieve compliance. A "control device" as defined in 40 CFR Part 64 does not include passive control measures that act to prevent pollutants from forming, such as the use low-polluting fuel or feedstocks. Because no control device is used to control particulate, SO2 or H2SO, this rule does not apply to those pollutants.
40 CFR Part 98	Federal Greenhouse Gas Reporting Requirements	No	The EPA greenhouse gas reporting rule was finalized September 22, 2009. In the preamble EPA responds to a question regarding whether it is an applicable requirement for the purposes of Title V: *As currently written, the definition of "applicable requirement" in 40 CFR 70.2 and 71.2 does not include a monitoring rule such as today's action, which is promulgated under CAA sections 114(a)(1) and 208.* Therefore, these requirements will be enforced directly by the USEPA outside of the Title V AOP program.
40 CFR 63.11193 et seq. Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers - Area Sources	No	GHEC operates the following three steam generating units (boilers): CGT1 Heat Recovery Steam Generator (HRSG), CGT2 HRSG, and the Auxiliary Boiler. Both HRSGs are preceded by duct burners. All three units combust only natural gas and, therefore, are not subject to this regulation.
40 CFR Part 60 Subpart KKKK	Ecology Carbon Dioxide Mitigation Program	No	Establishes requirements for Stationary Combustion Turbines that commenced construction, modification or reconstruction after February 18, 2005. Subpart KKKK does not apply since construction of the GHE facility commenced before 2005.
40 CFR Part 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	No	The "order date" for both the Emergency Generator and Fire Water Pump precede the effective date of Subpart IIII.
40 CFR Part 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.	Yes	Applies to both Emergency Generator and Fire Water Pump.

6. Basis for AOP Terms and Conditions

Energy facilities under the jurisdiction of EFSEC are subject to EFSEC's rules under Chapter 463-78 WAC (EFSEC's Rules). Therefore, the underlying regulatory basis for all conditions in GHEC's AOP comes from EFSEC's Rules. However, because EFSEC's Rules adopt by reference (ABR) relevant state and federal rules which apply to energy facilities, the pertinent details of applicable requirements reside within the adopted rules and regulations themselves. Table 9 provides a mapping of relevant state and federal regulations that have been ABR by EFSEC.

6.1 Table 9: EFSEC Rules Adopted by Reference

Title of Rule Adopted by Reference	Citation	Citation of EFSEC Adopting Rule
Washington Air Operating Permit Regulation	Chapter 173-401 WAC	WAC 463-78-005(2)
Washington's General Regulations for Air Pollution Sources except for Ecology specific sections and adoption of federal New Source Performance Standards	Chapter 173-400 WAC	WAC 463-78-005(1)
Washington's Acid Rain Program	Chapter 173-406	WAC 463-78-005(3)
Washington's Controls for New Sources of Toxic Air Pollutants	Chapter 173-460 WAC	WAC 463-78-005(4);
Federal New Source Performance Standards	40 CFR Part 60	WAC 463-78-115;
National Emission Standards for Hazardous Air Pollutants	40 CFR Part 61	WAC 463-78-005(1)
National Emission Standards for Hazardous Air Pollutants for Source Categories	40 CFR Part 63	WAC 463-78-005(1)

In order to avoid compounding already long strings of regulatory citations in GHEC's AOP, and because pertinent details of applicable requirements reside within the ABR regulations themselves, the ABR regulations are cited in GHEC's AOP without citing the corresponding Chapter 463-78 WAC section that adopts them. Therefore, the following sections discuss the regulatory basis for AOP conditions from the standpoint of state and federal regulations that have been ABR by EFSEC.

Per the Washington Air Operating Permit Program under WAC 173-401-600, the regulatory origin and authority for each condition must be stated in an AOP. For GHEC's AOP, origin and authority are stated at the end of each permit condition. The "origin" cites the state or federal regulation or PSD/NSR permit where the applicable requirement came from. The "authority" cites the specific section in WAC 173-401 providing authority to include the requirement.

The following authorities from the Washington AOP program were used in GHEC's AOP:

6.1 Table 10: Required Permit Content, Washington AOP Program

WAC 173-401 Section:	Provides authority to include in AOP:
WAC 173-401-600(1)(a)	Federal emissions limits and standards.
WAC 173-401-600(1)(b)	State emissions limits and standards.
WAC 173-401-600(1)(c)	Requirements from permits issued by a local air pollution control authority (NOC and PSD permits).
WAC 173-401-615(1)(a)	Monitoring required by an applicable requirement.
WAC 173-401-615(1)(b)	Periodic monitoring where the applicable requirement does not require specific monitoring (commonly referred to as "gap-filling monitoring).
WAC 173-401-615(1)(c)	As necessary, requirements concerning the use, maintenance, and, where appropriate, installation of monitoring equipment or methods.
WAC 173-401-615(2)	All applicable recordkeeping requirements and require, where applicable: - Records of required monitoring; - Records of changes made at the facility that result in emissions of a regulated air pollutant, but not otherwise regulated under the permit; - Retention of records of all required monitoring data and support information for a period of five years from the date the record originated; and, - Monitoring support information including all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation; and, - Copies of all reports required by the permit.
WAC 173-401-615(3)	All applicable reporting requirements and require: - Submittal of reports of any required monitoring at least once every six months; and, - Prompt reporting of deviations from permit requirements, including those attributable to upset conditions.
WAC 173-401-620(2)	Standard Title V provisions from WAC 173-401-620(2).
WAC 173-401-605(1)	Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance.
WAC 173-401-640(1)	Upon request, the permitting authority shall include in the permit or in a separate written finding issued with the permit a determination identifying specific requirements that do not apply to the source.

6.2 Permit Administration (P1 – P21)

Permit administrative conditions (conditions P1 – P21) include conditions specifying how the AOP is managed according to the State AOP program under Chapter 173-401 WAC and conditions having implications on assuring compliance with all other conditions in the AOP. Many of the permit administrative conditions are "standard terms and conditions" and required to be in the AOP per either Chapter 173-401 WAC or per federal requirements for AOPs.

The origin of each permit administrative condition is stated at the end of each condition. Authority to include permit administrative conditions comes from primarily from WAC 173-401-600(1)(b), which specifies AOPs contain requirements from the Washington Clean Air Act (Chapter 70.94 RCW) and rules implementing that chapter (Washington's AOP program is

pursuant to RCW 70.94.162, which under the Washington Clean Air Act.).

Permit administrative conditions specify terms of the AOP such as the permit duration, expiration, renewal and revision requirements. They also explain the "Permit Shield," extent of AOP enforceability and how the AOP can be revoked or re-opened for cause. They are essential to the proper functioning of the AOP under the State of Washington Program. Because permit administrative conditions do not include any applicable emissions limitations or operational standards, monitoring is not applicable. However, general recordkeeping and reporting requirements apply. Also, compliance with permit administrative conditions must be certified annually. Several key conditions are discussed in detail below.

Standard Conditions (condition P4)

Both the origin and authority to include this condition in the permit come from WAC 173-401-620(2). The condition identifies general duty and administrative requirements that are standard for all AOPs including the duty to comply and duty to provide information.

Confidential Information (condition P16)

The origins of this condition are WAC 173-401-500(5) and WAC 173-401-620(2)(e). The condition identifies the essential standards for considering and handling confidential information. Justification for its inclusion in the AOP is that it establishes the standard for handling confidential information under Title V. Authority to include the condition in the permit comes from WAC 173-401-600(1)(b).

Credible Evidence (condition P17)

Condition P17 contains important provisions from the Credible Evidence Rule under 40 CFR Part 51, and from provisions under 40 CFR Part 60 and 61 concerning credible evidence. In general, these rules provide that the permittee may use any credible evidence outside of the monitoring and testing required by the AOP to support a compliance determination. The authority to include this condition is WAC 173-401-600(1)(a), which requires AOPs contain terms and conditions that assure compliance with all applicable federal requirements. There may be times when the permittee must augment the monitoring and testing required by the AOP with other information in order to demonstrate or assure continuous compliance. This condition allows for the use of credible evidence.

Emergency Provisions (condition P18)

Condition P18 contains the requirements governing how to treat emergencies under the Washington AOP program including what constitutes an emergency, criteria for demonstrating an emergency and effect of an emergency relative to AOP enforcement actions. This applicable requirement is required to be included in all AOPs.

Unavoidable Excess Emissions (conditions P19 & P20)

Condition P19 contains requirements from WAC 173-400-107 governing treatment of unavoidable excess emissions, which are included in the current Washington State Implementation Plan (SIP). The SIP is comprised of rules, which the State of Washington has adopted and EPA has approved, for maintaining the National Ambient Air Quality Standards. The current SIP was adopted by EPA September 20, 1993.

Recently, Washington Department of Ecology (Ecology) adopted updated rules governing unavoidable excess emissions events. These updated rules were adopted under WAC 173-400-108. They were adopted with a provision making them effective on the date EPA removes the currently effective rules under WAC 173-400-107. The future effective date provision was adopted knowing that the length of time for EPA to approve and update the SIP was uncertain. Therefore, the current rule governing unavoidable excess emissions, WAC 173-400-107, remains effective up to the date the EPA removes it from the SIP and inserts WAC 173-400-108.

Condition P19 was written with this "sunset" provision anticipating this change will likely happen sometime during the five-year AOP permit term. Likewise, condition P20, which contains the updated unavoidable excess emissions requirements under WAC 173-400-108, is written into the AOP with an effective date commencing the date EPA adopts it into the SIP.

Following recommendation from Ecology's Air Quality Program, both conditions were included in GHEC's AOP in order to avoid re-opening and modifying GHEC's AOP mid permit term.

Certification (condition P21)

In accordance with WAC 173-401-520, all application forms, reports, and compliance certifications must be certified for truth and accuracy by a responsible official. Therefore, this requirement has implications all other requirements in the AOP requiring compliance reports to EFSEC. The requirement to certify reports for truth and accuracy is considered an applicable requirement. It is included in the AOP under the general authority provided by WAC 173-401-600(1)(b), which requires permits contain terms and conditions sufficient to assure compliance with all applicable requirements under the Washington Clean Air Act.

6.3 General Terms and Conditions (G1 – G17)

General terms and conditions (G1 – G17) cover general compliance and permitting requirements including:

- Access for inspection of GHEC;
- Treatment of insignificant emissions units;
- Pre-construction permitting requirements;
- Temporary source requirements;
- Asbestos and demolition permitting;
- Chemical Accident Prevention Program;
- Stratospheric Ozone Protection Program;
- Outdoor burning requirements;
- General emissions testing requirements; and,
- Acid Rain Program.

These conditions are categorized as General Terms and Conditions in GHEC's AOP because they either have broad implications on multiple conditions in the AOP, or are entire programs that are applicable if triggered, such as the Stratospheric Ozone Protection program. Authority for each condition varies depending on whether the applicable requirement originated from a state or federal regulation. Several general terms or conditions are discussed in detail below.

Inspection and Entry (condition G1)

Condition G1 contains requirements for inspection and entry to the facility. The specific provisions and requirements governing inspection and entry originate from WAC 173-401-630(2) and WAC 173-400-105(3)&(4). Authority to include these requirements in the AOP comes from WAC 173-401-600(1)(b).

New Source Review Requirements (conditions G4 & G5)

Conditions G4 & G5 reference the procedural requirements for securing EFSEC's approval prior to commencing any project triggering an air permit from EFSEC. These requirements include requirements for NOC, PSD and modifications and are generally referred to as "New Source Review." They become applicable when triggered and must be complied with prior to commencing any project triggering an air permit through EFSEC. Authority to include the requirements in GHECs AOP comes from the general authority provided by WAC 173-401-600(1)(b).

Chemical Accident Prevention (condition G8)

Chemical accident prevention under the federal Risk Management Plan (RMP) program (40 CFR Part 68) applies to any industrial facility that uses or stores any extremely hazardous substance. The RMP program requires subject facilities to develop an RMP for all substances used above a threshold quantity.

GHE does use and store aqueous ammonia, which is a chemical regulated under the RMP program. The RMP program applies to facilities that use or store 20,000 pounds of aqueous ammonia (conc 20% or greater) during any year. GHECs use of aqueous ammonia has been below this threshold concentration since the facility began operation. However, because there is a potential for aqueous ammonia to be used above the RMP rule threshold quantity, condition G8 was added to GHECs AOP. The specific requirements of the RMP rule remain dormant unless a regulated substance is used above its threshold quantity.

The RMP program is considered an applicable federal regulatory program. Therefore, authority to include condition G8 comes from WAC 173-401-600(1)(a), which requires permits contain terms and conditions sufficient to assure compliance with all applicable federal emissions limits and standards. Although it is unlikely GHEC will trigger the RMP program, the program must be acknowledged in the AOP as applicable if triggered.

Outdoor Burning (condition G10)

Outdoor burning is generally prohibited but may be permitted as allowed by WAC 173-425. However unlikely for GHEC, the requirement was included in the AOP to allow for permitted outdoor burning. Authority to include it in the AOP comes from the general authority provided by WAC 173-401-600(1)(b). Any permit allowing outdoor burning would be issued by EFSEC's contractor, ORCAA.

Reporting to Verify Emissions from Potential PSD Sources (condition G16)

This requirement from 40 CFR Part 52 is triggered by a project that has a reasonable possibility (50% of significant Emission Rate) of triggering a need to have a PSD permit or PSD permit modification. The requirement is to keep record of and report actual emissions resulting after a project after is has started operations (5-10 years).

Prevention of Significant Deterioration (PSD) (Condition G17)

This condition includes EFSECs PSD and major New Source Review requirements and applies for projects triggering PSD.

6.4 Applicable Requirements

Applicable requirements (AR1 – AR5) cover applicable emissions limits and operating standards from applicable state and federal regulations and NOC and PSD permits issued by EFSEC to GHEC. Origin and authority are stated at the end of each condition. All applicable requirements are in their original form except for minor reorganization for ease of implementation. Primarily, reorganization consisted of separating out monitoring specifics from the applicable limits. All monitoring details are included in the Monitoring section of GHECs AOP.

The following applicable regulations are included:

- General facility-wide standards and prohibitions primarily from Chapter 173-400 WAC (AR1);
- Gas turbine NSPS from 40 CFR 60 Subpart GG (AR2);
- Duct burner NSPS from 40 CFR 60, Subpart Da (AR3);
- PSD Amendment 4 permit requirements for the CGTs (AR4);
- PSD Amendment 4 permit requirements for the Auxiliary Boiler (AR5);
- PSD Amendment 4 permit requirements for the emergency diesel engines (AR6); and,
- PSD and NOC permit requirements for the Cooling Tower (AR7).

NSPS General Duty Requirements (condition AR1.1)

This condition contains the general "blanket" requirement that emissions units subject to NSPS be operated in a manner consistent with good air pollution control practice for minimizing emissions. It is a requirement from the general NSPS requirements under 40 CFR60.11(d) and applies to all emissions units subject to a federal NSPS. For GHEC, the CGTs, Duct Burners, Auxiliary Boiler and Emergency Engines are all subject to federal NSPS and, therefore must abide by this general requirement.

Washington General Standards (condition AR1.2 – 1.10)

Conditions AR1.2 – AR1.10 contain applicable requirements from the States General Regulations for Air Pollution Sources under Chapter 173-400 WAC. These requirements apply plant-wide to all emissions units including insignificant emissions units (IEUs). However, IEUs are not subject to the monitoring, recordkeeping and reporting requirements of the AOP.

Acid Rain Program (condition AR1.11)

Condition AR1.11 contains the plant-wide SO_2 allowance requirement from the GHEC's Acid Rain Program permit. This is the primary requirement from the Acid Rain Program permit.

Required Plans (condition AR1.12)

Condition AR1.12 requires the permittee develop, maintain, and follow:

- An Operating and Maintenance manual (O&M Manual); and,
- An equipment Start-up, Shutdown, and Malfunction Procedures manual (SSM Manual).

Both manuals are required to describe accepted operating procedures for minimizing emissions from all emissions units at the facility. The origin of this requirement is PSD Amendment 4.

NSPS for Stationary Gas Turbines (conditions AR2.1 – AR2.3)

Conditions AR2.1 – AR2.3 contain applicable requirements from the federal Standards of Performance for Stationary Gas Turbines under CFR 60 Subpart GG (Subpart GG). Subpart GG applies to stationary gas turbines with a heat input at peak load equal to or greater than 10 million Btu per hour (MMBtu/hr), based on the lower heating value of the fuel fired. The Turbines at GHEC each have heat input rates well above this threshold at 1,671 MMBtu/hr. Subpart GG imposes both NO_x and SO_2 standards for stationary gas turbines that apply at all times including operations during startup, shutdown and malfunction events.

The Subpart GG standard for NO_x is based on the following calculation found in 40 CFR Part 60.332(a)(1):

NO_x Standard Calculation Method

NO_x STD = 0.0075(14.4)/[(1671mmBtu/hr)(10^6)(1.05556 kj/Btu)/(175MW)(10^6)] + 0 =

0.010715 percent by volume @ 15% oxygen and dry = 107.15 ppmvd @ 15% O_2

The Subpart GG NO_x standard is included in condition AR 2.1. Subpart GG requirements for the NO_x continuous emissions monitoring system (CEMS) incorporate by reference the monitoring requirements from 40 CFR Part 75.

For combined cycle turbine systems where the turbine is followed by a duct burner, Subpart GG allows NO_x to be measured after the duct burner. This allowance is found under 40 CFR Part 60.335(b)(3):

(3) For a combined cycle turbine system with supplemental heat (duct burner), the owner or operator may elect to measure the turbine NO_x emissions after the duct burner rather than directly after the turbine. If the owner or operator elects to use this alternative sampling location, the applicable NO_x emission limit in §60.332 for the combustion turbine must still be met.

The Subpart GG standard for SO_2 is 0.015 percent at 15% oxygen on a dry basis (150 ppm@ 15% O_2), which originates from 40 CFR Part 60.333(a). This standard is included as a limit in condition AR2.2 in the GHEC AOP. Required monitoring is based on sulfur mass balance calculations as specified in condition M11, which rely on fuel combustion monitoring and periodically measuring the heat and sulfur content of the natural gas.

NSPS for Electric Utility Steam Generating Units (conditions AR2.4 – AR2.5)

Conditions AR2.4 – AR2.5 contain applicable requirements from the federal Standards of Performance for Electric Utility Steam Generating Units under CFR 60 Subpart Da (Subpart Da). Subpart Da applies to electric utility steam generating units that are capable of combusting more than 250 MMBtu/hr heat input of fossil fuel (including natural gas) for which construction, modification, or reconstruction commenced after September 18, 1978. The Duct Burners at GHEC each have a design heat rate of 505 MMBtu/hr and were constructed after 1978. Therefore, Subpart Da applies.

Subpart Da imposes both NO_x and SO_2 standards that apply at all times the Duct Burners are operating. Subpart Da allows the NO_x CEMS on combined emissions from each Turbine and associated Duct Burner. This monitoring strategy is allowed by 40 CFR 60.48Da(k)(3), which provides that, when a duct burner steam generating unit utilizes a common steam turbine with one or more affected duct burners, compliance with the applicable NO_x emissions limits may be determined by measuring the emissions combined with the emissions from other unit(s) utilizing the common steam turbine. This provision allows a single NO_x analyzer on the stack to determine NO_x concentrations, which are then converted to unit specific NO_x concentrations and pollutant mass rates based on unit specific natural gas monitoring. Therefore, the same NO_x and O_2 monitoring system required for Subpart GG can be used for the Duct Burners as well. The data acquisition system (DAS) for the NO_x is capable of determining both concentrations and pollutant mass rates specific to each combustion unit based on the natural gas combustion rates, which are monitored individually for each unit.

PSD Requirements for CGTs (conditions AR2.6 – AR2.19)

Conditions AR2.6 – AR2.19 include applicable requirements from PSD Amendment 4 (PSD permit) applying to the CGTs. All requirements are in identical form as written in the PSD permit except for some reorganization and adding clarification of requirements for continuous emissions monitoring systems (CEMS) and continuous monitoring systems (CMS).

Clarification of requirements for CEMS and CMS was necessary for two reasons:

1. The CGTs are subject to multiple standards for the same pollutant from different regulations, each which have their own unique CEMS and CMS requirements. As a result, there are redundancies in CEMS and CEM requirements and some apparent conflicting requirements that needed to be resolved and harmonized in the AOP.
2. The PSD permit incorporates by reference federal performance standards and quality assurance procedures for CEMS and CMS, which are general and cover all possible scenarios and fuel types for affected facilities. As a result, requirements applying specifically to GHEC are difficult to identify due to the sheer volume of inapplicable provisions within the referenced federal standards. For example, the adopted requirements for NO_x monitoring under 40 CFR Part 75 spans well over 300 pages of CFR and itself references several other equally extensive sections of the CFR.

Because of this, requirements for CEMS and CMS at GHEC are adopted by reference in the permit.

6.5 Monitoring Terms and Conditions

Applicable monitoring terms and conditions (M1 – M16) include all required monitoring from applicable federal subparts and the PSD permit. Origin and authority are stated at the end of each condition. Although applicable monitoring requirements are included in their original form, additions were required to clarify requirements. This is allowed in Title V AOPs under "gap filling monitoring" provisions in WAC 173-401-615(1)(b) and (1)(c).

Regulatory origins are stated at the end of each condition. Monitoring conditions added to applicable requirements state "N/A - gap filling monitoring" for the regulatory origin. Authority for all monitoring conditions come from WAC 173-401-615(1). Each condition includes WAC 173-401-615(b)&(c) because gap filing monitoring requirements needed to be added to all monitoring conditions. Certain monitoring conditions are exclusively "gap filling monitoring" conditions.

