

**BEFORE THE WASHINGTON
UTILITIES & TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

DOCKET UG-230393

**CROSS-EXAMINATION EXHIBIT OF RONALD J. ROBERTS
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT**

EXHIBIT RJR-__X

Puget Sound Energy's Supplemental Response to WUTC Discovery Request No. 32,
with Attachments D and E

October 31, 2023

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**Docket UG-230393
Puget Sound Energy
Tacoma LNG Tracker**

WUTC STAFF DATA REQUEST NO. 032:

REQUESTED BY: Crystal Oliver

Re: June 8, 2023 PSCAA NOVs

In response to Public Counsel's Data Request No. 46, PSE responded that "On June 8, 2023, PSE received Notices of Violations ("NOVs") for the Tacoma LNG facility that are unrelated to historical production. As of September 7, 2023, PSCAA has not assessed fines for these events."

- a. What did PSE receive the June 8th, 2023 NOVs for?
- b. Provide a copy each of these NOVs.
- c. Provide a copy of any responses or communications sent from or on behalf of PSE to PSCAA regarding these NOVs.
- d. Has PSE received any other NOVs from PSCAA? If so please provide a copy of each and any response or communication sent from or on behalf of PSE regarding them.
- e. Has PSE received any other notices, violations, or fines from any other party? If so, please provide a copy of any responses or communications sent from or on behalf of PSE to PSCAA regarding these.

First Supplemental Response:

- d. Yes. Attached as Attachment D to Puget Sound Energy's (PSE's) Response to WUTC Staff Data Request No. 032, please find a copy of a notice of violation received from PSCAA regarding storage tank temperature. Attached as Attachment E to PSE's Response to WUTC Staff Data Request No. 032 is a copy of communications sent on behalf of PSE regarding the NOV in Attachment D.

**PUGET SOUND ENERGY's SUPPLEMENTAL RESPONSE
TO WUTC DATA REQUEST NO. 32 ATTACHMENT D**



GENERAL NOTICE OF VIOLATION No. 3-A001002

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	Registration #: 30022	Violation #: 3-A001002
Violation Date: 1/1/2023-8/31/2023	Time:	Certified Mail #:
Violation Location (Address): 1001 E Alexander Ave.		
City: Tacoma	Zip: 98421	County: Pierce
Responsible Person (Name, Title): Dustin Cornidez-Pittman, Env. Services Manager		
Facility Name (If applicable): Puget Sound Energy		
Mailing Address: P.O. Box 97034, BEL10W		
City, State: Bellevue, WA	Zip: 98009-9734	Phone:

Violation of Regulations, WAC, etc.:

NC Order of Approval 11386A Condition 35 The owner and/or operator shall document and ensure that the LNG storage tank is cooled to at least -260°F while storing natural gas.

Alleged Reason(s) for Violation:

Records show that every day from 1/1/2023-8/31/2023 PSE failed to cool the LNG storage tank to a temperature of at least -260°F while storing LNG.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____
Rick Woodfork, Inspector, (206) 689-4042
RickW@psc Clean Air.gov

Date: 10/5/2023

Received By: _____
Signature *Print Name* *Date*
(Signing is not an admission of guilt)

IMPORTANT: RESPONSE REQUIRED WITHIN TEN (10) DAYS

Do not ignore this Notice of Violation!

- Your violations may result in a civil penalty (monetary fine).
- Receiving a NOV does not necessarily mean you will receive a civil penalty, nor does correcting the violation ensure that you will not receive a civil penalty.
- Penalties are based on the information in our files, the corrective action you take, your written response to this NOV, and any other information you present to the Agency.
- If your violations are significant, the Agency may commence a court action against you and/or your business.
- If your violations continue, each day is considered a separate and distinct violation and may be subject to increased civil penalties.
- Details about penalty exclusions for unavoidable excess emissions are provided in WAC 173-400-107.

WITHIN TEN DAYS OF RECEIPT, YOU MUST RESPOND TO THIS NOV IN WRITING

Please include:

- Your name and/or business name
- Your address
- Mailing address (if different)
- NOV number (upper right hand corner of the NOV)
- What corrections you have made, or a schedule for making corrections
- What you will do to prevent future violations

Submit your written response to the Agency via US Mail, fax, or e-mail:

Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101
Fax (206)343-7522
Inspection@psccleanair.gov

Need technical assistance or more time to respond?

Please contact the Inspector who issued this NOV (contact information on the front page).

Want a copy of the inspection report or other records from our files?

