



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Southwest Region Office
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November 30, 2023

Jeremy Smith
PacifiCorp Energy
1813 Bishop Rd
Chehalis, WA 98532-873
Jeremy.Smith@pacificorp.com

Re: Further Action at the following Site:

- **Site Name:** Chehalis Power LP Generation Facility
- **Site Address:** 1813 Bishop Road Chehalis, 98532 Lewis
- **Facility/Site ID:** 3336951
- **Cleanup Site ID:** 11776
- **VCP Project ID:** SW1246

Dear Jeremy Smith:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Chehalis Power LP Generation Facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the [Model Toxics Control Act \(MTCA\)](#),¹ [chapter 70A.305 Revised Code of Washington \(RCW\)](#).²

Issue Presented and Opinion

Ecology has determined that further remedial action is necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the planned remedial action meets the substantive requirements of MTCA, chapter 70A.305 RCW, and its implementing regulations,

¹<https://apps.ecology.wa.gov/publications/SummaryPages/9406.html>

²<https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305>

Washington Administrative Code ([WAC](#)) [chapter 173-340](#)³ (collectively “substantive requirements of MTCA”). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Mineral Oil into the soil and groundwater.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Hill West Environmental, *Chehalis Power Plant Transformer Spill Additional Site Characterization Work Plan*, March 8, 2023.
2. KTA Associates, Inc (KTA), *Cleanup Action Report*, July 6, 2016.
3. KTA, *Terrestrial Ecological Evaluation Form*, August 10, 2012.
4. KTA, *Cleanup Action Report*, August 10, 2012.

You can request these documents by filing a [records request](#).⁴ For help making a request, contact the [Public Records Officer](#)⁵ or call (360) 407-6040. Before making a request, check whether the documents are available on [Ecology’s Cleanup Site Search webpage](#).⁶

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

The PacifiCorp Energy Chehalis Power Plant (Station) is a natural gas-fired power plant located in Chehalis, Washington occupying the 20-acre Lewis County Parcel 017774006005. On January 20, 2011, generation step-up transformer number 1 (GSU#1) catastrophically failed resulting in the release of an estimated 2,000 gallons of non-polychlorinated biphenyl (non-PCB) mineral oil.

Fluids consisting of mineral oil, fire suppression water, and firefighting foam pooled around GSU#1 and overflowed the secondary containment into a stormwater conveyance which ultimately discharged to a stormwater pond. The outfall from the pond was closed as part of the spill response and the contaminated water impounded in the stormwater pond,

³<https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340>

⁴ <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

⁵ publicrecordsofficer@ecy.wa.gov

⁶ <https://apps.ecology.wa.gov/cleanupsearch/site/11776>

conveyance ditches, and GSU#1 secondary containment was pumped to an empty tank located east of the fuel oil tank. Groundwater pumped from the containment foundation excavation was also discharged to the tank east of the fuel oil tank. Absorbents collected some of the recoverable oil. Soil and water were saturated with oil near the failed transformer location. Oil saturated media was removed for disposal. Potentially uncontaminated stormwater was pumped to the secondary containment of the southwest fuel tanks where it was held pending analysis.

Impacted soil was evaluated using visual, olfactory, and photoionization detector (PID) indications. Oil contaminated soil was removed from stormwater conveyances, the stormwater pond, and near transformer GSU#1 for disposal. Soil excavation generally extended 6 to 8 inches below ground surface (bgs) but near the GSU#1 transformer, excavations extended to 6 inches deeper than the groundwater interface, approximately 4 feet bgs. Free phase oil was collected to the extent practicable using oil skimmers and absorbent materials where observed. Imported fill (gravel and/or quarry spall) was used to backfill excavated soil. In sum, 72 confirmation soil samples were collected, of which, 3 samples exceeded the MTCA Method A cleanup level (CUL) for mineral oils (4,000 mg/kg). Repairs to the GSU#1 transformer secondary containment foundation were needed to complete the replacement of the failed GSU#1 transformer preventing additional soil excavation in this area.

In May 2011, further investigation of residual contamination was completed. The May 2011 investigation included sampling groundwater and the diverted water held in above ground storage tank(s) (AST). One groundwater sample (GW-4) bore concentrations of mineral oil in excess of the Method A CUL. Stormwater pumped from the secondary containment bore detectable concentrations of diesel range petroleum. Oily pondwater pumped to the east fuel oil tank was processed to separate free phase petroleum and discharge uncontaminated water. No further work was planned concluding stormwater/wastewater disposal operations.