Ammonia Continuous Emission Monitoring Systems (condition M9)

PSD permit condition 18.2 requires continuous monitoring of ammonia from the CGTs:

> *CGT ammonia Continuous Emissions Monitoring Systems (NH_3 CEMS) shall meet the requirements contained in 40 CFR, Part 63, Appendix A, Reference Method 301, Validation Protocol, and 40 CFR, Part 60, Appendix F, Quality Assurance Procedures, or other EFSEC-approved performance specifications and quality assurance procedures. The NH_3 CEMS shall be capable of determining emissions during start-up, shutdown, and periods of malfunction.*

However, neither the Validation Protocol nor Appendix F of 40 CFR Part 60 which are cited in the condition actually contain performance specifications for ammonia monitors. As explained earlier in this document, preliminary NH_3 CEMS performance specifications adopted by EPA in Preliminary Performance Specification for Ammonia Continuous Emission Monitors (PPS-001, EPA, 2005) can be used as a surrogate until EPA adopts final performance specifications for NH_3. PPS-001 has not yet been published in the Federal Register but is proposed by EPA as the performance specifications required for NH_3 CEMS. PPS-001 establishes specifications for the allowable range, calibration drift and accuracy for NH_3 CEMS. The PPS-001 performance specifications can be used in the Validation Protocol for initial testing of NH_3 CEMS and in

Appendix F requirements for ongoing quality assurance and control.

6.6 General Recordkeeping Requirements

Applicable recordkeeping terms and conditions (RK1 – RK9) include all required recordkeeping requirements for Title V AOPs as required under WAC 173-401-615(2). Origin and authority are stated at the end of each condition.

6.7 Reporting

Applicable reporting terms and conditions (R1 – R13) include all required reporting requirements for Title V AOPs as required under WAC 173-401-615(32). Origin and authority are stated at the end of each condition.

STATE OF WASHINGTON

ENERGY FACILITY SITE EVALUATION COUNCIL (EFSEC)

TITLE V AIR OPERATING PERMIT (AOP)

Issued To

Grays Harbor Energy, LLC

For The

Grays Harbor Energy Center

PERMIT #:	**EFSEC/94-1 AOP- Initial**
ISSUED:	**June 17, 2020**
EXPIRATION:	**June 17, 2025**

ENERGY FACILITY SITE EVALUATION COUNCIL
621 Woodland Square Loop
Lacey, WA 98503-3172
Telephone: (360) 664-1345

AIR OPERATING PERMIT #: EFSEC/94-1 AOP Initial

ISSUED TO: Grays Harbor Energy LLC
401 Keys Road
Elma, WA 98541-9149

PLANT SITE:
Grays Harbor Energy Center
401 Keys Road
Elma, WA 98541-9149

ISSUED BY: Energy Facility Site Evaluation Council
621 Woodland Square Loop SE - PO Box 43172
Lacey, WA 98503-3172

NATURE OF BUSINESS:	Electrical Generating Facility
SIC / NAICS:	4911 / 221112
ICIS NUMBER:	WAORC0005302701186
EFFECTIVE DATE:	June 17, 2020
EXPIRATION DATE:	June 17, 2025
RENEWAL APPLICATION DUE:	December 17, 2024

PERMIT ENGINEER:

_____ _____
Mark Goodin P.E. – ORCAA Date

REVIEWED BY:

_____ _____
Sonia E. Bumpus – EFSEC Manager Date

APPROVED BY:

_____ _____
Kathleen Drew - EFSEC Chair Date

ISSUED IN ACCORDANCE WITH:
40 CFR Part 70, Chapter 70.94 RCW, and Chapters 463-78 and 173-401 WAC

I. REGULATORY BASIS

This Air Operating Permit (AOP), issued to Grays Harbor Energy LLC, for the Grays harbor Energy Center, is authorized under the procedures established in Chapter 173-401 WAC as adopted by EFSEC in Chapter 463-78 WAC, and Title V of the 1990 Federal Clean Air Act Amendments. The terms and conditions of this AOP describe the emissions limitations, operating requirements, monitoring requirements, recordkeeping requirements, and reporting requirements applying to the permitted facility.

AOP terms and conditions are divided into the following categories: Permit Administration Conditions (P#), General Terms and Conditions (G#), Applicable Requirements (AR#), Monitoring Terms and Conditions (M#), Recordkeeping Terms and Conditions (RK#), and Reporting Terms and Conditions (R#). As used in this permit, there is no distinction between "terms" and "conditions." As such, "condition" shall mean the same as "terms and conditions" as referred to in Title V of the 1990 Federal Clean Air Act Amendments.

All terms and conditions of this AOP, including any provisions designed to limit potential to emit, are enforceable under the Federal Clean Air Act (FCAA) unless specifically identified as “state” or “local” only in the "regulatory basis" description that follows each condition. Conditions identified as "local only" are enforceable only by the Energy Facility Site Environmental Council (EFSEC). Conditions identified as "state/local only" are enforceable only by EFSEC and the State of Washington.

The conditions in this AOP contain abbreviated and, in some cases, paraphrased versions of the language of the applicable requirements from the underlying laws, regulations and regulatory orders. Any difference between the description of an applicable requirement in this AOP compared to the corresponding law, regulation or order is provided for purposes of clarifying the underlying requirement. The legal requirement remains the underlying applicable requirement cited in the “Applicable Requirement” column of the tables and the citations contained in brackets at the end of each requirement. Any perceived conflicts between this AOP and an underlying applicable requirement will be resolved by referring to the cited applicable requirement.

Definitions of key terms used in this AOP are provided in Attachment 2 and should be consistent with definitions provided from corresponding referenced regulations. If not defined in this AOP, the referenced regulation, Chapter 70.94 RCW, WAC 173-401-200 or WAC 173-400-030, terms shall be defined consistent with consistent with the Merriam-Webster's Collegiate Dictionary, Eleventh Edition copyright © 2003 by Merriam-Webster Inc.

The conditions required under this AOP were determined necessary to assure and provide for certification of compliance with applicable local, state, and federal air pollution regulations and standards. These requirements were determined applicable based on the equipment specifications and regulatory history of each emissions unit as described in the Technical Support Document for this AOP.

Conditions in this AOP originate from state, federal and local regulations and standards and are generally referred to as “applicable requirements.” AOP conditions reflect the effective versions of each applicable requirement at the time the AOP was issued. Therefore, the effective date of each applicable requirement in this AOP is the effective date of the applicable requirement on the date the AOP was issued. Certain applicable requirements may have had multiple effective dates when the AOP was issued due to either an outdated version of the applicable requirement in the Washington State Implementation Plan (SIP) at the time the AOP was issued or an outdated applicable requirement adopted by reference by EFSEC at the time the AOP was issued. In these instances, both versions of the applicable requirement apply and are reflected in the AOP condition. Any disputes regarding the exact language of an applicable requirement covered in this AOP should be settled based on the effective versions of applicable requirements on the date the AOP was issued.

[END OF SECTION]

II. EMISSION UNIT (EU) IDENTIFICATION

The following table contains emission unit identifications. More detailed descriptions of each emission unit are included in the Technical Support Document (TSSD) for this Air Operating Permit (AOP).

TABLE 2: Emissions Units Covered Under AOP

EU #	Generating Equipment/Activity	Emission Control
EU-1	**Combined Cycle Gas Turbine 1 (CGT-1)**: • Combustion Turbine 1 (CT-1) – General Electric 7FA natural gas turbine with a maximum design heat rate of 1,671 mmBtu/hr and an output of 234 KVA. • Duct Burner 1 (DB-1) – 505 mmBtu/hr natural gas duct burner	• CT-1 equipped with Dry-Low NO_x Combustors • DB1 equipped with Low NO_x Burners. • Exhaust from both CT-1 and DB-1 pass through Selective Catalytic Reduction (SCR) and CO catalyst systems
EU-2	**Combined Cycle Gas Turbine 2 (CGT-2):** • Combustion turbine – General Electric 7FA natural gas turbine with a maximum design heat rate of 1,671 mmBtu/hr and an output of 234 KVA. • Duct Burner – 505 mmBtu/hr natural gas duct burner	• CT-2 equipped with Dry-Low NO_x Combustors • DB-2 equipped with Low NO_x Burners. • Exhaust from both CT-2 and DB-2 pass through Selective Catalytic Reduction (SCR) and CO catalyst systems
EU-3	**Auxiliary Boiler:** 29.3 mmBtu/hr natural gas fired boiler used to assist with start-ups.	• Low NO_x burners • Flue Gas Recirculation (FGR)
EU-4	**Cooling Tower:** Nine cell, 175,000 gal/min forced draft cooling tower	• Equipped with drift eliminators
EU-5	**Emergency Generator:** 400 kW (536 hp) emergency generator used to help power down equipment and maintain operation of lubricating oil pumps in the event of power outages.	None
EU-6	**Emergency Fire Water Pump:** 205 kW (275 hp) diesel-fired water pump to provide for fire suppression during electrical power outages.	None

Table Notes:

1. The information in Table 1 is for purposes of description only and is not intended as a limitation.

[END OF SECTION]

III. PERMIT ADMINISTRATION (P)

Conditions in this section govern administration of this Air Operating Permit (AOP) and include AOP administrative and other requirements that have no ongoing compliance monitoring requirements. The permittee must comply with all of the AOP requirements including AOP administrative requirements and must certify compliance annually.

P1. Permit Duration. This Air Operating Permit (AOP) is issued for a fixed term of 5 years from date of issuance.

[Origin: WAC 173-401-610]
[Authority: WAC 173-401-600(1)(b)]

P2. Federally Enforceable Requirements.

a) All terms and conditions in this AOP, including any provision designed to limit potential to emit, are enforceable by the U.S. EPA Administrator (EPA) and citizens under the Federal Clean Air Act (FCAA), except as indicated in b) below.

b) Notwithstanding subsection (a) of this condition, any terms and conditions included in this AOP that are not required under the FCAA or under any of its applicable requirements are specifically designated as "state" or "local" only and are not federally enforceable under the FCAA. Terms and conditions so designated are not subject to review by EPA and affected states per the requirements of WAC 173-401-810 and 820.

[Origin WAC 173-401-625]
[Authority: WAC 173-401-600(1)(b)]

P3. Compliance Maintenance. The permittee shall maintain compliance with all applicable requirements with which the source was in compliance as of the date of permit issuance. The permittee shall meet on a timely basis any applicable requirements that become effective during the permit term.

[Origin: WAC 173-401-630(3); WAC 173-401-510(2)(h)(iii)]
[Authority: WAC 173-401-600(1)(b)]

P4. Standard Conditions:

a) **Duty to comply.** The permittee shall comply with all conditions of this AOP. Any permit noncompliance constitutes a violation of Chapter 70.94 RCW and, for federally enforceable provisions, a violation of the FCAA. Such violations are grounds for enforcement action; for AOP termination, revocation and re-issuance, or modification; or for denial of an AOP renewal application. [Origin: WAC 173-401-620(2)(a)]

b) **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this AOP. [Origin: WAC 173-401-620(2)(b)]

c) **Permit Actions.** This AOP may be modified, revoked, reopened, and reissued, or

terminated for cause. The filing of a request by the permittee for a permit modification, revocation and re-issuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [Origin: WAC 173-401-620(2)(c)]

d) **Property Rights.** This AOP does not convey property rights of any sort, or any exclusive privilege. [Origin: WAC 173-401-620(2)(d)]

e) **Duty to Provide Information.** The permittee shall furnish to EFSEC, within a reasonable time, any information that EFSEC may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the AOP, or to determine compliance with the AOP. Upon request, the permittee shall also furnish to EFSEC copies of records that the permittee is required to keep by this AOP, or for information claimed to be confidential, the permittee may furnish such records directly to EFSEC along with a claim of confidentiality per Condition P16. Permitting authorities shall maintain confidentiality of such information in accordance with RCW 70.94.205. [Origin: WAC 173-401-620(2)(e)]

f) **Annual Fees.** The permittee shall pay an annual permit fee as a condition of this AOP in accordance with EFSEC's fee schedule as provided under WAC 463-78-105. Failure to pay fees in a timely fashion shall subject the permittee to civil and criminal penalties as prescribed in Chapter 70.94 RCW. [Origin: WAC 173-401-620(2)(f) and WAC 463-78-105]

g) **Emission Trading.** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the AOP. [Origin: WAC 173-401-620(2)(g)]

h) **Severability.** If any provision of this AOP is to be held invalid, all unaffected provisions of the AOP shall remain in effect and enforceable. [Origin: WAC 173-401-620(2)(h)]

i) **Permit Appeals.** This AOP or any conditions in it may be appealed only by filing an appeal with the Washington State Pollution Control Hearings Board and serving it on EFSEC within thirty days from receiving the AOP pursuant to RCW 43.21B.310. This provision for appeal in this section is separate from and additional to any federal rights to petition and review under §505(b) of the FCAA. [Origin: WAC 173-401-620(2)(i)]

j) **Permit continuation.** This AOP and all terms and conditions contained therein, including any permit shield provided under WAC 173-401-640, shall not expire until the renewal permit has been issued or denied if a timely and complete application has been submitted. An application shield granted pursuant to WAC 173-401-705(2) shall remain in effect until the renewal permit has been issued or denied if a timely and complete application has been submitted. This protection shall cease to apply if, subsequent to a completeness determination, the applicant fails to submit by the deadline specified in writing by EFSEC any additional information identified as being needed to process the application. [Origin: WAC 173-401-620(2)(j)]

[Authority: WAC 173-401-620(2)]

P5. Duty to Supplement or Correct Application. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that

become applicable to the source after the date it filed a complete application but prior to release of a draft AOP.

[Origin: WAC 173-401-500(6)]
[Authority: WAC 173-401-600(1)(b)]

P6. Misrepresentation and Tampering:

a) The permittee shall not make any false material statement, representation or certification in any form, notice, or report.

b) The permittee shall not render inaccurate any monitoring device or method required under Chapter 70.94 RCW, or any ordinance, resolution, regulation, permit, or order in force pursuant thereto.

[Origin: WAC 173-400-105(6)&(8) (State Only)]
[Authority: WAC 173-401-600(1)(b)]

P7. Permit Renewal Application. The permittee shall submit a complete renewal application to EFSEC at least six months, but no more than 18 months, prior to the expiration date of this AOP.

[Origin: WAC 173-401-710(1)]
[Authority: WAC 173-401-600(1)(b)]

P8. Transfer of Ownership or Operational Control. A change in permittee due to transfer of ownership or operational control of an affected source requires a request for administrative permit amendment as governed by WAC 173-401-720.

[Origin: WAC 173-401-710(1)(d)]
[Authority: WAC 173-401-600(1)(b)]

P9. Permit Expiration – Application Shield. AOP expiration terminates the permittee's right to operate unless a timely and complete renewal application has been submitted consistent with condition P7. All terms and conditions of the AOP shall remain in effect after the AOP itself expires if a timely and complete permit application has been submitted. Operation under the terms and conditions of the expired AOP will be allowed until EFSEC takes final action on the renewal application.

[Origin: WAC 173-401-705(2) and WAC 173-401-710(3)]
[Authority: WAC 173-401-600(1)(b)]

P10. Permit Revocation. The permitting authority may revoke an AOP only upon the request of the permittee or for cause. The permitting authority shall provide at least thirty days written notice to the holder of a current AOP prior to revocation of the AOP or denial of a permit renewal application. Such notice shall include an explanation of the basis for the proposed action and afford the permittee/applicant an opportunity to meet with the permitting authority prior to the authority's Preliminary Draft decision. A revocation issued under this section may be issued

conditionally with a future effective date and may specify that the revocation will not take effect if the permittee satisfies the specified conditions before the effective date.

[Origin: WAC 173-401-710(4)]
[Authority: WAC 173-401-600(1)(b)]

P11. Reopening for Cause. The AOP shall be reopened and revised under any of the following circumstances:

- **a)** Additional requirements become applicable to the source with a remaining permit term of three or more years. Such a reopening shall be completed not later than eighteen months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the AOP is due to expire, unless the original AOP or any of its terms and conditions have been extended pursuant to WAC 173-401-620(2)(j);
- **b)** Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the AOP;
- **c)** EFSEC or the Administrator determines that the AOP contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the AOP; or
- **d)** EFSEC or the Administrator determines that the AOP must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue this AOP shall follow the same procedures as apply to initial AOP issuance and shall affect only those parts of the AOP for which cause to reopen exists. Reopening under this section shall not be initiated before a notice of such intent is provided to the permittee by the permitting authority. Such notice shall be made at least 30 days in advance of the date that the AOP is to be reopened, except that the permitting authority may provide a shorter time period in the case of an emergency.

[Origin: WAC 173-401-730]
[Authority: WAC 173-401-600(1)(b)]

P12. Changes not Requiring Permit Revision/Off Permit Changes. The permittee may make the changes described in WAC 173-401-722 and WAC 173-401-724 without revising this AOP, provided that the changes satisfy the criteria set forth in those sections, including the requirements to notify EFSEC and EPA.

[Origin: WAC 173-401-722; and, WAC 173-401-724]
[Authority: WAC 173-401-600(1)(b)]

P13. Administrative Permit Amendments. The permittee may request an "administrative permit amendment" for the following types of permit revisions:

- **a)** Correction of typographical errors;
- **b)** Change the name, address, or phone number of any person identified in the AOP, or provide a similar minor administrative change at the source;
- **c)** Require more frequent monitoring or reporting by the permittee;

d) Allow for a change in ownership or operational control of a source where the permitting authority determines that no other change in the AOP is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the permitting authority; and,

e) Incorporate into the chapter 401 permit the terms, conditions, and provisions from orders approving NOC applications processed under an EPA-approved program.

Application and approval of administrative permit amendment applications shall conform to the procedures in WAC 173-401-720.

[Origin: WAC 173-401-720]
[Authority: WAC 173-401-600(1)(b)]

P14. Permit Modifications. AOP permit revisions that cannot be accomplished using the provisions for administrative permit amendments shall be applied for and approved as a permit modification according to WAC 173-401-725.

[Origin: WAC 173-401-725]
[Authority: WAC 173-401-600(1)(b)]

P15. Greenhouse Gas Reporting Fee. The permittee must pay a greenhouse gas (GHG) reporting fee for each year they submit a GHG report to Ecology. Fees will be paid according to Ecology's fee schedule. Fees must be paid within sixty days of receipt of Ecology's billing statement.

[Origin: WAC 173-441-110 (State Only)]
[Authority: WAC 173-401-600(1)(b)]

P16. Confidential Information. The permittee is responsible for certifying and clearly identifying any information considered proprietary and confidential. In the case where a permittee has submitted information to EFSEC under a claim of confidentiality, EFSEC may also require the permittee to submit a copy of such information directly to the administrator. The permittee is responsible for clearly identifying information that is considered proprietary and confidential prior to submittal to EFSEC. In addition, all confidential information shall be submitted according to EFSEC's Public Records and Confidentiality Procedures.

[Origin: WAC 173-401-500(5) and, WAC 173-401-620(2)(e)]
[Authority: WAC 173-401-600(1)(b)]

P17. Credible Evidence. For purposes of certifying compliance or establishing whether or not the permittee has violated or is in violation of this AOP, nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with the requirements if the appropriate performance or compliance test or procedure had been performed.

[Origin: 40 CFR 51.212; 40 CFR 52.12; 40 CFR 52.33; 40 CFR 60.11, and, 40 CFR 61.12]

[Authority: WAC 173-401-600(1)(a)]

P18. Emergency Provision:

- **a) Definition.** An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the AOP , due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- **b) Effect of an emergency.** An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of (c) are met:
- **c) Criteria.** The affirmative defense of emergency is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that demonstrates:
  - **i)** An emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - **ii)** The permitted facility was at the time being properly operated;
  - **iii)** During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the AOP; and
  - **iv)** The permittee submitted notice of the emergency to EFSEC according to condition R6:
    - (1) Within two working days of the time when emission limitations were exceeded due to the emergency; or,
    - (2) For excess emissions that are a potential threat to human health or safety, as soon as possible, but in no case later than twelve hours after the excess emissions were discovered.
  - **v)** The notice submitted to EFSEC must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- **d) Burden of proof.** In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- **e) Relationship to other rules.** This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[Origin: WAC 173-401-645]
[Authority: WAC 173-401-600(1)(b)]

P19. Unavoidable Excess Emissions (Current SIP). The following conditions apply until the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the Washington State Implementation Plan after which they become inapplicable:

- **a)** Excess emissions determined to be unavoidable under the procedures and criteria in this condition shall be excused and not subject to penalty.
- **b)** The permittee shall have the burden of proving to EFSEC in an enforcement action that excess emissions were unavoidable. This demonstration shall be a condition to obtaining relief (from penalty).

c) Excess emissions due to an upset or malfunction will be considered unavoidable provided the permittee reports as required by either condition R7 or R8. Excess emissions that represent a potential threat to human health or safety or which the permittee believes to be unavoidable shall be reported to EFSEC as soon as possible. Other excess emissions shall be reported within thirty days after the end of the month during which the event occurred or as part of the routine emission monitoring reports. Upon request by EFSEC, permittee shall submit a full written report including the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

d) Excess emissions due to startup or shutdown conditions shall be considered unavoidable provided the permittee reports as required under subsection (c) of this condition and adequately demonstrates that the excess emissions could not have been prevented through careful planning and design and, if a bypass of control equipment occurs, that such bypass was necessary to prevent loss of life, personal injury, or severe property damage.

e) Excess emissions due to scheduled maintenance shall be considered unavoidable if the permittee reports as required under subsection (c) of this section and adequately demonstrates that the excess emissions could not have been avoided through reasonable design, better scheduling for maintenance or through better operation and maintenance practices.

f) Excess emissions due to a malfunction or upset shall be considered unavoidable provided the permittee reports as required under subsection (c) of this section and adequately demonstrates that:

- **i)** The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;
- **ii)** The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance; and
- **iii)** The permittee took immediate and appropriate corrective action in a manner consistent with good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, including slowing or shutting down the emission unit as necessary to minimize emissions, when the permittee knew or should have known that an emission standard or permit condition was being exceeded.