Please contact our Records staff: (206) 689-4040 or RecordsRequest@psccleanair.gov

Request copies of records via our web site:

<http://www.pscleanair.gov/RecordsRequest>

In addition to the required written response, you may also request a meeting with the Agency to:

- Discuss the circumstances of the violation
- Ask any questions you have
- Present any information the Agency may not have considered when issuing the NOV

YOU ALSO HAVE THE OPTION TO FILE AN APPEAL

You may file an appeal of the Corrective Action Order in this NOV. The Pollution Control Hearings Board (PCHB) hears appeals of orders and penalties issued by the Agency. The PCHB is independent and is not part of the Agency. The PCHB's function is to provide you a full and complete administrative hearing, as promptly as possible, followed by a fair and impartial written decision based on the facts and law.

Appeals must be sent to the PCHB and a copy of your appeal must be sent to the Agency within 30 days of your receipt of this NOV. For more information about how to file an appeal, what information must be included in an appeal, and what to expect from the appeal process, please contact the PCHB:

Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903
(360) 664-9160
Fax (360) 586-2253
eluhho@eluhho.wa.gov
<http://www.eluhho.wa.gov/>

Complete information about appeal requirements is contained in state law (Chapter 43.21B RCW and Chapter 70.94 RCW) and in the PCHB regulations (Chapter 371-08 WAC). RCW and WAC are available online.

**PUGET SOUND ENERGY's SUPPLEMENTAL
RESPONSE TO WUTC DATA REQUEST NO. 32
ATTACHMENT E**



Puget Sound Energy
P.O. Box 97034
Bellevue, WA 98009-9734
pse.com

October 13, 2023

BY EMAIL

Mr. Rick Woodfork (RickW@psc Clean Air Agency)
Puget Sound Clean Air Agency
1904 3rd Avenue, Suite 105
Seattle, WA 98101-3317

**Re: Tacoma LNG (Registration No. 30022)
NOV No. 3-A001002**

Dear Mr. Woodfork:

This letter is in response to Notice of Violation Number 3-A001-002 and the allegation that Puget Sound Energy (PSE) is in violation of Condition 35 of our air permit based on the alleged failure to cool the tank to at least -260 °F while storing natural gas. We hope that this letter addresses the Puget Sound Clean Air Agency's questions and concerns and sets a course to clarify the permit language.

As explained in our September 14, 2023 response to you, the LNG storage tank is not and has never been represented as an actively cooled tank. Instead, PSE maintains the LNG in its cryogenic and liquid state by continuously removing the vapor that boils away, thus maintaining temperature. This process, known as auto-refrigeration, is a passive process with the only variable being the pressure maintained within the tank. As a result, we do not believe that we are in violation of the permit condition as written as the storage tank is not "cooled." In the absence of any cooling or refrigeration system in, on or around the tank, PSE simply maintains the auto-refrigeration cycle so that the natural gas is preserved in its liquid state.

Because the Condition 35 language anticipates a system that is not in fact authorized by permit (i.e., an active tank refrigeration system), we do not believe that we can be held in violation of the requirement to actively cool the storage tank. Were we to actively refrigerate the tank (a physical impossibility) to -260 °F, the resultant operating pressure would be -1.8 psig (i.e., 260 lbs. external force over every square foot area of the outer tank) which would be significantly beyond the structural design of the tank PSCAA permitted. Condition 1 of the permit requires that we install and establish the storage tank in accordance with the plans and specifications on file with PSCAA. The infrastructure needed to actively cool the tank and maintain its integrity under that operating pressure would require systems that would place us in violation of Condition 1.

You requested that we describe the actions taken to correct this violation and achieve compliance with Agency regulations. In response, we are continuing in compliance with Condition 1 and operating the storage tank consistent with the plans and specifications on file with the Agency. This necessarily means that the LNG storage tank temperature is maintained consistent with the principles of an auto-refrigeration system. As no active refrigeration system is authorized under the permit, we maintain the auto-refrigeration cycle consistent with Condition 1.

It is important to note that there is no emission impact from the LNG storage temperature being above -260.0°F. There are no emissions to atmosphere from the storage tank. All of the boil-off gas is collected, compressed, returned to PSE's bulk gas system or liquefied and returned to the tank. No purpose would be served by artificially chilling the LNG below its boiling point.

PSE looks forward to working with the Agency to clarify the permit so that the tension between Condition 1 and Condition 35 is resolved. Given that the boiling point of pure methane at atmospheric pressure is -258.9 °F and LNG is neither pure methane nor capable of being stored at atmospheric pressure, the tank, as permitted, is incapable of maintaining a temperature of -260 °F.