On November 22, 2013, a second GSU transformer (GSU#3) catastrophically failed releasing non-PCB oil and fire suppression water to bare ground. GSU#3 is located south of GSU#1, and there is no overlap between the areas affected by each release. Contaminated water overflowed the GSU#3 containment structure entering a stormwater conveyance ditch and finally a dry stormwater basin. Fire suppression water and mineral oil was collected and pumped to a tank on Site for disposal. Impacted soil and gravel was excavated from the area immediately adjacent to GSU#3 containment, stormwater conveyance ditches, and the banks of the stormwater pond. Forty-five confirmation soil samples were collected, of which only two bore detectable concentrations of mineral oil. A sheen was observed on shallow groundwater, so the Station installed a vertical observation culvert, completed with a slotted screen section. The culvert was monitored by Station staff for presence of visible petroleum.

Follow-up investigation into impacts related to the 2011 GSU#1 began in the fall of 2013. Two groundwater monitoring wells (MW-1 and MW-3) were constructed near previous soil or groundwater detections. Groundwater well MW-2 was advanced but not constructed due to proximity of utilities. A single temporary grab sample was collected from the MW-2 boring.

Between March and April 2015, three additional groundwater monitoring wells (MW-4, MW-5, MW-6) were installed to evaluate groundwater impacts of the 2013 GSU#3 failure. As part of the groundwater evaluation, water in four electrical vaults was also sampled for petroleum impacts.

In sum, one exceedance of mineral oil in soil remains on Site beneath the expanded GSU#1 containment unit. The permanent groundwater monitoring well network was sampled over 4 discontinuous quarters (beginning April 2015, ending March 2016) and did not bear detectable concentrations of mineral oil.

Ecology provided a Further Action opinion dated June 26, 2017. Ecology recommended additional soil and groundwater sampling, analysis of water in the vertical observation culvert, and further risk analysis of mineral oil impacted groundwater into Station electrical vaults. The Station responded to a December 2022 VCP status request letter by providing the March 8, 2023, Additional Site Characterization Work Plan (Work Plan) to resolve remaining data gaps.

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your planned characterization of the Site is likely sufficient to establish cleanup standards and select a cleanup action. The following notes are provided to ensure planned results achieve the requirements of MTCA and data quality objectives.

Aqueous Film Forming Foam Fire Suppressant Use

Ecology is aware that as part of the 2011 fire response, aqueous film forming foam (AFFF) was used. AFFF frequently contains per- and poly-fluoroalkyl substances (PFAS), highly mobile and toxic chemicals that do not appear to naturally breakdown in the environment. Ecology considers the past use of AFFF as a sufficient basis to suspect a release of PFAS to soil and groundwater occurred at the Site. Investigation of whether PFAS was a component of the AFFF used during the GSU#1 fire suppression activity is needed.

The presence of PFAS needs to be determined as part of the Site remedial investigation. Ecology has developed the [Guidance for Investigating and Remediating PFAS Contamination in Washington State](https://apps.ecology.wa.gov/publications/UIPages/documents/2209058.pdf),⁷ a document intended to assist investigation and cleanup of PFAS contamination. If PFAS are found, then the nature and extent must be determined. Prior to sampling for PFAS, Ecology suggests preparing a quality assurance program plan (QAPP) and sample analysis plan (SAP) to ensure data quality is preserved. Specifically, ensure sampling equipment does not contain PFAS bearing components (e.g, Teflon, or other PTFE products) including pumps, tube, or other sampling apparatus. If equipment bearing or potentially

⁷ <https://apps.ecology.wa.gov/publications/UIPages/documents/2209058.pdf>

bearing PFAS compounds must be used, ensure a sufficient number of equipment blanks are collected.

Ecology suggests analyzing soil samples collected from the two GSU#1 soil borings at the backfill/native soil interface and at the next deepest fine grain soil horizon. Groundwater sampling for PFAS may be limited to MW-1 and MW-3 to determine whether PFAS is a Site hazardous substance. Ecology suggests considering collecting groundwater from MW-5 and MW-6 to be archived for future analysis pending analytical results of groundwater collected from MW-1 and MW-3.