[Origin: WAC 173-400-107]
[Authority: WAC 173-401-600(1)(b)]

P20. Unavoidable Excess Emissions. The following conditions apply starting the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the Washington State Implementation Plan:

a) Excess emissions determined to be unavoidable under the procedures and criteria in this section are violations of the applicable statute, rule, permit, or regulatory order.

b) EFSEC determines whether excess emissions are unavoidable based on the information supplied by the permittee and the criteria in subsection (g) of this condition.

c) Excess emissions determined by EFSEC to be unavoidable are:

- **i)** A violation subject to WAC 173-400-230 (3), (4), and (6); but
- **ii)** Not subject to civil penalty under WAC 173-400-230(2).

d) The permittee shall have the burden of proving to EFSEC in an enforcement action that excess emissions were unavoidable. This demonstration shall be a condition to obtaining relief under subsection (g) of this section.

e) This condition (P20) does not apply to an exceedance of an emission standard in 40 C.F.R. Parts 60, 61, 62, 63, or 72, or EFSEC's adoption by reference of these federal standards.

f) Excess emissions that occur due to an upset or malfunction during a startup or shutdown event are treated as an upset or malfunction under subsection (g) of this section.

g) Excess emissions due to an upset or malfunction will be considered unavoidable provided the permittee reports as required either by condition R7 or R8, as applicable, and adequately demonstrates to EFSEC that:

- **i)** The event was not caused by poor or inadequate design, operation, maintenance, or any other reasonably preventable condition;
- **ii)** The event was not of a recurring pattern indicative of inadequate design, operation, or maintenance;
- **iii)** The permittee took immediate and appropriate corrective action in a manner consistent with safety and good air pollution control practice for minimizing emissions during the event, taking into account the total emissions impact of the corrective action, when the permittee knew or should have known that an emission standard or other permit condition was being exceeded (Actions taken could include slowing or shutting down the emission unit as necessary to minimize emissions);
- **iv)** If the emitting equipment could not be shutdown during the malfunction or upset to prevent the loss of life, prevent personal injury or severe property damage, or to minimize overall emissions, repairs were made in an expeditious fashion;
- **v)** All emission monitoring systems and pollution control systems were kept operating to the extent possible unless their shutdown was necessary to prevent loss of life, personal injury, or severe property damage;
- **vi)** The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent possible; and
- **vii)** All practicable steps were taken to minimize the impact of the excess emissions on ambient air quality.

[Origin: WAC 173-400-109]
[Authority: WAC 173-401-600(1)(b)]

P21. Certification. All documents required to be submitted by this AOP shall contain certification by a responsible official of truth, accuracy, and completeness. Documents include any application form, report, or compliance certification including but not limited to test plans and results, monitoring plans and results, applications, emissions inventory submittals, equipment malfunction reports or annual compliance certification. Such certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Provided, however, where a report is sent more frequently than once every six months, the responsible official's certification need only be submitted once every six months, covering all required reporting since the date of the last certification.

[Origin: WAC 173-401-520; WAC 173-401-615(3)(a); and, WAC 173-401-630(1)]
[Authority: WAC 173-401-600(1)(b)]

[END OF SECTION]

IV. GENERAL TERMS AND CONDITIONS (G)

G1. Inspection and Entry. Upon presentation of appropriate credentials, the permittee shall allow a representative from EFSEC or an authorized representative to perform the following:

- **a)** Enter upon the premises where a Chapter 173-401 WAC source is located or emissions related activity is conducted, or where records must be kept under the conditions of this AOP;
- **b)** Have access to and copy at reasonable times any records that must be kept under the conditions of this AOP;
- **c)** Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this AOP; and
- **d)** Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the AOP or other applicable requirements.
- **e)** Nothing in this condition or AOP shall limit the ability of EPA to inspect or enter the premises of the permittee under Section 114 or other provisions of the Federal Clean Air Act.

[Origin: WAC 173-401-630(2) and WAC 173-400-105(3) &(4)]
[Authority: WAC 173-401-600(1)(b)]

G2. Insignificant Emission Units. The following applies to emissions units determined insignificant based on actual emissions in accordance with WAC 173-401-530(1)(a):

- **a)** Any emission unit or activity that qualifies as insignificant solely on the basis of provisions in WAC 173-401-530(1)(a) shall not exceed the emission thresholds specified in WAC 173-401-530(4) until this AOP is modified.
- **b)** Upon request from the permitting authority the permittee must provide sufficient documentation to enable the permitting authority to determine that the emission unit or activity has been appropriately listed as insignificant.
- **c)** Upon request from the permitting authority, at any time during the term of the AOP, the permittee shall demonstrate to the permitting authority that the actual emissions of any unit or activity claimed insignificant on the basis of actual emissions are below the emission thresholds listed in WAC 173-401-530(4).

[Origin: WAC 173-401-530]
[Authority: WAC 173-401-600(1)(b)]

G4. New Source Review. The permittee shall not construct or modify a source which is required to be reviewed under Chapters 173-400 or 173-460 WAC without first receiving an approval or permit. Portable sources may be exempt from the requirement to obtain a site-specific permit if they fulfill the criteria described in G6 - Temporary Sources. Replacing, relocating or reconstructing a source is considered constructing a source.

[Origin: WAC 173-400-110; WAC 173-400-700; and, WAC 173-460-040 (State Only)]
[Authority: WAC 173-401-600(1)(b)]

G5. Replacement or Substantial Alteration of Emission Control Technology. A notice of construction application shall be filed with EFSEC prior to replacing or substantially altering the emission control technology installed on an existing stationary source or emission unit. Replacement or substantial alteration of control technology does not include routine maintenance, repair or similar parts replacement. A project to replace or substantially alter emission control technology at an existing stationary source is subject to review under condition G5.

[Origin: WAC 173-400-114]
[Authority: WAC 173-401-600(1)(b)]

G6. Temporary Sources. A portable source with an order of approval from another Washington permitting authority may be authorized to operate at the facility without obtaining a site-specific permit from EFSEC if EFSEC approves the proposal on a case-by-case basis and all of the conditions of WAC 173-040-036(2) through (4) are met. Operation at any location under this provision is limited to one year or less.

[Origin: WAC 173-400-036 (State Only) and WAC 173-400-110(6)]
[Authority: WAC 173-401-600(1)(b)]

G7. Asbestos, Demolition and Renovation Projects. The permittee shall notify EPA Region 10 and EFSEC prior to commencing any renovation or demolition activities at the facility as defined in 40 CFR 61.141. The permittee shall conduct all renovation, demolition and asbestos projects in accordance with applicable asbestos control standards and requirements in Subpart M of 40 CFR Part 61.

[Origin: 40 CFR Part 61, Subpart M]
[Authority: WAC 173-401-600(1)(a)]

G8. Chemical Accident Prevention. The permittee shall comply with the requirements of the Chemical Accident Prevention provisions of 40 CFR Part 68 no later than the following dates:

- **a)** Three years after the date on which a regulated substance, present above the threshold quantity, is first listed under 40 CFR 68.130; or,
- **b)** The date on which a regulated substance is first present above a threshold quantity in a process.

[Origin: 40 CFR Part 68]
[Authority: WAC 173-401-600(1)(a)]

G9. Protection of Stratospheric Ozone. The permittee shall comply with the standards for recycling and emissions reduction as provided in 40 CFR Part 82, Subparts B and F.

[Origin: 40 CFR Part 82, Subparts B & F]

[Authority: WAC 173-401-600(1)(a)]

G10. Outdoor Burning. The permittee is prohibited from conducting outdoor burning except as allowed by Chapter 173-425 WAC.

[Origin: WAC 173-425]
[Authority: WAC 173-401-600(1)(b)]

G11. Concealment and Masking Prohibited: No person shall cause or allow the installation or use of any device or use of any means, which conceals or masks an emission of air contaminant, which would otherwise violate any provisions of chapter 173-400 WAC.

[Origin: WAC 173-400-040(8) (State Only)]
[Authority: WAC 173-401-600(1)(b)]

G12. Circumvention. The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[Origin: 40 CFR 60.12]
[Authority: WAC 173-401-600(1)(a)]

G13. General Emissions Testing Requirement. In addition to the testing requirements contained in this AOP, EFSEC or an authorized representative of EFSEC may require the permittee conduct stack and/or ambient air monitoring and report the results to EFSEC.

[Origin: WAC 463-78-120]
[Authority: WAC 173-401-600(1)(b)]

G14. Acid Rain Program - Duty to reapply. The designated representative shall submit a complete acid rain permit application for each source with an affected unit along with the Title V permit renewal application required by condition P7. The original and three copies of all permit applications shall be submitted to the permitting authority.

[Origin: WAC 173-406-301(3)]
[Authority: WAC 173-401-600(1)(b)]

G15. Acid Rain Program – Designated Representative. Designated representative under the Acid Rain Program means a responsible natural person authorized by the owners and operators of an affected source and of all affected units at the source or by the owners and operators of a combustion source or process source, as evidenced by a certificate of representation (see Acid Rain Permit under Attachment 1), to represent and legally bind each owner and operator, as a matter of Federal law, in matters pertaining to the Acid Rain Program. Whenever the term "responsible official" is used in part 70 of this chapter, in any other regulations implementing

title V of the Act, or in a State operating permit program, it shall be deemed to refer to the "designated representative" with regard to all matters under the Acid Rain Program.

[Origin: WAC 173-406-101(40)]
[Authority: WAC 173-401-600(1)(b)]

G16. Reporting to Verify Emissions from Potential PSD Sources. The permittee shall monitor the emissions of any regulated pollutants from all projects for which PSD applicability was determined according to the provisions of 40 CFR 52.21(b)(41)(ii)(a) through (c) and calculate and maintain a record of annual emissions on a calendar year basis. The owner or operator shall submit a report to EFSEC within 60 days after the end of the year during which records must be generated under paragraph 40 CFR 52.21 (r)(6)(iii) setting out the unit's annual emissions, as monitored pursuant to 40 CFR 52.21 (r)(6)(iii), during the calendar year that preceded submission of the report. The report shall include the emissions in tons per year for the project, the baseline actual emissions and the pre-construction projected emissions.

[Origin: WAC 173-400-720(4)(b)(iii) (State only, 4/1/11)]
[Authority: WAC 173-401-600(1)(b)]

G17. Prevention of Significant Deterioration (PSD). A Prevention of Significant Deterioration (PSD) permit application must be filed by the permittee and a PSD permit issued by EFSEC prior to the establishment of any new source in accordance with the cited regulations. No major stationary source or major modification as defined in the cited regulation shall begin actual construction without having received a PSD permit. Allowable emissions from the proposed major stationary source or major modification shall not cause or contribute to a violation of any ambient air quality standard. An applicant for a PSD permit must submit an application that provides complete information for EFSEC to determine compliance with all PSD program requirements. Detailed procedures for submitting a complete application, for public review and involvement, and for revisions to an existing PSD permit are provided in the cited regulations (WAC 173-400-700 through 750).

[Origin: WAC 173-400-700 (State only, 4/1/11), WAC 173-400-117, -710, -720, -730, - 740, - 750 (State only, 12/29/12)]
[Authority: WAC 173-401-600(1)(b)]

[END OF SECTION]

V. APPLICABLE REQUIREMENTS

TABLE 3: Applicable Requirements.

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	General Plant-wide Emission Standards		
AR 1.1	**General Duty Requirements:** At all times, including periods of startup, shutdown, and malfunction, the permittee shall maintain and operate all emissions units and their associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. [Origin: 40 CFR 60.11(d)] [Authority: WAC 173-401-600(1)(a), and (b)]	Plant-wide	M16
AR 1.2	**General Standards for Maximum Visual Emissions.** The permittee shall not cause or allow any emission of an air contaminant from any emissions unit which at the emission point, or within a reasonable distance of the emission point, exceeds twenty percent opacity for more than three minutes, in any one hour, as determined by ecology method 9A. This opacity emission standard shall apply except when the emissions occur due to soot blowing/grate cleaning and the operator can demonstrate that the emissions will not exceed twenty percent opacity for more than fifteen minutes in any eight consecutive hours. This practice, except for testing and troubleshooting, is to be scheduled for the same approximate times each day and the permitting authority must be advised of the schedule. Reference Method: Ecology Method 9A Visible emissions. [Origin: WAC 173-400-040(2) (state/local only)] [Authority: WAC 173-401-600(1)(b); and, WAC 173-401-605(1)]	Plant-wide	None
AR 1.3	**Fallout Prohibition.** The permittee shall not cause or allow the emission of particulate matter from any source to be deposited beyond the property under their direct control in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. [Origin: WAC 173-400-040(3)(state/local only)] [Authority: WAC 173-401-600(1)(b)]	Plant-wide	M1
AR 1.4	**Fugitive Emissions Control.** The owner or operator of any emission unit engaging in materials handling, construction, demolition or any other operation which is a source of fugitive emissions shall take reasonable precautions to prevent release of air contaminants from the operation. [Origin: WAC 173-400-040(4)(a) (state/local only)] [Authority: WAC 173-401-600(1)(b)]	Plant-wide	M1

AR#	Requirements	Subject Units	Additional Monitoring Conditions
AR 1.5	**Odor Control.** The permittee shall use recognized good practice and procedures to reduce odors to a reasonable minimum. [Origin: WAC 173-400-040(5) (state/local only)] [Authority: WAC 173-401-600(1)(b)]	Plant-wide	M1
AR 1.6	**Emissions detrimental to persons or property.** The permittee shall not cause or allow the emission of any air contaminant from any source if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business. [Origin: WAC 173-400-040(6) (state/local only)] [Authority: WAC 173-401-600(1)(b)]	Plant-wide	M1
AR 1.7	**Sulfur Dioxide.** The permittee shall not cause or allow the emission of a gas containing sulfur dioxide from any emissions unit in excess of one thousand ppm of sulfur dioxide on a dry basis, corrected to seven percent oxygen for combustion sources, and based on the average of any period of sixty consecutive minutes. **Compliance Demonstration Methods:** 1. For diesel fuel, records documenting the diesel fuel sulfur and aromatic content. A fuel certification from the fuel supplier documenting both the sulfur and aromatic content of the fuel may be used to demonstrate compliance with this requirement. 2. For natural gas fuel, natural gas sampling and analysis per condition M6. **Reference Test Methods** – EPA Method 6c from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. [Origin: WAC 173-400-040(7) (state/local only)] [Authority: WAC 173-401-600(1)(b); and, WAC 173-401-605(1)]	Plant-wide	None
AR 1.8	**Fugitive Dust Control.** Permittee must take reasonable precautions to prevent fugitive dust from becoming airborne and must maintain and operate the source to minimize emissions. [Origin: WAC 173-400-040(9)(a) (state/local only)] [Authority: WAC 173-401-600(1)(b)]	Plant-wide	None
AR 1.9	**General Particulate Standards for Combustion Units.** The permittee shall not cause or allow emissions of particulate matter in excess of 0.23 gram per dry cubic meter at standard conditions (0.1 grain/dscf). **Reference Test Methods:** For compliance determination, emissions must be measured by EPA method 5 in Appendix A to 40 CFR Part 60, (in effect on February 14, 2005) or approved procedures in Source Test Manual – Procedures for Compliance Testing, state of Washington, Department of Ecology, as of September 20, 2004, on file at Ecology.	Plant-wide	None

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	Measured concentrations shall be adjusted for volumes corrected to 7% oxygen, except when EFSEC determines that an alternate oxygen correction factor is more representative of normal operations such as the correction factor included in an applicable NSPS or NESHAP, actual operating conditions, or the manufacturer's specifications for the emission unit. [Origin: WAC 173-400-050(1)] [Authority: WAC 173-401-600(1)(b); and, WAC 173-401-605(1)]		
AR 1.10	**General Emission Standards for Process Units**. The permittee shall not cause or allow emissions of particulate matter from any general process unit (excluding combustion) in excess of 0.23 grams per dry cubic meter at standard conditions (0.1 grain/dscf) of exhaust gas. **Reference Test Methods:** Test methods (in effect on the date in WAC 173-400-025) from 40 C.F.R. Parts 51, 60, 61, and 63 and any other approved test procedures in ecology's "Source Test Manual - Procedures For Compliance Testing" as of September 20, 2004, will be used to determine compliance. [Origin: WAC 173-400-060] [Authority: WAC 173-401-600(1)(b); and, WAC 173-401-605(1)]	Plant-wide	None
AR 1.11	**Acid Rain.** The permittee shall hold SO_2 allowances not less than the total annual emissions of SO_2 for the previous calendar year (see Attachment 1 of this AOP - Acid Rain Permit). [Origin: Acid Rain Permit No. EFSEC/10-01-AR] [Authority: WAC 173-401-600(1)(b); and, WAC 173-401-605(1)]	CGT-1 & CGT-2	None
AR 1.12	**Operating and Maintenance Manual.** The permittee shall have on-site, and shall follow, an Operating and Maintenance manual (O&M Manual), and an equipment Start-up, Shutdown, and Malfunction Procedures manual (SSM Manual). Both manuals shall describe accepted operating procedures for minimizing emissions for all equipment that have the potential to affect emissions to the atmosphere. The following requirements apply: 1. Copies of both manuals shall be available to EFSEC at the facility. 2. The manuals must be reviewed annually and updated as needed. 3. EFSEC shall be notified whenever either manual is updated. 4. The O&M Manual should contain equipment-specific operating parameter and maintenance information. 5. The O&M Manual should specify acceptable ranges for: a. Fuel heat (MMBtu/dscf) and sulfur content (percent); b. Expected range of fuel rates for each unit (MMBtu/hr for turbines, duct burner and aux boiler) and mode of operation (startup, shutdown, operational); c. Expected range of power production (MW) for each turbine;	Plant-wide	None

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	d. Expected range of total power production (MW); e. CGT exhaust temperature and percent oxygen for each mode of operation; f. Ammonia flow for each mode of operation; g. SCR and CatOx catalyst temperatures for each mode of operation h. Mode 6 criteria 6. The SSM manual shall contain information on the proper procedures, and sequencing of actions for plant operations staff to follow in order to safely, efficiently start and stop the various equipment at the station under all reasonably ascertainable normal and abnormal start-up and shut-down situations. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 17.1, 17.2 and 23] [Authority: WAC 173-401-600(1)(c)]		
NSPS Requirements for CGT1 and CGT2			
AR 2.1	**CGT NSPS NO_x Limit.** Nitrogen oxide (NO_x) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed 107.1 parts per million at 15 percent oxygen and on a dry basis. **Stack Testing:** Stack testing at a predetermined frequency is not required to demonstrate compliance with this standard. **Monitoring:** The permittee shall install, certify, maintain, operate, and quality-assure a continuous emission monitoring system (CEMS) consisting of NO_X and O_2 monitors according to condition M7. An hour of excess emissions shall be any unit operating hour in which the 4-hour rolling average NO_X concentration exceeds the applicable emission limit. A "4-hour rolling average NO_X concentration" is the arithmetic average of the average NO_X concentration measured by the CEMS for a given hour and the three unit operating hour average NO_X concentrations immediately preceding that unit operating hour. **Reference Test Methods -** Compliance shall be determined in accordance with 40 CFR 60, Subpart GG and EPA Reference Method 20, except that the instrument span shall be set between zero and 25 ppm. During Reference Method testing of either of the CGTs (EU-1 or EU2), the turbine and duct burner will both be operated at least 90 percent of their maximum firing. [Origin: 40 CFR 60 Subpart GG: §60.332(a)(1); §60.334; and §60.335] [Authority: WAC 173-401-600(1)(b)]	CGT1 CGT2	M2 M6 M7 M15
AR 2.2	**CGT NSPS SO_2 Limit.** Sulfur dioxide (SO_2) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed 0.015 percent by volume at 15 percent oxygen and on a dry basis (150 ppm).	CGT1 CGT2	M6

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	Monitoring: The permittee shall monitor the total sulfur content of the fuel being fired in the CGTs according to condition M6.h and confirm sulfur concentration of exhaust gases by sulfur mass balance calculations monthly. **Reference test Methods -** EPA Reference Method 8, or an equivalent method approved in advance by EFSEC. During Reference Method testing of either of the CGTs (EU-1 or EU2), the turbine and duct burner will both be operated at least 90 percent of their maximum firing. [Origin: 40 CFR 60 Subpart GG: §60.333(a)(1) and §60.334] [Authority: WAC 173-401-600(1)(b)]		
AR 2.3	**CGT NSPS Fuel Sulfur Limit.** Fuel combusted in CGT 1 and CGT 2 shall not exceed 0.8 percent total sulfur by weight (8000 ppmw). **Monitoring:** The permittee shall monitor the total sulfur content of the fuel being fired in the CGTs according to condition M6.h. [Origin: 40 CFR 60 Subpart GG: §60.333(a)(1) and §60.334] [Authority: WAC 173-401-600(1)(b)]	CGT1 CGT2	M6
	NSPS Requirements for Duct Burners		
AR 2.4	**Duct Burner NO_x Standard (NO_x).** Emissions from the Duct Burners shall not contain NO_x (expressed as NO_2) in excess of 1.0 lb/MWh (130 ng/J) gross energy output determined on a 30-operating day rolling average basis. **Stack Testing:** Stack testing at a predetermined frequency is not required to demonstrate compliance with this standard. **Monitoring:** Compliance with this standard shall be determined daily based on the 30-day average NO_x emission rate in terms of lbs/MWhr calculated as follows: 1. As provided in §60.48Da (k)(3)(i), compliance with this standard may be determined in aggregate based on combined emissions and energy output from CGT1 & CGT2. 2. Gross energy output shall mean gross electrical output from the entire combined cycle power plant. 3. Hourly emissions in lb/MWhr shall be calculated based on the sum of the hourly emission rates from both CGT1 and CGT2 divided by the gross electrical output from the entire plant in MWhr during the same hour. 4. The 30-day average NO_x rate shall be the arithmetic average of combined emissions of NO_x from CGT1 and CGT2 in lb/MWhr	DB1 DB2	M2 M6 M7 M10 M15

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	from the previous 30 successive operating days, except for data obtained during startup, shutdown, or malfunction. 5. An "operating day" means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the Duct Burner. It is not necessary for fuel to be combusted the entire 24-hour period. 6. Hourly emissions for CTG1 and CGT2 shall be based on NO_x CEMS data obtained according to condition M7. **Reference Test Methods** – 40 CFR Part 60 Subpart GG and EPA Method 20 from 40 CFR Part 60 Appendix A, except that the instrument span shall be set between zero and 25 ppm. Combined, measured NO_x emissions from CGT1 and CGT2 based on the average of three, one-hour test runs shall be converted to units of the standard by dividing by the measured gross electrical output from the entire combined cycle power plant. [Origin: 40 CFR 60, Subpart Da, §60.44Da (e)(1); §60.48Da; §60.49Da; and §60.50Da] [Authority: WAC 173-401-600(1)(b)]		
AR 2.5	**Duct Burner Sulfur Dioxide (SO_2) Standard.** Emissions from the Duct Burners shall not contain SO_2 in excess of 1.4 lb/MWh (180 ng/J) gross energy output. **Stack Testing:** When requested by EFSEC, compliance with this standard shall be determined through stack testing according to the Reference Test Method stated below. **Monitoring:** Compliance with this standard shall be determined daily based on the 30-day average SO_2 emission rate in terms of lbs/MWhr calculated as follows: 1. Compliance with this standard shall be determined in aggregate based on combined emissions and electricity production from the entire power plant. 2. Gross energy output shall mean gross electrical output accounting for electricity from the steam turbine and both combustion turbines. 3. Hourly emissions in lb/MWhr shall be based on the sum of hourly emissions from both CGT1 and CGT2, divided by the gross electrical output from the entire plant in MWhr. 4. Hourly SO_2 emissions from CGT1 and CGT2 shall be calculated based on sulfur mass balance calculations according to conditions M12 and M6. 5. Calculate the arithmetic average of combined emissions of SO_2 from CGT1 and CGT2 in lb/MWhr for the previous 30 successive operating days, except for data obtained during startup, shutdown, or malfunction.	DB1 DB2	M6