We suggest a meeting to discuss how to proceed. In the meantime, if you have any questions, please do not hesitate to contact me at (425) 456-2908 or at Dustin.Cornidez-Pittman@pse.com.

Sincerely on behalf of PSE,



Dustin Cornidez-Pittman
Environmental Services Manager

cc (by email):

John Dawson (johnd@psc Cleanair.gov)
Jake Green
Sara Leverette
Lorna Luebbe
Ruth Juris
Tom Wood



GENERAL NOTICE OF VIOLATION No. 3-A001002

1904 3rd Avenue, Suite 105 Seattle, WA 98101 • p 206.343.8800 toll-free 800.552.3565

Case #:	Registration #: 30022	Violation #: 3-A001002
Violation Date: 1/1/2023-8/31/2023	Time:	Certified Mail #:
Violation Location (Address): 1001 E Alexander Ave.		
City: Tacoma	Zip: 98421	County: Pierce
Responsible Person (Name, Title): Dustin Cornidez-Pittman, Env. Services Manager		
Facility Name (If applicable): Puget Sound Energy		
Mailing Address: P.O. Box 97034, BEL10W		
City, State: Bellevue, WA	Zip: 98009-9734	Phone:

Violation of Regulations, WAC, etc.:

NC Order of Approval 11386A Condition 35 The owner and/or operator shall document and ensure that the LNG storage tank is cooled to at least -260°F while storing natural gas.

Alleged Reason(s) for Violation:

Records show that every day from 1/1/2023-8/31/2023 PSE failed to cool the LNG storage tank to a temperature of at least -260°F while storing LNG.

CORRECTIVE ACTION ORDER: You must take the corrective action described below.

Within 10 days of the date you receive this Notice of Violation, submit a written report describing the action(s) you have taken to correct this violation and achieve compliance with Agency regulations.

Issued By: _____ **Date:** 10/5/2023
 Rick Woodfork, Inspector, (206) 689-4042
 RickW@psc Clean Air.gov

Received By: Dustin Cornidez-Pittman Dustin Cornidez-Pittman 10/6/2023
 Signature Print Name Date
 (Signing is not an admission of guilt)

From: [Cornidez-Pittman, Dustin](#)
To: [Rick Woodfork](#); Inspection@psccleanair.org
Cc: [Juris, Ruth](#); "[John Dawson](#)"; [Green, Jake](#); [Leverette, Sara](#); [Luebbe, Lorna](#); [Wood, Thomas](#)
Subject: RE: ACTION REQUIRED: PSCAA Onsite Inspection Follow Up: PSE LNG, Registration #30022
Date: Friday, October 13, 2023 4:57:28 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[2023-10 NOV 3-A001002_Response.pdf](#)

Hi Rick,

The response letter to NOV No. 3-A001002 is attached for your review. Please do not hesitate to contact me if you have any questions.

Thanks,

Dustin Cornidez-Pittman
Manager Environmental Services

From: Rick Woodfork <RickW@psccleanair.gov>
Sent: Thursday, October 5, 2023 2:38 PM
To: [Juris, Ruth](mailto:Juris.Ruth@pse.com) <Juris.Ruth@pse.com>; [Cornidez-Pittman, Dustin](mailto:Cornidez-Pittman, Dustin <Dustin.Cornidez-Pittman@pse.com>) <Dustin.Cornidez-Pittman@pse.com>
Subject: ACTION REQUIRED: PSCAA Onsite Inspection Follow Up: PSE LNG, Registration #30022
Importance: High

CAUTION - EXTERNAL EMAIL

Phishing? Click the PhishAlarm "**Report Phish**" button.

Hi Dustin and Ruth,

Sorry for the delay in responding to the information provided below.

Despite the points that were made in the response that was submitted, NC Order of Approval 11386A Condition 35 is clear in its requirement that the LNG storage tank be cooled to a temperature of at least -260°F while storing LNG. The condition, as it is currently written, does not include or allow for a range of temperature values above -260°F or a rounding of temperature values above -260°F down to -260°F.

As a result, NOV 3-A001002 has been issued. A copy of the NOV is attached. **Please sign the NOV then email it back to me.**

If you have any questions, please let me know.