Analytical Methods

Groundwater samples are proposed to include NWTPH-Dx and Extractable Petroleum Hydrocarbons (EPH) analysis. Use of EPH is not required unless the Site will be fractionating data for calculating Site-specific Method B TPH cleanup levels. Based on existing groundwater analytical data, limiting sample analysis to NWTPH-Dx sufficiently achieves MTCA requirements.⁸

Groundwater Sampling Event

The Work Plan proposes one additional sampling event for the entire monitoring network. Ecology suggests planning this event during the third quarter of 2023, so groundwater data is available from each quarter.

These monitoring wells likely have not been sampled or developed since 2017. Ecology reminds you that organic interference from settled solids in the monitoring wells may bias the NWTPH-Dx data high and recommends redeveloping the wells prior to sampling. Ecology suggests ensuring any development activities, if planned, are completed several days in advance of the sampling event. If sampling is completed using peristaltic pumps, ensure the end of the tube is drawing from the center of the well and not along the sidewall of the screened interval.

EIM Data

It appears that EIM inconsistencies noted in Ecology's June 2017 opinion have been rectified. Please ensure existing and forthcoming data are correctly uploaded to EIM.

Data Tables

To better understand soil delineation, please provide sample collection depths on data tables.

Terrestrial Ecological Evaluation

⁸ WAC 173-340-900 Table 830-1

A Site Terrestrial Ecological Evaluation (TEE) Form was submitted August 10, 2012,⁹ indicating the Site TEE was eligible to end the TEE based on contamination being covered by a physical barrier.¹⁰ Ecology currently concurs with this evaluation, but the TEE should be reevaluated to ensure it is accurate after additional data collection, and a new TEE form submitted with any future opinion requests.

2. Establishment of Cleanup Standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

Cleanup Standards: Under MTCA, cleanup standards consist of three primary components; points of compliance,¹¹ cleanup levels,¹² and applicable state and federal laws.¹³ Ecology will need you to propose specific:

- Applicable local, state, and federal laws.
- Points of compliance.
- Cleanup screening levels used for all hazardous substances detected at all points of compliance.
- Appropriate cleanup levels for all hazardous substances that exceeded cleanup screening levels.

Ecology suggests providing tables detailing the specific proposed cleanup standards.

- a. Points of Compliance.** Points of compliance, that you need to propose, are the specific locations at the Site where cleanup levels must be attained. For clarity, Ecology provides the following table of standard points of compliance:

⁹ KTA, Terrestrial Ecological Evaluation Form, August 10, 2012.

¹⁰ WAC 173-340-7491 (1)(b)

¹¹ WAC 173-340-200 "Point of Compliance."

¹² WAC 173-340-200 "Cleanup level."

¹³ WAC 173-340-200 "Applicable state and federal laws," WAC 173-340-700(3)(c).

Media	Points of Compliance
Soil-Direct Contact	Based on human exposure via direct contact, the standard point of compliance is throughout the Site from ground surface to fifteen feet below the ground surface. <i>WAC 173-340-740 (6)(d)</i>
Soil- Protection of Groundwater	Based on the protection of groundwater, the standard point of compliance is throughout the Site. <i>WAC 173-340-740(6)(b)</i>
Soil-Protection of Plants, Animals, and Soil Biota	Based on ecological protection, the standard point of compliance is throughout the Site from ground surface to fifteen feet below the ground surface. <i>WAC 173-340-7490(4)(b)</i>
Groundwater	Based on the protection of groundwater quality, the standard point of compliance is throughout the site from the uppermost level of the saturated zone extending vertically to the lowest most depth which could potentially be affected by the Site. <i>WAC 173-340-720(8)(b)</i>
Groundwater-Surface Water Protection	Based on the protection of surface water, the standard point of compliance is all locations where hazardous substances are released to surface water. <i>WAC 173-340-730(6)</i>

- b. Cleanup Levels.** Cleanup levels are the concentrations of a hazardous substance in soil, water, air, or sediment that are determined to be protective of human health and the environment. At this Site, MTCA Method A unrestricted cleanup screening levels were used to evaluate Mineral Oil contamination detected at the Site.
- c. Applicable Laws and Regulations.** In addition to establishing minimum requirements for cleanup standards, applicable local, state, and federal laws may also impose certain technical and procedural requirements for performing cleanup actions. These requirements are described in WAC 173-340-710. An [online tool](#)¹⁴ is currently available to help you evaluate the local requirements that may be necessary.