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	6. An "operating day" means a 24-hour period between 12 midnight and the following midnight during which any fuel is combusted at any time in the Duct Burner. It is not necessary for fuel to be combusted the entire 24-hour period. **Reference Test Methods** – Compliance with this standard shall be determined for the combined emissions from CGT1 & CGT2 based on the average of measured emissions from three, 1-hour test runs according to the appropriate reference method and procedure from appendix A of 40 CFR Part 60 or an equivalent method agreed to in advance by EFSEC. Conversion to units of the standard shall be based on gross electrical output in MWhr from the entire plant measured during the stack test runs. [Origin: 40 CFR 60, Subpart Da, §60.43Da (i)(1)(i); §60.48Da; §60.49Da; and §60.50Da] [Authority: WAC 173-401-600(1)(b)]		
	PSD Permit Requirements for CGT1 and CGT2		
AR 2.6	**CGT Fuel Limit:** The CGTs (each consisting of a GE 7FA combustion turbine and its associated duct burner and HRSG) and auxiliary boiler are limited to the use of natural gas. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 2] [Authority: WAC 173-401-600(1)(c)]	CGT	M6
AR 2.7	**CGT NO_x Limits:** Nitrogen oxide (NO_X) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed the following, except during start-up and shutdown (CGT over-speed protection testing), when they must meet the requirements in conditions AR2.15 and AR2.16: a) 21.7 pounds/hour (lb/hr), 1-hour (1-hr) average. b) 17.4 lb/hr, 24-hr rolling average. c) 2.5 parts per million by volume, dry (ppm), 1-hr average, corrected to 15 percent oxygen (O_2). d) 2.0 ppm, 24-hr rolling average, corrected to 15 percent O_2. Stack testing: Stack testing at a predetermined frequency is not required to demonstrate compliance with this standard. **Monitoring:** Ongoing compliance shall be monitored by continuous emission monitors for NO_X and O_2. The continuous emission monitoring systems (CEMS) and flow measurement via natural gas monitoring to determine lb/hr emission rates shall meet the requirements of conditions M7 and M6 respectively. Emissions rates shall be calculated according to condition M10. **Added Clarification:** For purposes of determining compliance with the 24-hr rolling average NO_x limit, start-up and shut-down emissions shall	CGTs	M2 M6 M7 M10 M15

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	not be included in the averaging and a full averaging period should be used in determining compliance. **Reference Test Methods** – 40 CFR Part 60 Subpart GG and EPA Method 20 from 40 CFR Part 60 Appendix A, except that the instrument span shall be set between zero and 25 ppm. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.1] [Authority: WAC 173-401-600(1)(c)]		
AR 2.8	**CGT CO Limits:** Carbon monoxide (CO) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed the following, except during start-up and shutdown (CGT over-speed protection testing), when they must meet the requirements in conditions AR2.15 and AR2.16: a) 2.0 ppm, corrected to 15 percent O_2, 1-hr average. b) 10.6 lb/hr, 1-hr average. **Stack Testing:** Stack testing at a predetermined frequency is not required to demonstrate compliance with this standard. **Monitoring:** Ongoing compliance shall be monitored by determining 1-hr average CO emissions for each hour of operation in terms of both limits (ppm, corrected to 15 percent O_2 and lb/hr). CO and O_2 emission concentrations shall be continuously monitored according to condition M8. Exhaust flow to determine lb/hr emission rates shall be based on fuel monitoring according to condition M6. Emissions shall be calculated according to condition M10. **Reference Test Methods** – EPA Method 10 from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. The span and linearity calibration gas concentrations in Method 10 are to be modified as appropriate to the CO concentration limits specified in this condition. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.2] [Authority: WAC 173-401-600(1)(c)]	CGTs	M2 M6 M8 M10
AR 2.9	**CGT SO_2 Limits:** Sulfur dioxide (SO_2) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed the following: a) 19.8 lb/hr, 1-hr average. b) 3.3 lb/hr, rolling annual-average of emissions determined monthly when the CGTs operate. **Stack Testing:** Compliance with the 1-hr average limit shall be determined for each CGT at 5-year intervals through stack testing according the Reference Test Method. **Monitoring:** Ongoing compliance with both limits shall be determined monthly according to condition M11 by calculating hourly SO_2 emission	CGTs	M6 M11

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	rates from each CGT in pounds per hour for all hours of operation during the previous month and the average emission rate in lb/hr over the previous 12-consecutive month period. **Reference Test Methods** – EPA Method 6c from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.3] [Authority: WAC 173-401-600(1)(c)]		
AR 2.10	**CGT H_2SO_4 Limits:** Sulfuric acid mist (H_2SO_4) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed 2.17 lb H_2SO_4/hr, rolling annual average calculated monthly: **Stack Testing:** Hourly H_2SO_4 rates and the unit-specific ratios of H_2SO_4 to SO_2 shall be determined for each CGT at 5-year intervals through stack testing according to the Reference Test Methods. **Monitoring:** Ongoing compliance shall be determined monthly according to condition M11 by calculating hourly H_2SO_4 emission rates from each CGT in pounds per hour for all hours of operation during the previous month and the average emission rate in lb/hr over the previous 12-consecutive month period. The unit-specific ratio of H_2SO_4 to SO_2 determined through stack testing shall be used to convert the calculated potential SO_2 emissions into sulfuric acid mist emissions and SO_2 emissions. **Reference Test Methods** – EPA Method 8 from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.4] [Authority: WAC 173-401-600(1)(c)]	CGTs	M6 M11
AR 2.11	**CGT VOC Limits:** Volatile organic compound (VOC) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed the following, except during start-up and shutdown (CGT over-speed protection testing), when they must meet the requirements in conditions AR2.15 and AR2.16: a) 6.3 lb/hr, 1-hr average, reported as carbon equivalent. b) 2.8 ppm, 1-hr average, reported as carbon equivalent at 15 percent O_2. **Stack Testing:** Compliance with both limits shall be determined for each CGT at 5-year intervals through stack testing according to the Reference Test Methods. **Monitoring:** Compliance shall be monitored by calculating hourly VOC emissions rates according to condition M10 using: a) The hours of operation;	CGTs	M6 M10

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	b) Fuel flow to each CGT according to condition M6; and, c) Application of an emission factor for VOCs derived from the most recent stack testing of the CGT. **Reference Test Methods** – Reference Method 19 and EPA Reference Method 25A, 25B from 40 CFR Part 60 Appendix A, or South Coast Air Quality Management District Method 25.3, or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.5] [Authority: WAC 173-401-600(1)(c)]		
AR 2.12	**CGT Particulate Limits:** Particulate matter and particulate matter less than or equal to 10 micrometers (aerodynamic diameter)(PM_{10}) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed 22.6 lb/hr of filterable plus condensable PM_{10}: **Stack Testing:** Compliance with this limit shall be determined for each CGT at 5-year intervals through stack testing according to the Reference Test Methods. **Reference Test Methods** – Method 19 and Methods 5, 201, or 201A, plus Reference Method 202 from 40 CFR Part 60 Appendix A, or an equivalent PM_{10} test method agreed to in advance by EFSEC. Use of EPA Reference Method 5 assumes all filterable particulate is PM_{10}. Use of EPA Reference Method 201 or 201A assumes that the mass of filterable PM is equal to the mass of filterable PM_{10}. If Method 201 or 201A is used, the mass of particulate retained in the cyclone shall be determined and reported. The results of the filterable and condensable particulate analyses shall be reported as total particulate, filterable particulate, and condensable particulate. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.6] [Authority: WAC 173-401-600(1)(c)]	CGTs	None
AR 2.13	**CGT Ammonia Limits**: Ammonia (free NH_3 and combined measured as NH_3) emissions from the CGT1 or CGT2 exhaust stacks shall not exceed the following: a) 5.0 ppm, 24-hr average corrected to 15 percent O_2. b) 16.1 lb/hr, 24-hr average. **Monitoring:** Compliance shall be determined through use of a CEMS, which meets the requirements of condition M9. Emissions rates shall be calculated according to condition M10. **Added Clarification:** For purposes of determining compliance with the 24-hr average Ammonia limit, start-up and shut-down emissions should	CGTs	M2 M6 M9 M10

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	not be included in the averaging and a full averaging period should be used in determining compliance. **Reference Test Methods** – Bay Area Air Quality Management District Source Test Procedure ST-1B, "Ammonia, Integrated Sampling;" EPA Conditional Test Method 027; or an equivalent method approved in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.7] [Authority: WAC 173-401-600(1)(c)]		
AR 2.14	**CGT Opacity Limits**: Opacity at each CGT exhaust stack shall not exceed a 6-minute average opacity of five percent, except during start-up and shutdown (CGT over-speed protection testing): **Monitoring:** a) A certified opacity reader shall read and record the opacity of each operating unit daily during daylight hours; or, b) Opacity shall be monitored using a Continuous Opacity Monitoring System (COMS) on each CGT as an alternative to EPA Reference Method 9 readings. c) Any COMS must be installed and operated according to conditions M2 and M3. d) If readings from daily monitoring are less than the opacity limit for the last calendar month, the manual opacity monitoring frequency is reduced to weekly. e) Any readings above the opacity limit will require daily manual opacity readings for at least 30 days. **Reference Methods** – EPA Reference Method 9 from 40 CFR Part 60 Appendix A, or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.8] [Authority: WAC 173-401-600(1)(c)]	CGTs	M3
AR 2.15	**CGT Start-up/Shut-down Operational Limits.** The following definitions and limits apply during start-ups and shut-downs: a) **Start-up Defined:** A start-up begins when fuel is first fired in the combustion turbine, and ends when the earlier of one of these events occurs: i) The operating temperatures of the oxidation and SCR catalysts serving an operating CGT reach 500°F and 525°F, respectively and when the associated combustion turbine achieves operational Mode 6; or, ii) One of the following time limits has been reached, as applicable:	CGTs	M6

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	1) Three hundred minutes have elapsed since fuel was first introduced to the applicable turbine on a cold start-up. A cold start-up is any start-up occurring after the applicable turbine has not operated for 48 hours or more. 2) One hundred eighty minutes have elapsed since fuel was first introduced to the applicable turbine on a warm start-up. A warm start-up is any start-up occurring after the applicable turbine has not operated between 8 and 48 hours. 3) One hundred twenty minutes have elapsed since fuel was first introduced to the applicable turbine on a hot start-up. A hot start-up is any start-up occurring after the applicable turbine has not operated for 8 hours or less. b) **Shut-down Defined:** Shutdown is defined as the period beginning when the combustion turbine leaves operational Mode 6 and ends when fuel is no longer being introduced to any burner. c) **Operational Mode 6 Defined:** The turbine manufacturer defines operational Mode 6 as the low emission mode during which all six of the burner nozzles are burning a lean premixed gas steady-state operation. d) **Over-speed Protection Testing:** Once per year it is estimated that each CGT will need to be tested to confirm that the over-speed protection is functioning properly (less than 90 minutes). Each test will account for one start-up. **e) Start-up/Shut-down Operational Limits:** i) Each CGT is limited to two start-ups per calendar day. ii) Duration of a planned shutdown period shall not exceed 30 minutes per occurrence. iii) During start-up, ammonia injection shall begin no later than when the SCR reaches an operating temperature of 525°F. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 11.1 – 11.3] [Authority: WAC 173-401-600(1)(c)]		
AR 2.16	**CGT Start-up/Shut-down Emissions Limits**. During a start-up and associated shutdown (SU/SD) of a CGT, as defined in condition AR2.15, the combined emissions shall not exceed the following limits in terms of pounds per turbine per SU/SD (lbs): a) 900 lbs NO_x b) 500 lbs CO **Monitoring:** Ongoing compliance with the SU/SD limits shall be monitored as follows: a) NO_X shall be monitored by continuous emission monitors for NO_X and O_2. The continuous emission monitoring systems (CEMS) and flow measurement via natural gas monitoring to determine lb/hr emission rates shall meet the requirements of conditions M7 and M6	CGTs	M2 M6 M10 M13 M15

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	respectively. Emissions rates shall be calculated according to condition M10. b) CO shall be monitored by continuous emission monitor for CO and O_2. CO and O_2 emission concentrations shall be continuously monitored according to condition M8. Exhaust flow to determine lb/hr emission rates shall be based on fuel monitoring according to condition M6. Emissions shall be calculated according to condition M10. **Reference Test Methods –** Not applicable: Compliance determined through emissions calculations using monitoring data. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 10.1] [Authority: WAC 173-401-600(1)(c)]		
AR 2.17	**CGT Annual Limits.** Annual total emissions from each CGT over each 12 consecutive month period and including emissions during start-up, shutdown and periods of malfunction, shall not exceed the following limits in tons per year: a) 121.7 NO_x b) 71.6 CO c) 14.5 SO_2 d) 9.5 H_2S0_4 e) 99.0 PM/PM_{10} (PM and PM_{10} assumed to be equal) f) 37.5 VOC g) 70.5 NH_3 **Monitoring:** Annual 12-month total emissions shall be calculated monthly based on the total monthly emissions from each permitted unit summed for the preceding 12 months. The actual emissions shall be based on CEMS, where installed, mass balance and emission factor calculations for SO_2 and H_2SO_4, and emission factors for other pollutants and emission units where CEMs are not installed. **Reference Methods –** Not applicable: Compliance determined through emissions calculations using fuel consumption and monitoring data. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 10] [Authority: WAC 173-401-600(1)(c)]	CGTs	M2 M6 M10 M13 M14 M15
AR 2.18	**SCR Catalyst Maintenance:** The SCR catalyst system treating the exhaust from one CGT shall be repaired, replaced, or have additional catalyst bed installed at the next scheduled outage, following a calendar month when the average ammonia slip cannot be maintained at or below 4.5 ppm, corrected to 15% oxygen, based on the actual operating hours of the CGT. No month with less than 200 hours of actual operation (excluding start-up and shutdown hours) shall be used for this evaluation. The outage to repair, replace, or install additional catalyst to	CGTs	M16

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	the SCR system shall be no later than 12 months after the month the ammonia slip exceeds the 4.5 ppm criteria given above in this condition. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 5.7.5] [Authority: WAC 173-401-600(1)(c)]		
AR 2.19	**CGT Sampling Port Requirements:** a) Sampling ports and platforms shall be provided on each CGT stack, after the final pollution control device. [PSD 15] b) The ports shall meet the requirements of 40 CFR, Part 60, Appendix A, Method 20. [PSD 15] c) Adequate permanent and safe access to the test ports shall be provided. Other arrangements may be acceptable if approved by EFSEC prior to installation. [PSD 16] [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, as indicated] [Authority: WAC 173-401-600(1)(c)]	CGTs	None
PSD Permit Requirements for the Auxiliary Boiler			
AR 3.1	**Aux. Boiler NO_x Limit**: NO_x emissions from the Auxiliary boiler exhaust stack are not to exceed the following: a) 1.03 lb/hr, 1-hr average. b) 30 ppm at three percent O_2, 1-hr average. **Stack Testing:** Compliance with this limit shall be determined at 5-year intervals through stack testing according to the Reference Test Methods. **Reference Test Methods** – Reference Method 7E and Method 19 from 40 CFR Part 60 Appendix A. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 6.1] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	None
AR 3.2	**Aux. Boiler CO Limit**: CO emissions from the Auxiliary boiler exhaust stack are not to exceed the following: a) 50.0 ppm, corrected to three percent O_2, 1-hr average. b) 1.07 lb/hr, 1-hr average. **Stack Testing:** Compliance with this limit shall be determined at 5-year intervals through stack testing according to the Reference Test Methods. **Reference Methods** – Reference Method 10 and Method 19 from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. The span and linearity calibration gas concentrations in Method 10 shall be appropriate to the CO concentration limits specified in this condition. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 6.2] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	None

AR#	Requirements	Subject Units	Additional Monitoring Conditions
AR 3.3	**Aux. Boiler SO_2 Limit**: SO_2 emissions from the Auxiliary boiler exhaust stack are not to exceed the following: a) 0.07 lb/hr annual average, calculated monthly. b) One ppm at three percent O_2, 1-hr average. **Monitoring:** Ongoing compliance with both limits shall be determined by mass-balance calculations utilizing the: a) Monthly Fuel consumption records for the auxiliary boiler according to condition M6, b) Sulfur content of the natural gas per condition M6; and, c) SO_2 emissions shall be calculated according to condition M12. **Reference Test Methods** – EPA Method 8 from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 6.3] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	M6 M12
AR 3.4	**Aux. Boiler VOC Limit**: VOC emissions from the Auxiliary boiler exhaust stack are not to exceed 0.16 lb/hr, 1-hr average, reported as carbon equivalent. **Stack Testing:** Compliance with this limit shall be determined at 5-year intervals through stack testing according to the Reference Test Methods. **Reference Methods** – Reference Method 19 and Method 25A or 25B from 40 CFR Part 60 Appendix A or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 6.4] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	None
AR 3.5	**Aux. Boiler Particulate Limit**: PM_{10} emissions from the Auxiliary boiler exhaust stack are not to exceed the following: a) 0.292 lb/hr, hourly average (front & back half). b) 0.005 gr/dscf, 1-hr average, at three percent O_2. **Stack Testing:** Compliance with this limit shall be determined at 5-year intervals through stack testing according to the Reference Test Methods. **Reference Methods** – Reference Method 19, Method 202 and either Reference Method 5, 201, or 201A, or an equivalent method agreed to in advance by EFSEC. Use of EPA Reference Method 5 assumes all particulate has an aerodynamic diameter less than 10 microns. Use of EPA Reference Method 201 or 201A assumes that the mass of filterable PM is equal to the mass of filterable PM_{10}. The results of the filterable and condensable particulate analyses shall be reported as total particulate, filterable particulate, and condensable particulate.	Aux. Boiler	None

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 6.5] [Authority: WAC 173-401-600(1)(c)]		
AR 3.6	**Aux. Boiler Opacity Limit**: Opacity at the auxiliary boiler stack is not allowed to exceed a 6-minute average opacity of five percent. **Monitoring:** An opacity reader shall survey the boiler stack daily to determine if any opacity is present. If opacity is not observed over the course of a week, the frequency for surveying the boiler stack may change to monthly. If the survey detects visible emissions, then the company must investigate the cause of the emissions and repair the problem or take EPA Method 9 observations for determining compliance. **Reference Methods** – EPA Reference Method 9 from 40 CFR Part 60 Appendix A, or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 6.6] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	M4
AR 3.7	**Aux. Boiler Annual Limits**: Annual total emissions from the Auxiliary Boiler over each 12 consecutive month period and including emissions during start-up, shutdown and periods of malfunction, shall not exceed the following limits in tons per year: a) 1.3 NO_x b) 1.3 CO c) 0.088 SO_2 d) 0.4 PM/PM_{10} (PM and PM_{10} assumed to be equal) e) 0.6 VOC **Monitoring:** Total emissions of each pollutant over the preceding 12-months shall be calculated monthly based on the actual amount of natural gas combusted over the 12-monit period and emissions factors in terms of pounds per million Btu of fuel combustion. For NOx, CO, PM/PM10 and VOC, Aux. Boiler emissions factors shall be based on the most recent results from stack testing. The SO2 emission factor for the Aux. Boiler shall be based on the most recent fuel analysis. Unless a specific emission factor is developed representing startup or shut down of the boiler, steady state emissions factors shall be used to represent all operations of the Aux. Boiler. **Reference Methods –** Not applicable: Compliance determined through emissions calculations. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 10] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	M6

AR#	Requirements	Subject Units	Additional Monitoring Conditions
AR 3.8	**Aux. Boiler Sampling Port Requirements:** a) Adequate permanent and safe access to the test ports shall be provided. Providing a man-lift to assure safe access to the test ports meets this condition. b) Other arrangements may be acceptable if approved by EFSEC prior to installation. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, PSD condition 16] [Authority: WAC 173-401-600(1)(c)]	Aux. Boiler	None
	Requirements for Emergency Diesel Engines		
AR 4.1	**Temporary Replacement Engines.** Compression Ignition, Internal Combustion Engines (CI ICE) used as temporary replacement units are allowed provided: a) They are located at the facility for less than 1 year; and, b) Have been properly certified as meeting the applicable nonroad engine standards. [Origin: 40 CFR Part 60, Subpart IIII, §60.4200(e)] [Authority: WAC 173-401-600(1)(b)]	Temporary Engines	None
AR 4.2	**Emergency Engine Requirements.** Compression ignition, reciprocating internal combustion engines used for emergency purposes (Emergency Engines) are subject to the following requirements from 40 CFR Part 63, Subpart ZZZZ: a) Operate and maintain Emergency Engines according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engines in a manner consistent with good air pollution control practice for minimizing emissions. [Origin: 40 CFR 63 Subpart ZZZZ, §63.6625 (e)] b) Each Emergency Engine shall be equipped with a non-resettable hour meter. [Origin: 40 CFR 63 Subpart ZZZZ, §63.6625 (f)] c) Minimize time engines are spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [Origin: 40 CFR 63 Subpart ZZZZ, §63.6625 (h)] d) There is no time limit on the use of the Emergency Engines in emergency situations. Emergency situations include periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. [Origin: 40 CFR 63 Subpart ZZZZ, §63.6640 (f)] e) Required maintenance [Origin: 40 CFR 63 Subpart ZZZZ, Table 2d, Item 4]: i) Change oil and filter every 500 hours of operation or annually, whichever comes first;	Emergency Engines	None