Thanks,



Rick Woodfork
Inspector II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4042
FAX 206-343-7522

WEBSITE psccleanair.gov

From: Juris, Ruth <Ruth.Juris@pse.com>
Sent: Thursday, September 14, 2023 9:28 AM
To: Rick Woodfork <RickW@psccleanair.gov>
Cc: Leverette, Sara <Sara.Leverette@pse.com>; Green, Jake <Jake.Green@pse.com>; Cornidez-Pittman, Dustin <Dustin.Cornidez-Pittman@pse.com>; 'Kontos, Evy' <Evy.Kontos@naes.com>; 'Miller, Tim' <Tim.Miller@naes.com>
Subject: RE: PSCAA Onsite Inspection Follow Up: PSE LNG, Registration #30022

Good morning Rick,

In regards to your email request please see our responses below:

1. Please provide a detailed and technical reason why the LNG storage tank has not been or cannot be cooled to the required temperature of -260°F.

The intent of an LNG storage tank is to maintain the LNG in its cryogenic and liquid state by continuously removing the vapor that boils away and thus maintaining temperature; a process known as auto-refrigeration and the only variable is the pressure maintained within the tank. The boiling point of pure methane at atmospheric pressure is -258.9 °F. While predominantly methane, LNG includes other compounds (e.g., ethane, whose boiling point is -127.5 °F) that raise the boiling point slightly. Currently the LNG contains ~8% ethane which means that at atmospheric pressure the boiling point temperature of the LNG is -257.1 °F. However, the tank is never operated at or below atmospheric pressure as this presents the potential to ingest air into the tank system and creates tremendous pressure on the tank surface. Instead, the tank is always maintained at a low positive pressure to prevent an internal vacuum pressure. This low positive pressure slightly raises the boiling point of the LNG. For example, when the current composition is at 1 psig, the boiling point of the LNG is -255.6 °F. Because the non-methane constituents and pressure can always vary slightly, the storage temperature of LNG is commonly stated in two significant figures and rounded down to -260°F.

2. Please explain the net impact of not storing LNG at -260°F.

There is no emission impact from the LNG storage temperature being above -260.0°F. There are no emissions to atmosphere from the storage tank. All of the boil-off gas is collected, compressed, returned to PSE's bulk gas system or liquefied and returned to the tank. No purpose would be served by artificially chilling the LNG below its boiling point. If it were possible to cool the LNG to -260 °F, the resultant operating pressure would be -1.8 psig (i.e., 260 lbs external force over every square foot area of the outer tank) which would be significantly beyond the structural vacuum design condition of the outer tank.

In short, the LNG temperature is determined by physics and is not something that is or reasonably can be controlled to decrease the storage temperature. The LNG will never be precisely -260.0°F if the system is operating as designed. -260.0°F is a round number that is used to provide an approximation of the LNG temperature and convey how cold it is.

Please let me know if you have any questions or require further clarification.

Thank you,

Ruth Juris
Consulting Scientist
Puget Sound Energy
Ruth.Juris@pse.com
Office: 509-773-7919

From: Rick Woodfork <RickW@psc Cleanair.gov>
Sent: Friday, September 8, 2023 10:34 AM
To: Cornidez-Pittman, Dustin <Dustin.Cornidez-Pittman@pse.com>
Cc: 'evy.kontos@naes.com' <evy.kontos@naes.com>; Green, Jake <Jake.Green@pse.com>; 'Miller, Tim' <Tim.Miller@naes.com>; Juris, Ruth <Ruth.Juris@pse.com>
Subject: RE: PSCAA Onsite Inspection Follow Up: PSE LNG, Registration #30022

CAUTION - EXTERNAL EMAIL

Phishing? Click the PhishAlarm "**Report Phish**" button.

Good Morning Dustin,

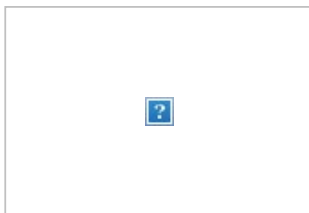
As a follow up to the discussion had during my onsite inspection, I am requesting the following information related to the LNG storage tank not being cooled to the required temperature of -260°F, per NOC 11386A Condition 35:

1. Please provide a detailed and technical reason why the LNG storage tank has not been or cannot be cooled to the required temperature of -260°F.
2. Please explain the net impact of not storing LNG at -260°F.

Please submit the requested information by close of business Thursday, September 14, 2023.

If you have any questions, please let me know.

Thank you in advance for your cooperation.



Rick Woodfork
Inspector II

1904 3rd Ave #105, Seattle, WA 98101

DIRECT 206-689-4042
FAX 206-343-7522
WEBSITE psc Cleanair.gov