All cleanup actions conducted under MTCA shall comply with applicable state and federal laws.¹⁵ The person conducting a cleanup action shall identify all applicable local, state, and federal laws. The department shall make the final interpretation on whether these requirements have been correctly identified and are legally applicable or relevant and appropriate.¹⁶

There are three general groups of applicable local, state, and federal laws that need to be included:

¹⁴<https://apps.oria.wa.gov/opas/index.asp>

¹⁵WAC 173-340-710(1)

¹⁶WAC 173-340-710(2)

Note – MTCA Method A includes ARARs and concentration-based tables (WAC 173-340-700(5)(a)) If MTCA Method A remains in use as proposed Site cleanup levels, identify non-concentration based technical and procedural requirements. If Method B or C cleanup levels are proposed, also include concentration-based requirements.

- i. **Chemical-Specific:** Examples of chemical-specific laws include promulgated concentrations from another rule that result in adjusting proposed cleanup levels. Method A is inclusive of these laws. For Methods B or C, additional evaluation of chemical-specific applicable state and federal laws is required.
- ii. **Action-Specific:** Examples of action-specific laws include requirements for obtaining local permits to excavate and/or dispose of contaminated soil, stormwater construction permits, or the requirement to notify local law enforcement in case human remains are discovered during excavation. All MTCA cleanups require evaluation of action-specific applicable state and federal laws.
- iii. **Location-Specific:** Examples of location-specific laws include specific requirements for working near wetlands or archeologically important areas. All MTCA cleanups require evaluation of location-specific applicable state and federal laws.

After you have identified appropriate applicable local, state, and federal laws, report to Ecology the applicable local, state, and federal laws applicable to this cleanup, and how those laws and regulations specifically effect the proposed cleanup.

3. Selection of Cleanup Action.

Ecology has determined that additional remedial investigation is necessary at the Site before selecting a cleanup action.

Interim actions conducted at the Site have included soil removal, oil/water separation and disposal, and groundwater monitoring. The forthcoming sampling will further evaluate whether soil was excavated to the extent practicable and groundwater concentrations remain below the Method A cleanup level. Ecology concurs with the planned remedial investigation activities including two additional soil borings, two depth-discrete groundwater samples, groundwater sampling from the observation culvert, four groundwater samples from the electrical utility vaults at the Site, and groundwater sampling from the permanent groundwater compliance well network. Investigation derived waste will be sampled for waste characterization purposes.

As discussed in the Work Plan, sample location D8 which bore 28,100 mg/kg of mineral oil, is covered by the extended GSU#1 secondary containment. Pending the results of analytical data, the Site may opt to use one of Ecology's [Model Remedies for Sites with Petroleum Impacts to Groundwater](#).¹⁷ Specifically remedy number 2 which requires soil removal to the maximum extent practicable and establishment of engineering and/or institutional controls in the form of an environmental covenant.

The model remedies were developed to streamline simple petroleum cleanup Site closure by establishing common remedial strategies. Use of model remedies alleviates the

¹⁷ <https://apps.ecology.wa.gov/publications/documents/1609057.pdf>

requirement to evaluate cleanup actions via feasibility study and disproportionate cost analysis. Sites utilizing a model remedy also receive two no-cost opinions from Ecology. Once additional data are collected and the remedial investigation is complete, the proposed remedy would require an environmental covenant establishing the GSU#1 transformer secondary containment as a protective cap. Further discussion regarding use of an institutional control as the preferred remedial strategy will be provided with the next opinion, if appropriate.

Limitations of the Opinion

1. Opinion Does Not Settle Liability with the State.

Liable persons are strictly liable, jointly, and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70A.305.040(4).

2. Opinion Does Not Constitute a Determination of Substantial Equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts make that determination. See RCW 70A.305.080(8) and WAC 173-340-545.

3. State is Immune from Liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. See RCW 70A.305.170(6).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our [Voluntary Cleanup Program webpage](#).¹⁸ If you have any questions about this opinion, please contact me at (360) 407-6266 or Joseph.Kasperski@ecy.wa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'JK' with a stylized flourish.

Joe Kasperski, LG
Toxics Cleanup Program
Southwest Region Office

JKK/at

cc by email: Michael Adams, PacifiCorp Energy, michael.adams@pacificorp.com
Sara Randolph, EFSEC, sara.randolph@efsec.wa.gov
Jerome Lambiotte, Ecology, jerome.lambiotte@ecy.wa.gov
Ecology Site File

¹⁸ <https://www.ecy.wa.gov/vcp>