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	ii) Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and iii) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. f) If an Emergency Engine is operating during an emergency and it is not possible to shut down the engine in order to perform the scheduled required maintenance, or if performing the scheduled maintenance would otherwise pose an unacceptable risk, the required maintenance can be delayed until the emergency is over or the unacceptable risk has abated. The scheduled maintenance should be performed as soon as practicable after the emergency has ended or the unacceptable risk has abated. [Origin: 40 CFR 63 Subpart ZZZZ, Table 2d, Item 4] [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 7 and 8, and 40 CFR 63, Subpart ZZZZ as listed in each sub-condition] [Authority: WAC 173-401-600(1)(b)]		
AR 4.3	**Emergency Engine Fuel Requirements.** Emergency Engines shall burn only diesel fuel, biodiesel, or a mixture of both. In any case, the fuel used shall have a maximum sulfur content that does not exceed 500 ppm by weight. A fuel certification from the fuel supplier may be used to demonstrate compliance with this requirement. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 3.1, 7.3 and 8.3] [Authority: WAC 173-401-600(1)(b); WAC 173-401-600(1)(c)]	Emergency Engines	None
AR 4.4	**Emergency Engine Operating Requirements:** Emergency Engines shall be operated only during routine maintenance, testing, and periods when electricity is not available from the power grid. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 7.2 and 8.2] [Authority: WAC 173-401-600(1)(b) and WAC 173-401-600(1)(c)]	Emergency Engines	None
AR 4.5	**BACT Opacity Limit (Emergency Generator Engine only).** Visible emissions from the engine shall not exceed an average of ten percent (10%) opacity during any 6-minute period except cold start-up, as determined in accordance with EPA Method 9 (Title 40 CFR, Part 60, Appendix A Method 9). Unless defined by the engine manufacturer, "cold start" as used in this condition shall be defined as the period beginning when the engine is started and ending when the temperature of the engine coolant reaches 150°F. **Monitoring:** During weekly testing of the engine, a qualified opacity reader shall survey and record if opacity is present after the engine achieves normal operating temperature according to condition M5. If opacity is observed then Method 9 readings shall be performed the next	Emergency Engines	M5

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	time the engine is operated for testing. The Survey frequency can be reduced to monthly once four readings without opacity are observed. **Reference Methods** – EPA Reference Method 9 from 40 CFR Part 60 Appendix A, or an equivalent method agreed to in advance by EFSEC. [Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 7.5] [Authority: WAC 173-401-600(1)(c)]		
AR 4.6	**Excess Opacity Triggers Action:** Visible emissions of ten percent (10%) opacity or more from either engine shall trigger prompt (within a week) action to initiate maintenance and/or repair the engine and eliminate opacity exceeding this standard. Maintenance and repair actions shall be documented and available for inspection. [Origin: For Emergency Generator Engine, PSD No. EFSEC/2001-01, AMENDMENT 4, condition 7.6; For Fire Water Pump Engine, same requirement is adopted under "gap-filling" authority] [Authority: WAC 173-401-600(1)(c) and, for the Fire Water Pump Engine, WAC 173-401-616(1)(b)]	Emergency Generator Engine	M5
PSD & NOC Permit Requirements for Cooling Tower			
AR 5.1	**Cooling Tower Particulate Limit**: PM_{10} emissions from the Cooling Tower are not to exceed: a) 24.5 lb/day PM10, annual average. b) 4.5 tpy PM_{10}, rolling total, calculated monthly. **Monitoring:** a) Continuously monitor recirculating water flow rate in gallons per minute. In lieu of monitoring the recirculating water flow rate, the design rate may be used for compliance monitoring purposes. b) Total dissolved solids content of the cooling water shall be measured monthly. c) On a monthly basis: i) Calculate the monthly average lbs/day PM_{10} emissions from the cooling tower using the Reference Formula below and actual operating data from monitoring. ii) Calculate the annual average lbs/day PM_{10} emissions from the cooling tower over the previous 12 consecutive months. **Reference Formula:** PM_{10} emissions from the Cooling Tower shall be calculated according to the following equation and actual operating data: Q x C x DL x 60 x 8.34/ 1000000 = D Where: Q = Monthly average or design recirculation rate in gallons per minute	Cooling Tower	None

AR#	Requirements	Subject Units	Additional Monitoring Conditions
	C = Monthly average total dissolved solids concentration in parts per million by weight (ppmw) D = PM_{10} emission rate in lb/hr. DL = the design drift loss rate in gallon lost/gallon of recirculating cooling water = 1.0 E^{-5} [Origin: NOC No. EFSEC/2017-01, conditions 1, 3 and 4; PSD No. EFSEC/2001-01, AMENDMENT 4, condition 9 & 10] [Authority: WAC 173-401-600(1)(c)]		
AR 5.2	**Cooling Tower O&M Plan**: GHE shall implement a plan for maintaining cooling tower water quality. The plan shall include procedures for cooling tower chemical use, operating limits for free chlorine levels, schedule for testing free chlorine levels, and test methods. [Origin: NOC No. EFSEC/2017-01, condition 6] [Authority: WAC 173-401-600(1)(c)]	Cooling Tower	None

[END OF SECTION]

VI. MONITORING TERMS AND CONDITIONS (M)

M1. Monitoring Air Impacts Detrimental or a Nuisance to Persons or Property.
These requirements are necessary for monitoring compliance with Applicable Requirements 1.2, 1.4, 1.5, and 1.6.

The permittee shall monitor all air quality related complaints directed to the facility as follows:

- **a)** The permittee shall provide an automatic phone recording system or an onsite contact person available to the general public for filing a complaint whenever the facility is operating.
- **b)** The permittee shall maintain a record of air quality related complaints, which shall include, as applicable, the following information:
  - **i)** Description of the complaint.
  - **ii)** Date and time the alleged impact was first noticed.
  - **iii)** Date and time the alleged impact was last noticed.
  - **iv)** Location where the alleged impact was experienced.
  - **v)** Name and phone number of caller.
  - **vi)** The permittee's assessment of the validity of the complaint.
  - **vii)** Description of any corrective action taken.

[Origin: N/A - gap filling monitoring]
[Authority: WAC 173-401-615(1)(b)&(c)]

M2. General Requirements for CEMS and COMS
These requirements are necessary for monitoring compliance with Applicable Requirements 2.1, 2.4, 2.7, 2.8, 2.13, 2.16, and 2.17.

CGT Continuous Emissions Monitoring Systems (CEMS) and Continuous Opacity Monitoring Systems (COMS) must meet the following general requirements in addition to specific requirements stated in subsequent conditions:

- **a)** **Requirement to Monitor.** Monitors (CEMS and COMS) must operate and monitor emissions at all times CGTs operate including determining emissions during start-up, shutdown, and periods of malfunction.
- **b)** **General Requirements for COMS and CEMS.** CGT CEMS and COMS must meet the requirements of 40 CFR 60.13, except that the term "applicable subpart" as used in 40 CFR 60.13 means this AOP. The following requirements from 40 CFR Part 60 apply:
  - **i)** **Operational Status.** All required CEMS and COMS shall be installed and operational prior to conducting performance testing required by this AOP. Verification of operational status shall, as a minimum, include verification of completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device.

ii) **Performance Evaluations.** The permittee shall conduct a performance evaluation of COMS and CEMS during any performance test required by this AOP or within 30 days thereafter in accordance with the applicable performance specifications.

iii) **Performance Evaluation Reports.** The permittee shall furnish EFSEC within 60 days of completion two or, upon request, more copies of a written report of the results of any COMS or CEMS performance evaluation.

iv) **Daily Calibration drift Checks.** The permittee must check the zero (or low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts of all COMS and CEMS at least once each operating day in accordance with a written procedure. The zero and span must, at a minimum, be adjusted whenever either the 24-hour zero drift or the 24-hour span drift exceeds two times the limit of the applicable performance specification and the system must allow the amount of the excess zero and span drift to be recorded and quantified.

v) **Continuous Operation Required.** Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all required CEMS and COMS shall be in continuous operation.

vi) **Minimum Frequency of Operation.** CEMS and COMS shall meet minimum frequency of operation requirements as follows:

(1) All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

(2) All CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

vii) **Representative Measurements Required.** All CEMS and COMS shall be installed in accord with applicable performance specifications and such that representative measurements of emissions or process parameters from the affected facility are obtained.

viii) **Situations of Combined Effluent.** Required CEMS and COMS may be installed on the combined effluent from a single affected facility. Each combustion turbine and duct burner pair are considered a single affected facility for purposes of this provision.

ix) **Data Averaging.** Data shall be reduced as follows:

(1) COMS data shall be reduced to 6-minute block averages calculated from 36 or more data points equally spaced over each 6-minute period.

(2) Data from NO_x, CO and Ammonia CEMS shall be reduced to 1-hour averages as follows:

(a) For a full operating hour (any clock hour with 60 minutes of unit operation), at least four valid data points are required to calculate the hourly average, i.e., one data point in each of the 15-minute quadrants of the hour.

(b) For a partial operating hour (any clock hour with less than 60 minutes of unit operation), at least one valid data point in each 15-minute quadrant of the hour in which the unit operates is required to calculate the hourly average.

(c) For any operating hour in which required maintenance or quality-assurance activities are performed:

(i) If the unit operates in two or more quadrants of the hour, a minimum of two valid data points, separated by at least 15 minutes, is required to calculate the hourly average; or

(ii) If the unit operates in only one quadrant of the hour, at least one valid data point is required to calculate the hourly average.

(d) If a daily calibration error check is failed during any operating hour, all data for that hour shall be invalidated, unless a subsequent calibration error test is passed in the same hour and the requirements above for maintenance or quality-assurance activities are met, based solely on valid data recorded after the successful calibration.

(e) For each full or partial operating hour, all valid data points shall be used to calculate the hourly average.

(f) Data recorded during periods of continuous monitoring system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages computed.

(g) Hourly averages for partial operating hours of CEMS and COMS shall be computed according to the specific requirements for each monitor.

(h) Either arithmetic or integrated averaging of all data may be used to calculate the hourly averages. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O_2 or ng/J of pollutant).

x) Treatment of Excess Emissions:

(1) All excess emissions shall be converted into units of the standard using the applicable conversion procedures.

(2) After conversion into units of the standard, the data may be rounded to the same number of significant digits stated in the applicable emission limit.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 18.5 and 40 CFR 60.13]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M3. CGT Opacity Monitoring.
These requirements are necessary for monitoring compliance with Applicable Requirement 2.14.

Ongoing compliance with CGT opacity limits shall be monitored once per day (or weekly if condition M3.c below is satisfied) as follows:

a) A certified opacity reader shall read and record the opacity of each operating unit during daylight hours per frequency specified in condition M3.c below, or

b) Opacity shall be monitored using a Continuous Opacity Monitoring System (COMS) on each CGT as an alternative to EPA Reference Method 9 readings.

c) If readings from daily monitoring are less than applicable opacity limits for the last calendar month, the manual opacity monitoring frequency may be reduced to weekly. Readings above any opacity limit will trigger daily opacity readings for at least 30 consecutive days.

d) Any certified opacity readings to meet the opacity monitoring requirements of this condition shall be performed:

i) By individuals with current EPA Method 9 certification in plume evaluation; and,

ii) During periods when the subject CGT is operating.

e) Any COMS used to meet the opacity monitoring requirements of this condition shall meet the requirements contained in 40 CFR Part 60, Appendix B, Performance Specification 1 and in 40 CFR, Part 60, Appendix F, Quality Assurance Procedures.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 5.8.3, 18.4 and 18.5; 40 CFR Part 60, Appendix B, Performance Specification 1; and, in 40 CFR, Part 60, Appendix F, Quality Assurance Procedures]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M4. Auxiliary Boiler Opacity Monitoring
These requirements are necessary for monitoring compliance with Applicable Requirement 3.6.

Ongoing compliance with the Auxiliary Boiler opacity limit shall be monitored as follows:

- **a)** An opacity reader shall survey the Auxiliary Boiler stack daily when it operates to determine if any opacity is present. Auxiliary Boiler opacity surveys shall be conducted as follows:
  - **i)** Surveys shall be conducted from a location with a clear view of the Auxiliary Boiler stack and where the sun is not directly in the observer's eyes.
  - **ii)** Unless the Auxiliary Boiler is not scheduled to operate that day or is down for maintenance, surveys shall be performed during daylight hours (from 9:00 am to 4:00 PM) and when the Auxiliary Boiler is operating.
  - **iii)** Any visible emissions other than uncombined water shall be recorded as a positive reading.
  - **iv)** If it is not possible to conduct the survey due to inclement weather conditions the surveyor shall note this in the records.
- **b)** If opacity is not observed over the course of a week, the frequency for surveying the boiler stack may change to monthly.
- **c)** If the opacity reader detects visible emissions, the permittee must promptly investigate the cause of the emissions and repair the problem or perform EPA Method 9 observations for determining compliance.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 6.6.3 and 18.5]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M5. Opacity Monitoring for the Emergency Generator Engine.
These requirements are necessary for monitoring compliance with Applicable Requirements 4.5 and 4.6.

Ongoing compliance with the opacity limit applying to Emergency Generator Engine shall be monitored as follows:

- **a)** Weekly, a qualified opacity reader shall survey and record if opacity is present from the engine whenever the engine is operated for testing and after the engine achieves normal operating temperature.
- **b)** If opacity is observed then Method 9 readings shall be performed immediately or the next time the engine is started.
- **c)** Survey frequency can be reduced to monthly once four readings without opacity are observed.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 7.5.2]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M6. Monitoring Natural Gas Use and Composition.
These requirements are necessary for monitoring compliance with Applicable Requirements 2.1 through 2.11, 2.13, 2.15, 2.16, 2.17, 3.3 and 3.7.

Composition and the actual hourly rate of natural gas combusted by each Duct Burner, Turbine and Auxiliary Boiler shall be monitored as follows:

- **a) Facility-wide Monitoring.** The permittee shall record monthly and report to EFSEC on a quarterly basis the quantity and sulfur content of the natural gas burned at the facility, and purchase records.
- **b) Requirement to Monitor Natural Gas Combustion.** The actual hourly rates of natural gas combusted by each Duct Burner, Turbine and the Auxiliary Boiler in terms of standard cubic feet per hour shall be continuously monitored using in-line fuel flowmeters per the methods in 40 CFR Part 75, Appendix D, Section 2.1.
- **c) Gas Composition.** The natural gas combusted at the facility must be sampled and analyzed at least once per calendar month for composition using Universal Oil Products (UOP) Laboratory Test Method 539-97 "Gas Analysis by Gas Chromatography," or an equivalent method approved by EFSEC. An alternative method to section 12.3.2 of EPA Method 19 can be used to determine the Fd factor if pre-approved by EFSEC. The gas composition must be used to determine:
  - **i)** The heat content of the gas in terms of British thermal unit, higher heat value, per standard cubic foot (Btu/scf); and
  - **ii)** The dry basis fuel factor (Fd) for the natural gas in terms of dry standard cubic feet per million Btu (dscf/MMBtu) according to section 12.3.2 of EPA Method 19.
  - **iii)** Sulfur content of the natural gas shall be determined at least once per calendar month by sampling the natural gas combusted and analyzing samples for total sulfur content per the method specified in 40 CFR Part 75, Appendix D for high variability. Any other analysis method listed in 40 CFR Part 75, Appendix D may be used once approved by EFSEC. Valid sulfur test results from the previous month, or an average of valid sulfur data approved by EFSEC may be used when monthly sampling and analysis of the natural gas is inconclusive or results in invalid data.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 5.3.7 and 18.6; 40 CFR Part 60, Subpart Dc, §60.48c(g); and 40 CFR Part 75, Appendix D, Section 2.1]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M7. CGT - NO_x and O_2 Continuous Emission Monitoring Systems (NO_x CEMS).
These requirements are necessary for monitoring compliance with Applicable Requirements 2.1, 2.4 and 2.7.

In addition to the General Requirements for CEMS in condition M2, CGT NO_x and O_2 Continuous Emissions Monitoring Systems (NO_x CEMS) shall meet the requirements for NO_x and O_2 monitors contained in 40 CFR 75, Emissions Monitoring.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 18]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M8. CGT – CO Continuous Emission Monitoring Systems (CO CEMS)
These requirements are necessary for monitoring compliance with Applicable Requirements 2.8.

In addition to the General Requirements for CEMS in condition M2, CGT CO and O_2 Continuous Emissions Monitoring Systems (CO CEMS) shall meet the requirements for CO and O_2 monitors contained in 40 CFR, Part 60, Appendix B, Performance Specification 4 or 4A, and in 40 CFR, Part 60, Appendix F, Quality Assurance Procedures.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M9. CGT – Ammonia Continuous Emission Monitoring Systems (NH_3 CEMS)
These requirements are necessary for monitoring compliance with Applicable Requirement 2.13.

In addition to the General Requirements for CEMS in condition M2, CGT ammonia Continuous Emissions Monitoring Systems (NH_3 CEMS) shall meet the requirements contained in 40 CFR, Part 63, Appendix A, Reference Method 301, Validation Protocol, and 40 CFR, Part 60, Appendix F, Quality Assurance Procedures, or other EFSEC-approved performance specifications and quality assurance procedures.

[Origin: Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 18.2]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M10. Monitoring Compliance with CGT Pollutant Mass Rate (PMR) and Concentration Limits for NO_x, CO, VOC, PM_{10} and Ammonia.
These requirements are necessary for monitoring compliance with Applicable Requirements 2.4, 2.7, 2.8, 2.11, 2.13, 2.16, and 2.17.

Ongoing compliance with CGT limits for NO_x, CO and Ammonia shall be determined as follows:

a) Hourly Average PMR Limits (NO_x, CO and Ammonia). Compliance shall be monitored by computing hourly average PMRs in pounds per hour (lbs/hr) for every hour of operation including start-up, shut-down and malfunction operations using the following equation:

$$PMRx = (NG)(HHV)(Fd)(Cx)(MW_{pollutant})/[(1000)(Molar\ Volume_{stp}]$$

Where:

- *PMRx = The calculated pollutant mass rate of pollutant "x" in terms of pound per hour (lbs/hr).*
- *NG = The actual amount of natural gas combusted by the unit over the hour per condition M6(b) in terms of dry standard cubic feet of natural gas (dscfng/hr).*

- *HHV = The Higher Heat Value of the natural gas determined for the month per condition M6(c)(ii) in terms of million Btu per dry standard cubic feet of natural gas (MMBtu/dscf$_{ng}$).*
- *Fd = The dry basis fuel factor determined for the month per condition M6(b)(ii) in terms of dry standard cubic feet of exhaust per million Btu of natural gas combusted (dscf$_{exhaust}$/MMBtu)*
- *Cx = The average concentration of pollutant "x" monitored by CEMS over the hour in terms of parts per million by volume, dry (ppmvd), uncorrected.*

b) **Hourly Average PMR Limit (VOC).** Compliance shall be monitored by calculating the hourly VOC PMR in pounds per hour for every hour of operation including start-up, shut-down and malfunction operations using:
  i) The hours of operation;
  ii) Fuel flow to each CGT; and,
  iii) Application of an emission factor (in lbs/MMBtu) for VOC derived from the most recent stack testing of the CGT.

c) **Hourly Average PMR Limit (Particulate).** No ongoing monitoring required.

d) **Rolling 24-hr Average PMR Limits (NO_x and Ammonia).** Compliance shall be monitored by computing 24-hr average PMRs (lbs/hr$_{24\text{-hr ave.}}$) hourly, except during start-up or shut-down hours. In addition, PMRs during start-up or shut-down shall not be used in computing the rolling 24-hr averages.

e) **Hourly Average Concentration Limits (NO_x, CO and Ammonia).** Compliance shall be monitored by computing hourly average concentrations in parts per million by volume, dry, corrected to 15 percent oxygen (ppmvd$_{\text{hourly ave @ 15\%}}$) hourly from raw CEMS data for every hour of operation including start-up, shut-down and malfunction operations.

f) **Rolling 24-hr Average Concentration Limits (NO_x and Ammonia).** Compliance shall be monitored by computing 24-hr average concentrations in parts per million by volume, dry, corrected to 15 percent oxygen (ppmvd$_{\text{24-hr ave @ 15\%}}$) hourly, except during start-up and shut-down operations. In addition, concentrations during start-up and shut-down shall not be used in computing the rolling 24-hr average concentrations.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M11. Monitoring Compliance with CGT SO_2 and H_2SO_4 Limits.

These requirements are necessary for monitoring compliance with Applicable Requirements 2.9, 2.10 and 2.17.

Ongoing compliance with CGT hourly SO_2 and H_2SO_4 Pollutant Mass Rate (PMR) limits shall be determined monthly as follows:

a) **Hourly PMRs.** Hourly PMRs for SO_2 and H_2SO_4 shall be determined for every hour of operation including start-up, shut-down and malfunction operations based on sulfur balance calculations using the actual quantity and sulfur content of natural gas consumed

by each CGT and the unit-specific ratios of H_2SO_4 to SO_2 determined for each CGT from the most recent stack testing.

b) Hourly PMRs, Rolling Annual Average (lbs/hr$_{\text{annual ave}}$). The rolling-annual average SO_2 and H_2SO_4 PMRs in lb/hr shall be determined monthly for each CGT by averaging hourly PMRs over the previous 12-consecutive month period, including PMRs during start-up, shut-down and malfunction.

c) Natural Gas Data. The amount and composition of natural gas combusted by each CGT shall be based on fuel monitoring per condition M6.

d) H_2SO_4/SO_2 Ratio. The unit-specific ratios of H_2SO_4 to SO_2 shall be determined for each CGT based on the most recent stack test.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 5.3.5, 5.3.6, 5.4.3 and 5.4.4]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M12. Monitoring Compliance with Auxiliary Boiler SO_2 Limit.
These requirements are necessary for monitoring compliance with Applicable Requirement 3.3.

Ongoing compliance with the Auxiliary Boiler SO_2 Pollutant Mass Rate (PMR) limit shall be determined monthly by mass-balance calculations using the:

a) Monthly fuel consumption records for the auxiliary boiler; and,

b) Sulfur content of the natural gas per condition M6.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M13. Monitoring Compliance with CGT Emissions Limits for Start-ups and Shut-downs (SU/SD).
These requirements are necessary for monitoring compliance with Applicable Requirements 2.16 and 2.17.

Ongoing compliance with the SU/SD limits shall be monitored by determining the total emissions in pounds during each SU/SD event as follows:

a) NO_X shall be monitored by continuous emission monitors for NO_x and O_2. The continuous emission monitoring system (CEMS) to determine NO_x lb/hr emissions shall meet the requirements of conditions M7. Stack flow shall be determined based on natural gas monitoring per condition M6.

b) CO shall be monitored by continuous emission monitor for CO and O_2. The CEMS measurement to determine CO lb/hr emissions shall meet the requirements of condition M8. Stack flow shall be determined based on natural gas monitoring per condition M6.

c) VOC shall be calculated using a VOC emission factor of 177 lb/startup/shutdown/CGT. The VOC emission factor accounts for combined VOC emissions during start-up and shutdown.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 11]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M14. Monitoring Compliance with Annual Emissions Limits.
These requirements are necessary for monitoring compliance with Applicable Requirement 2.17.

Ongoing compliance with annual emissions limits be determined monthly as follows:

- **a)** 12-month total emissions shall be calculated monthly based on the total monthly emissions from each permitted unit summed for the preceding 12 months.
- **b)** The actual emissions shall be based on CEMS, where installed, mass balance and emission factor calculations for SO_2 and H_2SO_4, and emission factors for other pollutants and emission units where CEMs are not installed.
- **c)** For the CGTs, annual emissions shall include emissions from start-up and shutdown events and CGT start-up emissions are equally apportioned between the two turbines.
- **d)** PM and PM_{10} are assumed to be equal.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 10]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b)&(c)]

M15. Relative Accuracy Test Audits (RATA) for NO_X, NH_3, and CO Continuous Emission Monitoring Systems.
These monitoring requirements apply to Applicable Requirements 2.1, 2.4, 2.7, 2.13, 2.16 and 2.17.

Relative Accuracy Test Audits (RATA) for NOX, NH3, and CO Continuous Emission Monitoring Systems shall be performed as follows:

- **a)** RATA testing is to be performed at the calendar year/calendar quarter frequency required by the quality assurance procedures contained in:
  - **i)** Requirements for NOx and O2 monitors from 40 CFR 75, Emissions Monitoring;
  - **ii)** Requirements for CO monitors from 40 CFR, Part 60, Appendix B, Performance Specification 4 or 4A, and in 40 CFR, Part 60, Appendix F, Quality Assurance Procedures; and,
  - **iii)** Requirements for NH_3 monitors from PPS-001.
- **b)** The testing shall be based on "QA operating quarters" as that term is defined in 40 CFR 72.2.
- **c)** A RATA is to be performed for all pollutants measured by CEMs as required by 40 CFR Part 75, Appendix B, Section 2.3, including minimum frequency of once every eight calendar quarters.
- **d)** A test plan shall be prepared and submitted to EFSEC and Olympic Region Clean Air Agency (ORCAA) for review at least 30 days prior to any RATA test.
- **e)** The test plan shall cover all pollutants required to be monitored during that RATA test.
- **f)** The test plan shall include the proposed dates of the testing.
- **g)** The permittee must revise the test plan to address comments provided by EFSEC or ORCAA.
- **h)** A report of the results of the RATA and other emission testing shall be submitted to EFSEC and ORCAA within 45 days of completing the test.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, condition 19]
[Authority: WAC 173-401-615(1)(a) and WAC 173-401-615(1)(b) &(c)]

M16. Monitoring Actions to Maintain Air Pollution Control Technology.
These requirements are necessary for monitoring compliance with Applicable Requirements 1.1 and 2.18.

The permittee shall monitor and keep a running log of actions taken to keep any process and/or air pollution control equipment in good operating condition and repair.

[Origin: "Gap-filling" monitoring]
[Authority: WAC 173-401-615(1)(b)&(c)]

[END OF SECTION]

VII. GENERAL RECORDKEEPING REQUIREMENTS (RK)

RK1. Applicable Recordkeeping: Required records are identified in individual AOP conditions and attachments to this AOP and are subject to the general recordkeeping requirements of this section.

[Origin: WAC 173-401-615(2)]
[Authority: WAC 173-401-615(2)]

RK2. Records of Required Monitoring. The permittee shall keep records of required monitoring that include, where applicable, the following:

- **a)** The date, location, and time of sampling or measurement;
- **b)** The date(s) analyses were performed;
- **c)** The company or entity that performed the analyses;
- **d)** The analytical techniques or methods used;
- **e)** The results of analyses; and
- **f)** The operating conditions existing at the time of sampling or measurement.

[Origin: WAC 173-401-615 (2)(c)]
[Authority: WAC 173-401-615(2)]

RK3. Record of Changes. The permittee shall maintain records describing changes made that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the AOP, and the emissions resulting from those changes.

[Origin: WAC 173-401-615 (2)(b), and WAC 173-401-724(5)]
[Authority: WAC 173-401-615(2)]

RK4. Retention and Availability of Records: Records of all required monitoring data and support information shall be retained for a period of five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all data recorded by the data acquisition system for continuous monitoring instrumentation, and copies of all reports required by the AOP.

[Origin: WAC 173-401-615(2)(c)]
[Authority: WAC 173-401-615(2)]

RK5. Excess Emissions Records. For an excess emission event the permittee intends to claim as unavoidable per condition P19 or P20, as applicable, the following records must be maintained:

- **a)** Properly signed contemporaneous records or other relevant evidence documenting the permittee's actions in response to the excess emissions event;

b) Records documenting whether installed emission monitoring and pollution control systems were operating at the time of the exceedance. If either or both systems were not operating, information on the cause and duration of the outage; and

c) Any additional information supporting the claim that the excess emissions were unavoidable.

[Origin: WAC 173-400-108]
[Authority: WAC 173-401-615(2)]

RK6. MACT Applicability Records. For each relevant standard or other applicable requirement under 40 CFR Part 63, which the permittee determines inapplicable, the permittee shall keep record of the applicability determination on site for 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. For the purposes of this condition, a relevant standard is defined as any standard for which:

a) The source emits or has the potential to emit (without considering controls) one or more hazardous air pollutants regulated by the standard; and,

b) The source belongs to the source category regulated by the standard.

The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the permittee believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) shall be sufficiently detailed to allow EFSEC to make a finding about the source's applicability status regarding the relevant standard or other requirement. If required, the analysis shall be performed in accordance with requirements established in the relevant subpart for this purpose, and the analysis should be performed in accordance with EPA guidance materials published to assist sources in making applicability determinations under section 112, if any.

[Origin: 40 CFR 63.1(b)(3); 40 CFR 63.10(b)(3)]
[Authority: WAC 173-401-615(2)]

RK7. Records Required for Greenhouse Gas (GHG) Reporting. If the permittee is required to prepare annual GHG reports to Ecology pursuant to Chapter 173-441 WAC, the permittee shall maintain records in accordance with WAC 173-441-050, retaining, at a minimum, the following:

a) A list of all units, operations, processes, and activities for which GHG emissions were calculated.

b) The data used to calculate the GHG emissions for each unit, operation, process, and activity, categorized by fuel or material type. These data include, but are not limited to, the following information:

i) The GHG emissions calculations and methods used, as required by WAC 173-441-120.

ii) Analytical results for the development of site-specific emissions factors.

iii) The results of all required analyses for high heat value, carbon content, and other required fuel or feedstock parameters.

iv) Any facility operating data/process information used for the GHG emission calculations.

c) Copies of the annual GHG reports.
d) Missing data computations. For each missing data event, also retain a record of the cause of the event and the corrective actions taken to restore malfunctioning monitoring equipment.
e) A GHG Emissions Monitoring Plan according to WAC 173-441-050(6)(e).
f) The results of all required certification and quality assurance tests of continuous monitoring systems, fuel flow meters, and other instrumentation used to provide data for the GHGs reported under this chapter.
g) Maintenance records for all continuous monitoring systems, flow meters, and other instrumentation used to provide data for the GHGs reported under this chapter.

[Origin: WAC 173-441-050(6)(State only)]
[Authority: WAC 173-401-615(2)]

RK8. Required Emergency Engine Records. The following records shall be maintained for Emergency Engines:

a) Engine operation and maintenance records verifying the engine has been operated, maintained and repaired in a manner consistent with the manufacturer's emissions-related specifications;
b) A copy of the manufacturer's recommendations for maintaining the engine.
c) Total hours of operation of each engine; and,
d) Total hours of maintenance testing.

[Origin: 40 CFR 63 Subpart ZZZZ, §63.6655 (f) and PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 7.1.1 and 8.1.1]
[Authority: WAC 173-401-615(2)]

RK9. Required Fuel Records. The following fuel records are required:

a) Hourly rates of natural gas combustion by each unit shall be automatically recorded using data acquisition and handling systems; and,
b) Monthly heat content, dry basis fuel factor and sulfur content based on fuel sampling and analysis.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 5.3.7 and 18.6; 40 CFR Part 60, Subpart Dc, §60.48c(g)]
[Authority: WAC 173-401-615(2)]

[END OF SECTION]

VIII. REPORTING (R)

R1. Certification of Reports. Any application form, report, or compliance certification submitted to EFSEC or the U.S. Environmental Protection Agency Region 10 (EPA) under requirements of this AOP shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the submittal are true , accurate and complete. Where an applicable requirement requires reporting more frequently than once every six months, the responsible official's certification need only be submitted once every six months, covering all required reporting since the date of the last certification.

[Origin: WAC 173-401-630(1)]
[Authority: WAC 173-401-615(3)]

R2. Annual Compliance Certifications. The permittee shall submit to EFSEC and EPA an Annual Compliance Certification report, which shall certify the status of compliance with respect to all AOP conditions in accordance with WAC 173-401-630(5)(d). Annual Compliance Certification Reports shall be submitted to EFSEC and EPA by April 15th each year and shall certify the status of compliance over the previous January through December period. The reports shall be certified by a responsible official in accordance with condition R1. Annual Compliance Certification reports shall include:

- **a)** Identification of each term or condition of the AOP that is the basis of the certification.
- **b)** Statement of compliance status;
- **c)** Whether compliance was continuous or intermittent;
- **d)** Method(s) used for determining of the source, currently and over the reporting period consistent with WAC 173-401-615;
- **e)** Such other facts as EFSEC may require to determine the compliance status of the source; and,
- **f)** Such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the FCAA.

[Origin: WAC 173-401-630(5)]
[Authority: WAC 173-401-615(3)]

R3. Semi-annual Monitoring Reports. Consistent with WAC 173-401-615(3) the permittee shall submit to EFSEC by October 18th and April 15th for the six-month periods January through June and July through December respectively, a report on the status of all monitoring requirements. All instances of deviation from AOP requirements shall be clearly identified. The semi-annual report shall contain a certification of any reports submitted during the semi-annual period that have not already been certified. The certification shall be consistent with WAC 173-401-520.

[Origin: WAC 173-401-615(3)(a)]
[Authority: WAC 173-401-615(3)]

R4. Quarterly Reports. CEMS and process data shall be submitted quarterly, in written form (or electronic if permitted by the EFSEC) within 30 days of the end of each calendar quarter to EFSEC as follows:

- **a)** Format:
  - **i)** For NO_x, the format of the data in the quarterly reports shall match that required by EPA for demonstrating compliance with the Title IV Acid Rain program reporting requirements.
  - **ii)** For all other pollutants and process data, the format of the data in the quarterly reports shall be in a format approved by EFSEC.
- **b)** Quarterly Reports shall include at the following:
  - **i)** Process or control equipment operating parameters required to be monitored;
  - **ii)** The hourly maximum and average emissions monitored, in units of each standard, for each pollutant monitored;
  - **iii)** The duration and nature of any monitor downtime; and,
  - **iv)** Results of any monitor audits or accuracy checks.
- **c)** For each occurrence of monitored emissions in excess of the limits in this AOP, the quarterly emissions report shall also include the following:
  - **i)** For parameters subject to monitoring and reporting under the Title IV, Acid Rain program, the reporting requirements in that program shall govern excess emissions report content.
  - **ii)** For all other pollutants:
    (1) The time of the occurrence;
    (2) Magnitude of the emission or process parameters excess;
    (3) The duration of the excess;
    (4) The probable cause;
    (5) Corrective actions taken or planned; and,
    (6) Any other agency contacted.

[Origin: PSD No. EFSEC/2001-01, AMENDMENT 4, conditions 20, 21 and 22]
[Authority: WAC 173-401-615(3)]

R5. Reporting Deviations from AOP Conditions. The permittee shall promptly report any deviations from AOP requirements, including those attributable to upset and malfunction conditions as defined in this AOP. The following conditions shall apply:

a) **Prompt Reporting.** For purposes of this AOP, submitting a report "promptly" means the following:
   i) **Potential Threat to Human Health or Safety:** If the deviation presents a potential threat to human health or safety, "promptly" means as soon as possible but no later than 12 hours after discovery of the deviation;
   ii) **Other Deviations:** For other deviations, "promptly" means as soon as possible but no later than 30 days after the end of the month during which the deviation was discovered. [Origin: WAC 173-401-615(3)(b)]

b) **Deviation Report Content.** Permit deviation reports shall include:
   i) Identification of the emission unit(s) involved;
   ii) The duration of the event including the beginning and end times;
   iii) For emission and process parameter excesses, the magnitude of the excess;
   iv) The probable cause of the deviation;
   v) Corrective actions taken or planned; and,
   vi) Preventive measures taken. [Origin: WAC 173-401-615(3)(b)]

c) **Reporting Unavoidable Excess Emissions.** The deviation report may include demonstration that excess emissions were unavoidable due to start-up, shutdown or upset conditions consistent with the requirements of condition P18. [Origin: WAC 173-400-107(3)]

d) **Reporting Deviations due to Emergencies.** The deviation report may include demonstration that excess emissions were due to an emergency, consistent with the requirements of condition P17. [Origin: WAC 173-401-645]

[Origin: listed by sub-condition]
[Authority: WAC 173-401-615(3)]

R6. Notification of Emergencies. In order to qualify for affirmative defense as an emergency under condition P18 (WAC 173-401-645), in addition to the reporting requirements under condition R5, the permittee must submit notice of the emergency to EFSEC as follows:

a) **Potential Threat to Human Health or Safety:** Notice of emergencies resulting in excess emissions that may pose a potential threat to human health or safety must be submitted as soon possible but no later than 12 hours after discovery of the excess emissions [Origin: WAC 173-401-645(3)(d) and 173-401-615(3)(b)]

b) **Other Emergencies:** Notice of emergencies that do not pose a potential threat to human health or safety must be submitted within two working days from the time when emission limitations were exceeded due to the emergency, or shorter periods of time specified in an applicable requirement. [Origin: WAC 173-401-645(3)(d)]

c) **Required Content of Notification:** Emergency notifications must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. [Origin: WAC 173-401-645(3)(d)]

d) Notices conforming to this condition fulfill the requirements of condition R5. [Origin: WAC 173-401-645(3)(d)]

[Origin: listed by sub-condition]
[Authority: WAC 173-401-615(3)]

R7. Washington Requirements for Excess Emissions Reporting (WAC 173-400-107):

a) Applicability. This condition remains in effect until the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the Washington State Implementation Plan. This condition is not effective starting on that date.

b) Reporting Deadlines. In addition to the reporting requirements under condition R5, excess emissions shall be reported as follows:

i) Excess emissions which represent a potential threat to human health or safety or which the permittee believes to be unavoidable shall be reported to EFSEC as soon as possible.

ii) Other excess emissions shall be reported within thirty days after the end of the month during which the event occurred or as part of the routine emission monitoring reports.

c) Detailed Report Required. Upon request by EFSEC, the permittee shall submit a full written report including the known causes, the corrective actions taken, and the preventive measures to be taken to minimize or eliminate the chance of recurrence.

[Origin: WAC 173-400-107]
[Authority: WAC 173-401-615(3)]

R8. Washington Requirements for Excess Emissions Reporting (WAC 173-400-108):

a) Applicability:

i) Condition R8 is a State-only requirement and not federally enforceable.

ii) Condition R8 takes effect on the effective date of EPA's removal of the September 20, 1993, version of WAC 173-400-107 from the SIP.

b) Notify EFSEC. The permittee shall notify EFSEC of excess emissions as follows:

i) When excess emissions represent a potential threat to human health or safety, the owner or operator must notify the permitting authority by phone or electronic means as soon as possible, but not later than **twelve hours** after the excess emissions (deviation) were discovered per condition R5.

ii) For all other excess emissions, the permittee must notify EFSEC in a report no later than 30 days after the end of the month during which the excess emissions (deviation) was discovered per condition R5.

iii) However, notice of emergencies that do not pose a potential threat to human health or safety must be submitted within two working days from the time when emission limitations were exceeded due to the emergency, or shorter periods of time specified in an applicable requirement.

c) Excess Emissions Report Required. The owner or operator must report all excess emissions to the permitting authority according to condition R5.

d) Unavoidable Excess Emissions. To claim emissions as unavoidable under condition P19 [WAC 173-400-109], the report must contain the following in addition to the information required under condition R5:

i) Properly signed contemporaneous records or other relevant evidence documenting the owner or operator's actions in response to the excess emissions event;

ii) Information on whether installed emission monitoring and pollution control systems were operating at the time of the exceedance. If either or both systems were not operating, information on the cause and duration of the outage; and

iii) Any additional information requested by EFSEC to support the claim that the excess emissions were unavoidable under condition P18.

[Origin: WAC 173-400-108 and WAC 173-401-645(3)(d)]
[Authority: WAC 173-401-615(3)]

R9. Notification of Complaint Received. The permittee shall notify EFSEC by phone call, e-mail or in writing of any complaint received in connection with a term or condition of this AOP as soon as possible, but no later than one week from the time the complaint was received. The notification shall include a short description of the complaint, time it was received, actions taken, actions planned and preliminary assessment.

[Origin: condition M3]
[Authority: WAC 173-401-615(3)]

R10. Annual Inventory Report. On an annual basis, the permittee shall submit an inventory of actual emissions emitted during the previous calendar year. The inventory shall be submitted to EFSEC within 30 days of receipt of the standard inventory reporting forms. The inventory shall be accompanied by all associated calculations and data used in calculating the emissions.

[Origin: WAC 173-400-105(1)]
[Authority: WAC 173-401-615(3)]

R11. Source Test Plans. The permittee shall notify EFSEC in writing at least 30 days prior to any stack emissions testing (Source Test) and provide EFSEC an opportunity to review the Source Test Plan and to observe the test. The Source Test Plan shall describe the proposed source test methods, operational conditions proposed for the test, and provisions for monitoring source operation during the test.

[Origin: WAC 173-400-105(4)]
[Authority: WAC 173-401-615(3)]

R12. Source Test Reports. Reports of all required source or emissions testing of the CGTs or auxiliary boiler shall be submitted to EFSEC within 45 days after test completion.

[Origin: 40 CFR 60.8, WAC 173-400-105(4)]
[Authority: WAC 173-401-615(3)]

R13. State Greenhouse Gas (GHG) Reporting. The permittee is subject to the requirement to report greenhouse gas (GHG) emissions to Ecology in accordance with Chapter 173-441 WAC if annual facility wide emissions of carbon dioxide equivalents (CO_2e) are 10,000 metric tons per year or more from all source categories listed in WAC 173-441-120. The following requirements apply:

a) Once the facility emits 10,000 metric tons of GHGs or more per calendar year, the permittee shall report emissions of GHGs to Ecology annually thereafter unless the

permittee is allowed to discontinue reporting as allowed by WAC 173-441-030(5) and the specified notice is submitted to Ecology.

b) To calculate GHG emissions, the permittee shall include all GHGs listed in Table A-1 of WAC 173-441-040, including those emitted from the combustion of biomass, using equation A-1 from WAC 173-441-030(1)(b)(iii).

c) Reports must meet the requirements of WAC 173-441-050, and include the annual emissions of the GHGs listed in WAC 173-441-040 from source categories listed in WAC 173-441-120.

d) The annual GHG report shall be submitted electronically in accordance with the requirements of WAC 173-441-050 and 173-441-060 and in a format specified by Ecology.

e) GHG emissions reports are due to Ecology:
   i) No later than March 31 of each calendar year for GHG emissions in the previous calendar year for facilities required to report GHG emissions to the Administrator under 40 C.F.R. Part 98;
   ii) No later than October 31st of each calendar year for GHG emissions in the previous calendar year for facilities not required to report GHG emissions to the Administrator under 40 C.F.R. Part 98.

f) All requests, notifications, and communications to Ecology pursuant to GHG emissions reporting, other than submittal of the annual GHG report, shall be submitted to the following address:

   Greenhouse Gas Report
   Air Quality Program
   Department of Ecology
   P.O. Box 47600
   Olympia, WA 98504-7600

g) The permittee shall submit a revised annual GHG report within 45 days of discovering that an annual GHG report previously submitted contains one or more substantive errors. A substantive error is an error that impacts the quantity of GHG emissions reported or otherwise prevents the reported data from being validated or verified. The revised report must correct all substantive errors.

h) Ecology may notify the permittee in writing that an annual GHG report previously submitted contains one or more substantive errors. Such notification will identify each such error. The permittee shall, within 45 days of receipt of the notification, either resubmit the report that, for each identified substantive error, corrects the identified substantive error (in accordance with the applicable requirements of this AOP) or provide information demonstrating that the previously submitted report does not contain the identified substantive error or that the identified error is not a substantive error.

[Origin: Chapter 173-441 WAC (State only)]
[Authority: WAC 173-401-615(3)]

[END OF SECTION]

IX. PERMIT SHIELD CONDITIONS (S)

S1. Permit Shield. Compliance with an AOP condition shall be deemed compliance with the applicable requirements upon which that condition is based, as of the date of permit issuance. The permit shield does not apply to any insignificant emissions units or activity designated under WAC 173-401-530.

[Origin: N/A]
[Authority: WAC 173-401-640(1)]

S2. Inapplicable or Exempt Requirements. The requirements shown in Table 8, as of the date of permit issuance, have been determined not to apply to the corresponding emissions units indicated due to either inapplicability of the requirement or an exemption. Commencing the date this AOP is issued, the AOP shield shall cover the requirements specified in Table 8 with respect to the specific emissions units indicated, unless applicability of the requirement is triggered by an action or change after the date the AOP was issued.

[Origin: N/A]
[Authority: WAC 173-401-640(2)]

S3. Exclusions. Nothing in this AOP shall alter or affect the following:

- **a)** The provisions of Section 303 of the FCAA (emergency orders), including the authority of the administrator under that section,
- **b)** The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of AOP issuance,
- **c)** The applicable requirements of the acid rain program, consistent with section 408(a) of the FCAA,
- **d)** The ability of EPA to obtain information from a source pursuant to section 114 of the FCAA, or
- **e)** The ability of the permitting authority to establish or revise requirements for the use of reasonably available control technology (RACT) as provided in chapter 252, Laws of 1993.

[Origin: N/A]
[Authority: WAC 173-401-640(4)]

[END OF SECTION]

TABLE 8 RELEVANT REQUIREMENTS DETERMINED INAPPLICABLE OR EXEMPT

Note: The requirements listed in the following table include only those requirements for which inapplicability must be based on a determination or comparison of the size, age, emissions or other characteristic of an emission unit with respect to applicability criteria and threshold contained in the requirement. All other requirements are considered obviously inapplicable to the facility and are not included in the table below.

Requirement	Emissions Unit	Exempt or Inapplicable	Brief Description of Requirement	Basis
WAC 173-400-100	Facility-wide	Inapplicable	**Registration Required:** Annual Registration is required for regulated sources of emissions, excluding sources subject to the operating permit program	The facility is subject to the operating permit program.
WAC 173-400-040(4)(b)	Facility-wide	Inapplicable	**Fugitive Emissions (Non-attainment requirements):** Emission units identified as significant contributors to non-attainment must use reasonable and available control methods to control emission of contaminants for which the area is designated non-attainment.	There are no non-attainment areas within Grays Harbor County or neighboring counties .
WAC 173-400-040(9)(b)	Facility-wide	Inapplicable	**Fugitive Dust (Non-attainment requirements):** Fugitive dust sources identified as significant contributors to PM_{10} non-attainment must apply RACT.	There are no non-attainment areas within Grays Harbor County or neighboring counties.
Chapter 173-435 WAC	Facility-wide	Inapplicable	**Emergency episode plan requirements**	The facility has not been requested to prepare such a plan.
40 CFR Part 68	Facility-wide	Inapplicable	**Risk Management Programs:** Requirements for Title V sources.	40 CFR Part 68 applies to any facility that has more than a threshold quantity of a regulated substance in a process, as determined under §68.115. GHE does not use or store any materials above the threshold quantities listed in 40 CFR Part 68. This is documented in GHE's AOP application.
WAC 173-401-635	Facility-wide	Inapplicable	**Temporary Title V Sources:** No "affected source" as defined in WAC 173-401-200(1) shall be permitted as a temporary source [WAC 173-401-635].	WAC 173-401-635 provides that the permitting authority may issue a single AOP authorizing emissions from similar operations at multiple temporary locations, except for "affected sources." Since this AOP is for a single location, this provision does not apply.
40 CFR Part 98 Mandatory Greenhouse Gas Reporting (Federal)	Facility-wide	Not an applicable requirement	**Federal Mandatory Greenhouse Gas Reporting Rule.** Establishes requirements for reporting emissions of GHGs.	These requirements are not pursuant to either the state or federal Clean Air Acts and, therefore, are not "Applicable Requirements" for purposes of Title V.

Requirement	Emissions Unit	Exempt or Inapplicable	Brief Description of Requirement	Basis
		under the state and federal Clean Air Acts		
40 CFR Part 64 Compliance Assurance Monitoring (CAM) Rule	Facility-wide	Inapplicable	Establishes the minimum requirements for compliance assurance monitoring at major sources	• For CGTs, pollutants triggering CAM are continuously monitored. • For the Auxiliary Boiler, pre-controlled emissions of controlled air pollutants (NO_x) are less than the CAM applicability threshold. • For Cooling Tower, pre-controlled emissions of controlled air pollutants (PM) are less than the CAM applicability threshold. • See Technical Support Document

Permit Attachments

PERMIT ATTACHMENTS

Permit attachments are part of the associated Air Operating Permit (AOP) and may contain applicable requirements that apply as specified by referencing conditions.

Permit Attachments

Attachment 1: ACID RAIN PERMIT No. EFSEC/10-01-AR

Issued by the Washington State Energy Facility Site Evaluation Council

Issued to:	**Grays Harbor Energy Center, Washington**
Operated by:	**Grays Harbor Energy LLC**
Address:	Grays Harbor Energy Center 401 Keys Road Elma, WA 98541-91491
ORIS code:	7999
Affected units:	Combustion Turbine Generator #1 (CTG1) Combustion Turbine Generator #2 (CTG2)
Effective:	This Acid Rain permit, as part of the Grays Harbor Energy Center Title V permit, will become effective upon the effective date of the Title V permit June 17, 2020. The Acid Rain Permit shall have a permit term ending on December 17, 2024 (the expiration date of Title V Permit No. EFSEC/94-1-AOP.

Acid Rain Permit Contents

1) Statement of Basis

2) SO_2 allowances allocated under this permit and NO_X requirements for each affected unit.

3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions as per WAC 173-406-501, "Acid Rain Permit Contents" as adopted by WAC 463-78.

4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the application and in WAC 173-406-106 "Standard Requirements" as adopted by WAC 463-78.

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1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with section 005 of Washington Administrative Code (WAC) 463-78 "General and Operating Permit Regulations for Air Pollution Sources," which adopts 173-406 "Acid Rain Regulation" and WAC 173-401

Permit Attachments

"Operating Permit Regulation," by reference, the Washington State Energy Facility Site Evaluation Council (EFSEC) issues this permit pursuant to WAC 463-78. WAC 173-406 is based on the provisions of Title 40 Code of Federal Regulations (CFR) parts 72-76, which is part of the requirements established pursuant to Title IV of the Clean Air Act, 40 U.S.C. 7401, et seq., as amended by Public Law 101-549 (November 15, 1990).

In accordance with WAC 173-406-103(1)(c), Combustion Turbine Generator #1(CTG1) and Combustion Turbine Generator #2 (CTG2) are "utility units" because they serve generators greater than twenty-five (25) MWe and do not qualify for any of the exemptions provided under WAC 173-406-103(2). As such, they are subject to the acid rain requirements under Chapter 173-406 WAC.

2) SO_2 Allowance Allocations and NO_X Requirements for Each Affected Unit

		2010	After 2010
CT1 & CT2 Combined	SO_2 allowances held as of January 31, 2010	20[a]	To be determined
	Acid Rain NO_X limit	N/A[b]	N/A[b]

This Acid Rain Permit shall not be construed to exempt or exclude an affected unit from compliance with any other provisions of the Clean Air Act consistent with 40 CFR 72.9(h) and WAC 173-406-106(8) as adopted by WAC 463-78. Additional requirements for this facility include those contained in Prevention of Significant Deterioration permit EFSEC/2001-01 Amendment 4.

Table Footnotes

[a] Pursuant to 40 CFR 72.9(c)(i) and WAC 173-406-106(3)(a)(i) as adopted by WAC 463-78, this unit is required to hold SO_2 allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit. Each combustion turbine has the potential to generate up to 14.5 tons per year of SO_2 emissions. According to 40 CFR 72.2, a fraction of a ton greater than 0.50 is equal to 1.0 ton and a fraction of a ton less than 0.50 is equal to no tons. Depending on the unit operating hours, each unit could be required to hold between 0 and 14 SO_2 allowances.

[b] Since this unit is not a coal-fired unit, there are no applicable acid rain NO_X emission limits and a Phase II NO_X permit application is not required. A NO_X limitation is included in PSD permit EFSEC/2001-01 Amendment 4.

3) Comments, Notes and Justifications

This Acid Rain Permit is deemed to incorporate the definition of terms under WAC 173-406-101 as adopted by WAC 463-78 unless otherwise expressly defined in this permit.

Permit Attachments

4) Permit Application

The permit application was signed on August 7, 2002. A copy of the application is attached.

Standard Requirements

Permit Requirements

(1) The designated representative of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30 and WAC 173-406-301 as adopted by WAC 463-78; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit.

(2) The owners or operators of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operator to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act, applicable requirements of Title 463 WAC, and other provisions of an operating permit for the Grays Harbor Energy Center.

Sulfur Dioxide Requirements

(1) The owners and operator of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall:

(i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another affected unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under WAC 173-406-103(1)(b) as adopted by WAC 463-78; or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under WAC 173-406-103(1)(c) as adopted by WAC 463-78.

(4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.

(5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

(6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7, 40 CFR 72.8, WAC 174-406-104 as adopted by WAC 463-78, or WAC 173-406-105 as adopted by WAC 463-78 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such an authorization.

(7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

(1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.

(2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:

(i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and

(ii) Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

Recordkeeping and Reporting Requirements

(1) Unless otherwise provided, the owners and operators of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall keep on site at the source each of the following documents for a period of 5 years from the date the document is

created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:

(i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certification of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;

(ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;

(iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and

(iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of the Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall submit the reports and compliance certifications required under the Acid Rain Program, including those under WAC 173-406-800 as adopted by WAC 463-78 and 40 CFR part 75.

Liability

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7, 40 CFR 72.8, WAC 173-406-104 as adopted by WAC 463-78, or WAC 173-406-105 as adopted by WAC 463-78, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act and by the permitting authority pursuant to Revised Code of Washington (RCW) 80.50.150.

(2) Any person who knowingly makes any false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001 and by the permitting authority pursuant to RCW 80.50.150.

(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

(4) The Grays Harbor Energy Center and each affected unit at the Grays Harbor Energy Center shall meet the requirements of the Acid Rain Program.

(5) Any provision of the Acid Rain Program that applies to the Grays Harbor Energy Center (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of the Grays Harbor Energy Center and to the affected units at the Grays Harbor Energy Center.

(6) Any provision of the Acid Rain Program that applies to an affected unit at the Grays Harbor Energy Center (including a provision applicable to the designated representative

of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under WAC 173-406-402 (Phase II repowering extension plans) as adopted by WAC 463-78, and 40 CFR part 76, and except with regard to the requirements applicable to a unit with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 40 CFR 75.17, and 40 CFR 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other unit of which they are not the owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(7) Each violation of a provision of WAC 173-406-100 through 173-406-950 as adopted by WAC 463-78 and 40 CFR 72, 73, 75, 76, 77, and 78, and regulations implementing section 410 of the Act by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 40 CFR 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affect unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or

(5) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.

[Origin:40 CFR Part 72]
[Authority: WAC 173-401-600(1)(a)]

Permit Attachments

Attachment 2: DEFINITIONS

Accuracy (A) The accuracy of the CEMS in percent as determined by the equation in section 5.f through a cylinder gas audit.

Add-on control means a pollution reduction control technology that operates independent of the combustion process.

Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

Air Emission Testing Body (AETB) means a company or other entity that provides to the owner or operator the certification required by section 6.1.2(b) of appendix A to 40 CFR Part 75.

Automated data acquisition and handling system means that component of the CEMS, COMS, or other emissions monitoring system approved by the Administrator for use in the Acid Rain Program, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, moisture monitors, opacity monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by 40 CFR Part 75.

Bias means systematic error, resulting in measurements that will be either consistently low or high relative to the reference value.

Bypass operating quarter means a calendar quarter during which emissions pass through a stack, duct or flue that bypasses add-on emission controls.

Calibration Drift (CD) The difference in the CEMS output reading from a reference value after a period of operation during which no unscheduled maintenance, repair or adjustment took place. The reference value may be supplied by a cylinder gas, gas cell, or optical filter and need not be certified.

Calibration error means the difference between:
(1) The response of a gaseous monitor to a calibration gas and the known concentration of the calibration gas;
(2) The response of a flow monitor to a reference signal and the known value of the reference signal; or,
(3) The response of a continuous opacity monitoring system to an attenuation filter and the known value of the filter after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

CEMS precision or precision as applied to the monitoring requirements of 40 CFR Part 75, means the closeness of a measurement to the actual measured value expressed as the uncertainty

associated with repeated measurements of the same sample or of different samples from the same process (e.g., the random error associated with simultaneous measurements of a process made by more than one instrument). A measurement technique is determined to have increasing "precision" as the variation among the repeated measurements decreases.

Centroidal Area means a concentric area that is geometrically similar to the stack or duct cross section and is no greater than 1 percent of the stack or duct cross-sectional area.

Common stack means the exhaust of emissions from two or more units through a single flue.

Continuous Emission Monitoring System means the total equipment required for the determination of a gas concentration or emission rate. The sample interface, pollutant analyzer, diluent analyzer, and data recorder are the major subsystems of the CEMS.
Diluent Gas. A major gaseous constituent in a gaseous pollutant mixture. For combustion sources, $CO_2$and O_2 are the major gaseous constituents of interest.

Continuous Opacity Monitoring System (COMS) The total equipment required for determining the opacity of exhaust gases.

Coverage Factor k means, in general, a value chosen on the basis of the desired level of confidence to be associated with the interval defined by $U = ku_c$. Typically, k is in the range 2 to 3. When the normal distribution applies and u_c is a reliable estimate of the standard deviation of y, $U = 2\ u_c$ (*i.e.*, k = 2) defines an interval having a level of confidence of approximately 95%, and $U = 3\ u_c$ (*i.e.*, k = 3) defines an interval having a level of confidence greater than 99%.

Data Recorder means that portion of the CEMS that provides a permanent record of the analyzer output. The data recorder may include automatic data reduction capabilities.

Designated representative means a responsible natural person authorized by the owners and operators of an affected source and of all affected units at the source or by the owners and operators of a combustion source or process source, as evidenced by a certificate of representation submitted in accordance with subpart B of this part, to represent and legally bind each owner and operator, as a matter of Federal law, in matters pertaining to the Acid Rain Program. Whenever the term "responsible official" is used in 40 CFR Part 70, in any other regulations implementing title V of the Act, or in a State operating permit program, it shall be deemed to refer to the "designated representative" with regard to all matters under the Acid Rain Program.

Diluent Analyzer means that portion of the CEMS that senses the diluent gas (*i.e.*, CO_2 or O_2) and generates an output proportional to the gas concentration.

Diluent gas monitor means that component of the continuous emission monitoring system that measures the diluent gas concentration in a unit's flue gas.

Permit Attachments

Emissions means air pollutants exhausted from a unit or source into the atmosphere.

EPA as used in this permit EPA shall mean Region 10 of the United States Environmental Protection Agency. All reports required by this permit to be submitted to EPA shall be mailed to the following address:

Part 70 Operating Permit Program
U.S. EPA Region 10, Mail Stop: OAW-150
1200 Sixth Avenue, Suite 155
Seattle, WA 98101

EPA Protocol Gas means a calibration gas mixture prepared and analyzed according to section 2 of the "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards," September 1997, as amended August 25, 1999, EPA-600/R-97/121 (incorporated by reference, see §72.13) or such revised procedure as approved by the Administrator.

Equivalent diameter means a value, calculated using the Equation 1-1 in section 12.2 of Method 1 in 40 CFR Part 60, appendix A, and used to determine the upstream and downstream distances for locating CEMS or CEMS components in flues or stacks with rectangular cross sections.

Excess emissions means emissions of an air pollutant in excess of any applicable emission standard or an emission limit established in a permit or order, including an alternative emission limit.

Facility means any institutional, commercial, or industrial structure, installation, plant, source, or building.

File means to send or transmit a document, information, or correspondence to the official custody of the person specified to take possession in accordance with the applicable regulation. Compliance with any "filing" deadline shall be determined by the date that person receives the document, information, or correspondence.

Fuel flowmeter system means an excepted monitoring system (as defined in this section) which provides a continuous record of the flow rate of fuel oil or gaseous fuel, in accordance with appendix D to part 75 of this chapter. A fuel flowmeter system consists of one or more fuel flowmeter components, all necessary auxiliary components (e.g., transmitters, transducers, etc.), and a data acquisition and handling system (DAHS).

Gaseous fuel means a material that is in the gaseous state at standard atmospheric temperature and pressure conditions and that is combusted to produce heat.

Generator Output capacity means the full-load continuous rating of a generator under specific conditions as designed by the manufacturer.

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Heat input rate means the product (expressed in mmBtu/hr) of the gross calorific value of the fuel (expressed in mmBtu/mass of fuel) and the fuel feed rate into the combustion device (expressed in mass of fuel/hr) and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

Kilowatthour saved or *savings* means the net savings in electricity use (expressed in Kwh) that result directly from a utility's energy conservation measures or programs.

Maximum potential hourly heat input means an hourly heat input used for reporting purposes when a unit lacks certified monitors to report heat input. If the unit intends to use appendix D of 40 CFR Part 75 to report heat input, this value should be calculated, in accordance with 40 CFR Part 75, using the maximum fuel flow rate and the maximum gross calorific value. If the unit intends to use a flow monitor and a diluent gas monitor, this value should be reported, in accordance with 40 CFR Part 75, using the maximum potential flow rate and either the maximum carbon dioxide concentration (in percent CO_2) or the minimum oxygen concentration (in percent O_2).

Maximum potential NO_x emission rate or MER means the emission rate of nitrogen oxides (in lb/mmBtu) calculated in accordance with section 3 of appendix F of 40 CFR Part 75, using the maximum potential nitrogen oxides concentration (MPC), as defined in section 2.1.2.1 of appendix A of 40 CFR Part 75, and either the maximum oxygen concentration (in percent O_2) or the minimum carbon dioxide concentration (in percent CO_2) under all operating conditions of the unit except for unit start-up, shutdown, and upsets. The diluent cap value, as defined in this section, may be used in lieu of the maximum O_2 or minimum CO_2 concentration to calculate the MER. As a second alternative, when the NO_x MPC is determined from emission test results or from historical CEM data, as described in section 2.1.2.1 of appendix A of 40 CFR Part 75, quality-assured diluent gas (*i.e.,* O_2 or CO_2) data recorded concurrently with the MPC may be used to calculate the MER. For the purposes of §§75.4(f), 75.19(b)(3), and 75.33(c)(7) in 40 CFR Part 75 and section 2.5 in appendix E to 40 CFR Part 75, the MER is specific to the type of fuel combusted in the unit.

Maximum rated hourly heat input rate means a unit-specific maximum hourly heat input rate (mmBtu/hr or lbs/hr) which is the higher of the manufacturer's maximum rated hourly heat input rate or the highest observed hourly heat input rate.

Missing data period means the total number of consecutive hours during which any certified CEMS or approved alternative monitoring system is not providing quality-assured data, regardless of the reason.

Monitor accuracy means the closeness of the measurement made by a CEMS to the reference value of the emissions or volumetric flow being measured, expressed as the difference between the measurement and the reference value.

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Monitor operating hour means any unit operating hour or portion thereof over which a CEMS, or other monitoring system approved by the Administrator under 40 CFR Part 75 is operating, regardless of the number of measurements (*i.e.*, data points) collected during the hour or portion of an hour.

Nameplate capacity means the maximum electrical generating output (expressed in MWe) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings, as listed in the NADB under the data field "NAMECAP" if the generator is listed in the NADB or as measured in accordance with the United States Department of Energy standards if the generator is not listed in the NADB.

Natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions. Natural gas contains 20.0 grains or less of total sulfur per 100 standard cubic feet. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot. Natural gas does not include the following gaseous fuels: landfill gas, digester gas, refinery gas, sour gas, blast furnace gas, coal-derived gas, producer gas, coke oven gas, or any gaseous fuel produced in a process which might result in highly variable sulfur content or heating value.

Ninetieth (90th) percentile means a value that would divide an ordered set of increasing values so that at least 90 percent are less than or equal to the value and at least 10 percent are greater than or equal to the value.

Ninety-fifth (95th) percentile means a value that would divide an ordered set of increasing values so that at least 95 percent of the set are less than or equal to the value and at least 5 percent are greater than or equal to the value.

Operating when referring to a combustion or process source seeking entry into the Opt-in Program, means that the source had documented consumption of fuel input for more than 876 hours in the 6 months immediately preceding the submission of a combustion source's opt-in application under §74.16(a) of 40 CFR Part 75.

Operating permit means a permit issued under 40 CFR Part 70 and any other regulations implementing title V of the Act.

Out-of-control period means any period:
(1) Beginning with the hour corresponding to the completion of a daily calibration error, linearity check, or quality assurance audit that indicates that the instrument is not measuring and recording within the applicable performance specifications; and
(2) Ending with the hour corresponding to the completion of an additional calibration error, linearity check, or quality assurance audit following corrective action that demonstrates that the instrument is measuring and recording within the applicable performance specifications.

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Path CEMS means a CEMS that measures the gas concentration along a path greater than 10 percent of the equivalent diameter of the stack or duct cross section.

Pipeline natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline natural gas contains 0.5 grains or less of total sulfur per 100 standard cubic feet. Additionally, pipeline natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1100 Btu per standard cubic foot.

Point CEMS means a CEMS that measures the gas concentration either at a single point or along a path equal to or less than 10 percent of the equivalent diameter of the stack or duct cross section.

Pollutant Analyzer means that portion of the CEMS that senses the pollutant gas and generates an output proportional to the gas concentration.

Pollutant concentration monitor means that component of the continuous emission monitoring system that measures the concentration of a pollutant in a unit's flue gas.

Potential electrical output capacity means the MWe capacity rating for the units which shall be equal to 33 percent of the maximum design heat input capacity of the steam generating unit, as calculated according to appendix D of part 72.

Probationary calibration error test means an on-line calibration error test performed in accordance with section 2.1.1 of appendix B of 40 CFR Part 75 that is used to initiate a conditionally valid data period.

precision as applied to the monitoring requirements of 40 CFR Part 75, means the closeness of a measurement to the actual measured value expressed as the uncertainty associated with repeated measurements of the same sample or of different samples from the same process (e.g., the random error associated with simultaneous measurements of a process made by more than one instrument). A measurement technique is determined to have increasing “precision” as the variation among the repeated measurements decreases.

QA operating quarter means a calendar quarter in which there are at least 168 unit operating hours (as defined in this section) or, for a common stack or bypass stack, a calendar quarter in which there are at least 168 stack operating hours (as defined in this section).

Qualified individual (QI) means an individual who is identified by an AETB as meeting the requirements described in ASTM D 7036-04 “Standard Practice for Competence of Air Emission Testing Bodies” (incorporated by reference, see §72.13), as of the date of testing.

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Quality-assured monitor operating hour means any unit operating hour or portion thereof over which a certified CEMS, or other monitoring system approved by the Administrator under 40 CFR Part 75, is operating:
(1) Within the performance specifications set forth in 40 CFR Part 75, appendix A and the quality assurance/quality control procedures set forth in 40 CFR Part 75, appendix B, without unscheduled maintenance, repair, or adjustment; and
(2) In accordance with §75.10(d), (e), and (f) of 40 CFR Part 75.

Receive or receipt of means the date the Administrator or a permitting authority comes into possession of information or correspondence (whether sent in writing or by authorized electronic transmission), as indicated in an official log, or by a notation made on the information or correspondence, by the Administrator or the permitting authority in the regular course of business.

Reference method means any direct test method of sampling and analyzing for an air pollutant as specified in appendix A of 40 CFR Part 60 .

Reference value or reference signal means the known concentration of a calibration gas, the known value of an electronic calibration signal, or the known value of any other measurement standard approved by the Administrator, assumed to be the true value for the pollutant or diluent concentration or volumetric flow being measured.

Relative Accuracy (RA) The absolute mean difference between the gas concentration or emission rate determined by the CEMS and the value determined by the RM's plus the 2.5 percent error confidence coefficient of a series of tests divided by the mean of the RM tests or the applicable emission limit.

Sample Interface means that portion of the CEMS used for one or more of the following: sample acquisition, sample delivery, sample conditioning, or protection of the monitor from the effects of the stack effluent.

Span means the highest pollutant or diluent concentration or flow rate that a monitor component is required to be capable of measuring.

Span Value means the calibration portion of the measurement range as specified in the applicable regulation or other requirement. If the span is not specified in the applicable regulation or other requirement, then it must be a value approximately equivalent to two times the emission standard. For spans less than 500 ppm, the span value may either be rounded upward to the next highest multiple of 10 ppm, or to the next highest multiple of 100 ppm such that the equivalent emission concentration is not less than 30 percent of the selected span value.

Stack operating hour means a clock hour during which flue gases flow through a particular stack or duct (either for the entire hour or for part of the hour) while the associated unit(s) are combusting fuel.

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Stack operating time means the portion of a clock hour during which flue gases flow through a particular stack or duct while the associated unit(s) are combusting fuel. The stack operating time, in hours, is expressed as a decimal fraction, with valid values ranging from 0.00 to 1.00.

Standard conditions means 68 °F at 1 atm (29.92 in. of mercury).

Substitute data means emissions or volumetric flow data provided to assure 100 percent recording and reporting of emissions when all or part of the continuous emission monitoring system is not functional or is operating outside applicable performance specifications.

Thermal energy means the thermal output produced by a combustion source used directly as part of a manufacturing process but not used to produce electricity.

Unit means a fossil fuel-fired combustion device.

Unit load means the total (*i.e.*, gross) output of a unit or source in any calendar year (or other specified time period) produced by combusting a given heat input of fuel, expressed in terms of:
(1) The total electrical generation (MWe) for use within the plant and for sale; or
(2) In the case of a unit or source that uses part of its heat input for purposes other than electrical generation, the total steam pressure (psia) produced by the unit or source.

Unit operating day means a calendar day in which a unit combusts any fuel.

Unit operating hour means a clock hour during which a unit combusts any fuel, either for part of the hour or for the entire hour.

Unit operating quarter means a calendar quarter in which a unit combusts any fuel.

Unit operating time means the portion of a clock hour during which a unit combusts any fuel. The unit operating time, in hours, is expressed as a decimal fraction, with valid values ranging from 0.00 to 1.00.

Utility unit means a unit owned or operated by a utility:
(1) That serves a generator in any State that produces electricity for sale, or
(2) That during 1985, served a generator in any State that produced electricity for sale.
(3) Notwithstanding paragraphs (1) and (2) of this definition, a unit that was in operation during 1985, but did not serve a generator that produced electricity for sale during 1985, and did not commence commercial operation on or after November 15, 1990 is not a utility unit for purposes of the Acid Rain Program.
(4) Notwithstanding paragraphs (1) and (2) of this definition, a unit that cogenerates steam and electricity is not a utility unit for purposes of the Acid Rain Program, unless the unit is constructed for the purpose of supplying, or commences construction after November 15, 1990 and supplies, more than one-third of its potential electrical output capacity and more than 25 MWe output to any power distribution system for sale.

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Volumetric flow means the rate of movement of a specified volume of gas past a cross-sectional area (e.g., cubic feet per hour).

Zero, Low-Level, and High-Level Values The CEMS response values related to the source specific span value. Determination of zero, low-level, and high-level values is defined in the appropriate PS in appendix B of this part.

Zero air material means either:
(1) A calibration gas certified by the gas vendor not to contain concentrations of SO_2, NO_x, or total hydrocarbons above 0.1 parts per million (ppm), a concentration of CO above 1 ppm, or a concentration of CO_2above 400 ppm;
(2) Ambient air conditioned and purified by a CEMS for which the CEMS manufacturer or vendor certifies that the particular CEMS model produces conditioned gas that does not contain concentrations of SO_2, NO_x, or total hydrocarbons above 0.1 ppm, a concentration of CO above 1 ppm, or a concentration of CO_2 above 400 ppm;
(3) For dilution-type CEMS, conditioned and purified ambient air provided by a conditioning system concurrently supplying dilution air to the CEMS; or
(4) A multicomponent mixture certified by the supplier of the mixture that the concentration of the component being zeroed is less than or equal to the applicable concentration specified in paragraph (1) of this definition, and that the mixture's other components do not interfere with the CEM readings.

Permit Attachments

Attachment 3: ABBREVIATIONS

TABLE 1: The following is a list of abbreviations used in this permit.

Administrator	EPA Region X Administrator
AOP	Air Operating Permit
AP-42	EPA Compilation of Emission Factors, AP-42, Fifth Edition, Volume I
AR#	Refers to a specific condition numbered "#" containing an "Applicable Requirement"
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CEMS	Continuous Emissions Monitoring System
CGT-#	Refers to specific combined cycle gas turbine unit numbered "#"
CMS	Continuous Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
CO	Carbon monoxide
CPMS	Continuous Parametric Monitoring System
CT-#	Refers to specific combustion turbine unit numbered "#"
DAS	Data Acquisition and System
DB-#	Refers to specific duct burner unit numbered "#"
EFSEC	Washington Energy Facility Site Evaluation Council (a.k.a. the Council)
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
EU-#	Refers to a specific emissions unit numbered "#"
FCAA	Federal Clean Air Act
FGR	Flue Gas Recirculation – means to control NO_x emissions
G#	Refers to a specific "General" permit condition numbered "#"
grain/dscf	Concentration in terms of grains per dry standard cubic feet
HAP	Hazardous Air Pollutant
hp	Horsepower
HRSG	Heat Recovery Steam Generator
IEU-#	Insignificant emission unit numbered "#"
kW	A kilowatt is a unit of electrical power consumption in thousands of watts.
M#	Refers to a specific monitoring term or condition numbered "#"
MW	A megawatt is a unit of electrical power consumption in millions of watts.
MACT	Maximum Achievable Control Technology
MMBtu/hr	Million British Thermal Units per hour
NESHAP	National Emission Standards for Hazardous Air Pollutants
NAICS	North American Industry Classification System
NCASI	National Council of the Paper Industry for Air and Stream Improvement, Inc.
NOC	Notice of Construction
NO_x	Oxides of Nitrogen
NSPS	New Source Performance Standards (from 40 CFR Part 60)
NSR	New Source Review
O_2	Oxygen
O&M	Operations and Maintenance Plan
ORCAA	Olympic Region Clean Air Agency

Permit Attachments

P#	Refers to a specific administrative permit term or condition numbered "#"
PM	Particulate matter air pollution
PM_{10}	Particulate matter with aerodynamic diameter less than 10 microns
$PM_{2.5}$	Particulate matter with aerodynamic diameter less than 2.5 microns
ppmvd	Parts per million by volume (assumed standard and dry)
PSD	Prevention of Signification Deterioration
PTE	Potential to emit
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
Region 10	Region 10 of the U.S. Environmental Protection Agency
RICE	Reciprocating Internal Combustion Engine
RK	Refers to a specific record keeping permit term or condition numbered "#"
R	Refers to a specific reporting condition numbered "#"
SIP	State implementation plan
SIC	Standard Industrial Classification
SCR	Selective Catalytic Reduction – a means to control NO_x emissions
SO_2	Sulfur dioxide
TAP	Toxic Air Pollutant as defined in Chapter 173-460 WAC
tpy	Tons per year
VOC	Volatile Organic Compounds
WAC	Washington Administrative Code

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations.

[END OF SECTION]

Energy Northwest
June 16, 2020 EFSEC Council Meeting
Operations Reporting Period for May 2020

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

Columbia Generating Station (CGS)
No Updates to Report

Response to EFSEC Council Questions

How is Energy Northwest responding to the Covid-19 pandemic?

- Energy Northwest's initial response to the pandemic included the removal of all non-essential employees from the various worksites and implementation of a work from home strategy.
- Only essential personnel have been reporting to the facilities.
- As our county moves into Phase 2, Energy Northwest is working to transition non-essential employees back to the facilities in a reduced capacity with a continued focus on working from home.

Confirmation that the facility is still in operation

- Energy Northwest facilities remain in operation.
- At the request of the Bonneville Power Administration (BPA) the Columbia Generating Station (CGS) has reduced its power output over the past week and has disconnected from the grid on a couple of occasions.

Are there any updates on planned upgrades or projects at either facility (like the surface water treatment facility)?

- Energy Northwest recently singed a new lease agreement with the Department of Energy.
- The new lease agreement requires the Industrial Development Complex (IDC) located at WNP 1/4 to no longer use groundwater as its water source by July 2022.
- The IDC is planning to use surface water from the Columbia River as its water source and will be installing a new water filtration system at the site.

STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL
PO Box 43172 • Olympia, Washington 98504-3172

WASHINGTON STATE
ENERGY FACILITY SITE EVALUATION COUNCIL

RESOLUTION NO. 347

ENERGY NORTHWEST
COLUMBIA GENERATING STATION

Authorizing Fish Collection for Radiological Environmental Monitoring Program, Subject to Conditions

Nature of Action

Energy Facility Site Evaluation Council (EFSEC) Resolution No. 157 (issued September 24, 1979; amended September 9, 1985) determined that "Scientific Collector Permits," normally required by the Departments of Fisheries and Game in the conduct of environmental research projects, were not required for the Washington Public Power Supply System or its contractors when collecting fish for tissue sampling as required by the site certification agreements covering WNP 2, WNP 1/4, and WNP 3/5. This action closes Resolution No. 157 and authorizes Energy Northwest to collect fish as required by the Radiological Environmental Monitoring Program for the Columbia Generating Station, subject to the conditions set forth in this resolution in lieu of a Scientific Collection Permit from the Washington Department of Fish and Wildlife.

Background

The Site Certification Agreement (SCA) issued to Energy Northwest (formerly Washington Public Power Supply System) to construct and operate the Columbia Generating Station (formerly WNP-2) required that various environmental monitoring programs contained in Attachment I to the SCA be initiated and maintained. SCA Condition IV.B.1.

The SCA states that the environmental monitoring programs "shall be developed and implemented in close consultation with the Council, and reasonable modifications shall be made, with concurrence of the Council, when these are necessary to achieve the purposes of the programs." *Id.*

The non-radiological, water quality-related elements of the environmental monitoring programs were closed out in 1995 because they were superseded by the National Pollutant Discharge Elimination System (NPDES) permit that was reissued that year. *See* Resolution No. 310.

The non-radiological, terrestrial ecological monitoring elements of the environmental monitoring programs were closed out in 2004 by Resolution No. 310 (issued April 19, 2004).

Radiological monitoring elements of the environmental monitoring programs required by the SCA have come to be addressed under a Radiological Environmental Monitoring Program (REMP) that is also a requirement of Energy Northwest's operating license from the Nuclear Regulatory Commission. *See* Resolution Nos. 132, 260, 332; Appendix A to 10 C.F.R. Part 50.

The purpose of the REMP is to ensure that any radionuclides released into the environment as a result of station operations remain below the levels listed in Table 2 of Appendix B to 10 C.F.R. Part 20 and determined by the NRC to be protective of public health and safety and the environment. Aquatic monitoring activities associated with the REMP include the collection of water, sediment, and fish tissue samples.

The REMP includes specific requirements for the collection of recreationally important fish species for tissue gamma isotopes sampling.

Under RCW 77.32.240, WAC 220-200-150, and WAC 220-450-030, it is unlawful to collect fish for the purpose of research without first obtaining a Washington state Scientific Collection Permit from the Washington Department of Fish and Wildlife (WDFW). However, RCW 80.50.120(3) provides that issuance of a site certification agreement shall be in lieu of any permit or similar document required by any agency of the state.

In EFSEC Resolution No. 157 (issued September 24, 1979; amended September 9, 1985) the Council responded to a request from the Washington Public Power Supply System for EFSEC's concurrence that "Scientific Collector Permits, normally required by the Departments of Fisheries and Game in the conduct of environmental research projects, are not deemed necessary by virtue of RCW 80.50.120(3)" in connection with the fish collection required for environmental monitoring under the SCAs for WNP-2, WNP-1/4, and WNP 3/5. Based on the specific fish collection requirements then in effect for the environmental monitoring programs under the three SCAs, the Council resolved that "Scientific Collector Permits only for the conduct of studies pursuant to [the respective SCAs' environmental monitoring programs] are not required of the Supply System or its scientific contractors" (EFSEC Resolution 157 Pg. 1).

On March 4, 2019, Energy Northwest requested closure of Resolution 157.

Resolution 157 should be closed for the following reasons:

- Construction at sites WNP-1/4 and WNP-3/5 was not completed.
- WNP-2 is currently known as the Columbia Generating Station (CGS).
- Fish collection is only required at CGS.
- Energy Northwest replaced the Washington Public Power Supply System.
- The CGS Radiological Environmental Monitoring Program (REMP), has as its objective the determination of the significant radiological effects of CGS operations on the environment and requires annual fish collection.

- Quarterly reports on the data collection results from the sampling work performed are not necessary for the fish collection program that is conducted annually unless an impact is indicated, then semiannually.
- Under the REMP, not more than 6 game fish of each species may be sacrificed (killed) per year.
- Samples of sensitive species, which consist of one anadromous salmonid species (*Oncorhynchus sp*.), are collected at Washington Department of Fish and Wildlife Columbia River Ringold Fish Hatchery or from the Snake River Lyons Ferry Fish Hatchery and not directly from the Columbia or Snake Rivers.

EFSEC staff prepared this resolution in consultation with WDFW staff for the purpose of closing out Resolution No. 157 and authorizing Energy Northwest to collect fish for environmental monitoring purposes consistent with the terms currently required by the Columbia Generating Station SCA and the REMP, and subject to the conditions set forth below in lieu of a Scientific Collection Permit issued by WDFW under RCW 77.32.240.

Resolution

It is hereby resolved by the Energy Facility Site Evaluation Council that the collection of fish for research/scientific investigation in accordance with the biological monitoring required by the REMP at CGS is subject to the following conditions in lieu of a Scientific Collection Permit issued by WDFW under RCW 77.32.240:

1) This resolution allows collection of fish for research/scientific investigation in accordance with the biological monitoring required by the REMP at CGS.

2) Collection and handling of fish may include the threatened Upper Columbia River (UCR) Steelhead (*Oncorhynchus mykiss*) and the endangered UCR spring-run Chinook salmon (*Oncorhynchus tshawytscha*) and the maximum number of non-lethal take or salvage is limited to 2 Chinook salmon and 10 steelhead. CGS must notify EFSEC and WDFW (see Attachment A for contact information) immediately if any state or federally listed threatened or endangered species are encountered or salvaged.

3) Handling requirements for state threatened, endangered, or sensitive species, and federal threatened or endangered species (per the Endangered Species Act (ESA) of 1973) must be in accordance to the following conditions:

    a) ESA listed fish must not be handled if water temperatures exceed 21ºC (69.8ºF).
    b) Each ESA listed fish that must be handled out-of-water for the purpose of recording biological information must be anesthetized. Anesthetized fish must be allowed to recover (e.g., in a recovery tank) before being released. Fish that are simply counted must remain in water but do not need to be anesthetized.
    c) When using methods that capture a mix of species, ESA-listed fish must be processed first.
    d) Permit holder shall apply measures that minimize risk of harm to listed and unlisted fish. These measures include but are not limited to: limitations on the duration (hourly, daily,

weekly) of trapping, limits on trap holding duration of listed fish prior to release; application of procedures to allow safe holding and careful handling and release of listed fish; and allowance for free passage of listed fish when trapping facilities are not being actively operated.

4) To avoid impacts to the UCR spring-run Chinook and UCR steelhead, fish collection must be outside the UCR spring-run Chinook migration that occurs April through June and the UCR steelhead migration that occurs April through mid-May.

5) The location for fish collection and handling is in the Columbia River, river mile 351 – 354 in Benton and Franklin Counties.

6) The fish collected will be used for laboratory tissue sampling in accordance with the REMP.

7) The specific type of animal to be collected or handled under this permit are freshwater fishes as indicated in the table below with the maximum number of lethal take, live permanent removal, non-lethal take, and salvage.

Fish Name	**Max # of Lethal Take or Live Permanent Removal**	**Max # of Non-lethal Take or Salvage**
Smallmouth bass (Micropterus dolomieu)	6	
Walleye (Sander vitreus)	6	
Yellow perch (Perca flavescens)	6	
Common carp (Cyprinus carpio)	6	
Channel catfish (Ictalurus punctatus)	6	
Brown bullhead (Ameiurus nebulosus)	6	
Yellow bullhead (Ameiurus natalis)	6	
Black bullhead (Ameiurus melas)	6	
Largescale sucker (Catostomus macrocheilus)	6	
Chinook salmon (Oncorhynchus tshawytscha)		2
Steelhead (Oncorhynchus mykiss)		10

8) Fish collection is by hook and line fishing with the following exception:

   a) Fish collection by electrofishing may be conducted if hook and line fishing is not successful. Electrofishing must be conducted from small boats with the following restrictions:
      i) Water depth must be less than 10 feet.
      ii) Electrofishing operations must be conducted at least 300 feet from any active redds.
      iii) Electrofishing operations are not permitted when listed adult salmon or steelhead are observed at an active redd.
      iv) Electrofishing may only take place in September – December.
      v) Electrofishing may only be conducted if the water temperature at the capture site is less than 18ºC.

9) CGS must submit an annual report to EFSEC and WDFW by February 28th each year. The report must include the following freshwater fish collection data:

   a) Date of collection.
   b) Species name.
   c) Numbers of each species encountered and/or retained.
   d) Location of each sample site, including county, water body, and latitude/longitude or GPS coordinates.
   e) Disposition of specimens.

   The fish collection activities must be reported by individual sampling days. Sampling dates may not be combined on the report. The annual report must be submitted on the attached form included in Attachment A. See Attachment A for EFSEC and WDFW contacts.

10) CGS must comply with the conditions of the most current addition of the WDFW Protocols for Field Work for the handling requirements for Aquatic Invasive Species (AIS).

11) EFSEC may periodically review the conditions in this resolution in consultation with WDFW and amend, as necessary.

12) Resolution No. 157 is closed.

Dated and effective at Olympia, Washington this ____ day of ____ 2020.

WASHINGTON STATE ENERGY FACILITY SITE EVALUATION COUNCIL

Attested:

Kathleen Drew, EFSEC Chair

Sonia E. Bumpus, EFSEC Manager

Attachments:

A. Reporting Contacts and Reporting Requirements

Attachment A

Reporting Contacts and Reporting Requirements

Annual report submittal to:

EFSEC
PO Box 43172
Olympia, WA 98504-3172
amy.moon@utc.wa.gov
360-664-1362

WDFW
peggy.miller@dfw.wa.gov
Paul.Hoffarth@dfw.wa.gov
Bruce.Baker@dfw.wa.gov

Threatened and Endangered Species 24-hour reporting to:

EFSEC
Amy Moon at 360-664-1362

WDFW
Paul.Hoffarth@dfw.wa.gov
Bruce.Baker@dfw.wa.gov

Energy Facility Site Evaluation and Washington Department of Fish & Wildlife
Resolution 347 Annual Report Form

ENERGY FACILITY SITE EVALUATION and WASHINGTON DEPARTMENT OF FISH & WILDLIFE
RESOLUTION 347 ANNUAL REPORT FORM

	Please submit this report at the end of the permit period:	
Project Start Date	EFSEC	WDFW
Permittee Name	ATTN: AMY MOON	ATTN: LICENSING DIVISION
Agency/Institution	PO Box 43172	EMAIL: peggy.miller@dfw.wa.gov
email address	Olympia, WA 98504-3172	Paul.Hoffarth@dfw.wa.gov
Permit No.	EMAIL: amy.moon@utc.wa.gov	Bruce.Baker@dfw.wa.gov
	PHONE: 360-664-1362	PHONE: 360-902-2464, option 4

Please provide the WRIA (and stream name) or Marine Area and also provide the GPS coordinates. If sampling more than one location, report data by location.

***Disposition codes -** please select carefully; more than one code may be used

1. Survey/observation/non-handling "take"	**8.** Release at capture site, dead
2. Captive for research, live	**9.** Tag/mark and release
3. Euthanize/mortality, hold for analysis	**10.** Move and release, live
4. Euthanize/mortality, waste disposal	**11.** Sub-lethal tissue collection, release at site
5. Display, live	**12.** Lethal tissue collection
6. Display, dead	**13.** Other (describe)
7. Release at capture site, live	

Life Stage (for salmonids only) = A (adult), J (Juvenile), F (Fry), E (Egg)
Origin (for salmonids only) = W (wild), H (hatchery)
Methods/Actions = collection method
GPS Coordinates should be in WGS84 decimal degrees format
For tissue sampling, please state the type of tissue collected

Date of Collection	Species - Common and Scientific name	Life Stage	Origin	Number Encountered	Water Name	Specific Location (e.g., reach location, reservoir name, etc.)	GPS Coordinates (WGS84 decimal degrees format)	Disposition Code(s)*	Methods/ Actions	Genetic Sampling Y/N	Comments