June 5, 2020

Oregon Department of Environmental Quality
Northwest Region AQ Permit Coordinator
700 NE Multnomah St. Ste 600
Portland, OR 97232

Submitted via email to: NWRAQPermits@deq.state.or.us

RE: Comment on Standard Air Contaminant Discharge Permit for Global Partners' Columbia Pacific Bio-Refinery (Permit #05-0023-ST-01)

Dear NW Region Air Permit Coordinator,

Please accept these comments from Columbia Riverkeeper, Neighbors for Clean Air, Northwest Environmental Defense Center, Oregon Conservancy Foundation, Human Access Project, Willamette Riverkeeper, Center for Sustainable Economy, 350 PDX, Envision Columbia County, Friends of the Columbia Gorge, The Lands Council, Stop Zenith Collaborative, Climate Action Coalition, Friends of the Earth, and the Stand Up to Oil Coalition.[1] On behalf of our tens of thousands of members and supporters, we urge Oregon DEQ to deny or significantly revise the Standard Air Contaminant Discharge Permit ("ACDP") for Global Partners' transloading operations at its Columbia Pacific Bio-Refinery ("CPBR") at Port Westward near Clatskanie,

[1] These comments were developed with the assistance of Environmental and Energy Consultant, Dr. Ranajit (Ron) Sahu, Ph.D.

Oregon.[2] At the very least, DEQ should require Global Partners to submit a new permit application that corrects and revises the significant errors we identify below and removes crude oil from the list of permitted substances. The errors in the potential to emit ("PTE") calculations with respect to the facility's VOC emissions are significant enough to make the difference between CPBR being a major or minor source—those errors cannot be ignored. If the corrected calculations indicate that CPBR will emit over 99 tons per year of VOCs, DEQ must require the facility to apply for a Title V permit.

I. Since Global Publically Claims to Have No Immediate Plans to Transload Crude Oil at CPBR, DEQ Should Remove Crude Oil from the Draft Permit

Global publically represents itself as a "bio-refinery" that receives and stores ethanol and potentially renewable diesel.[3] On its website, Global represents that CPBR has not handled crude oil since November 2015 and that "[c]rude shipments were suspended and replaced by ethanol in 2016."[4] If Global plans to restart crude transloading at the facility within the 5-year term of this permit it has made no mention of that fact on its website or in the press. In fact, Catie Kerns, a vice president at Global Partners, recently indicated that the company is currently focused on renewable diesel.[5] These comments were made in the context of PGE's recent decision to terminate the agreement it had made with Global to sell CPBR nine storage tanks for CPBR's oil transloading operation.[6] Without those additional tanks from PGE, CPBR currently only has 189,900 barrels of existing storage capacity, in three tanks, to be shared between three distinct products. All of these factors indicate the extreme unlikelihood that CPBR will return to oil transloading during the term of this permit.

DEQ has indicated that it issues permits based on what the applicant requests in its application without question, but to the best of our knowledge there is nothing in the statute or regulations that requires DEQ to issue permits for anything and everything an applicant requests. DEQ would be operating within its authority, and justifiably so, if it declined to include crude oil in Global's permit when the company has been so publically vocal about its intentions to shift its operations to ethanol and renewable diesel. If Global has concrete plans to restart crude transloading in the future it can apply to DEQ for a permit revision at that time, with the attendant public process required. DEQ's mission is "to be a leader in restoring, maintaining and

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[2] Throughout these comments, we will use both "CPBR" and "Global" interchangeably to refer to the facility.
[3] *See* https://globalclatskanie.com/about-2/clatskanie-faqs/
[4] *Id.*
[5] *See* Anna Del Savio, *Tank sale to Global fall through*, Columbia County Spotlight (May 20, 2020), https://pamplinmedia.com/scs/83-news/467429-378479-tank-sale-to-global-falls-through.
[6] *See id.*; *see also* Letter from Jaki Ferchland, Manager, Revenue Requirement, Portland General Electric, to Public Utility Commission of Oregon (May 15, 2020) *available at* https://edocs.puc.state.or.us/efdocs/HAD/up349had85525.pdf

enhancing the quality of Oregon's air, land and water." The agency's job, as stated on its website, is to "protect the quality of Oregon's environment," not to offer polluting facilities 'operational flexibility.' The communities neighboring the facility, as well as the communities through which the two unit trains per day permitted under this draft permit will travel, have a right to be informed of exactly what products this facility is handling, and thus what level of danger they will be exposed to.

II. Executive Order 20-04 Requires DEQ to Consider the Greenhouse Gas Impact of its Decisions

DEQ should remove crude oil from the permit not only because Global does not currently have plans to transload crude oil, but also because of the significant greenhouse gas (GHG) impact of transporting and burning crude oil. On March 10, 2020, Governor Brown signed Executive Order No. 20-04 calling for the State of Oregon to reduce its GHG emissions levels "(1) at least 45 percent below 1990 emissions levels by 2035; and (2) at least 80 percent below 1990 emissions levels by 2050."[7] The Executive Order goes on to direct specific state agencies, including DEQ, to "exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement" of these GHG goals.[8] As noted above, Global has publicly indicated that it is not currently transloading crude oil and has switched to handling only ethanol, and soon renewable diesel. If that is true, there is no reason for DEQ to issue CPBR a permit that includes crude oil. Doing so would amount to a five year open-ended license to pollute. DEQ has both the authority and the discretion to decline to issue a permit that includes a product so directly connected to significant greenhouse gas emissions and climate change impacts—especially where the permit applicant has no current plans to handle that product. DEQ must consider how its decisions with respect to this permit fit into the directives in Governor Brown's Executive Order 20-04. Declining to authorize additional crude oil transloading would be the appropriate action in line with the general directives outlined in the Order.

III. DEQ Must Remove "Operating Scenario #2" from the Permit Because Those Tanks Are Not Part of the Source

The draft permit identifies two potential operating scenarios, the second of which is no longer an option for the company and must be removed from the permit. On May 15, 2020, Portland General Electric (PGE) informed the Public Utility Commission of Oregon that "the transaction between Global and PGE for the purchase and sale of the Beaver [Tank Farm] has

[7] Oregon Exec. Order 20-04, Directing State Agencies to Take Actions to Reduce and Regulate Greenhouse Gas Emissions (March 10, 2020), *available at* https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf.
[8] *Id.* (emphasis added).

been terminated."[9] Because this purchase agreement was cancelled, seven of the eight tanks listed under "Operating Scenario #2" are no longer storage options for CPBR and must be removed from the permit.

Pursuant to OAR 340-216-0040(4), Global should have informed DEQ that these tanks can no longer be included as part of any potential operating scenario in the permit.[10] However, in the event the company has not notified DEQ of this material change in its permit application, DEQ must remove this operating scenario from the permit before proceeding. The definition of "source" includes only those structures that are "owned or operated by the same person or by persons under common control."[11] Now that PGE cancelled the purchase agreement, CPBR does not, and will not, own the tanks—they cannot be considered part of the source and "operating scenario #2" must be removed from the draft permit.

The removal of these tanks, along with the proposed "operating scenario #2," represents a significant change in how Global can and will execute transloading operations at the site. Taking this new information into consideration, DEQ should perform a new evaluation of Global's plans, and issue a new draft permit that contemplates and authorizes only one operating scenario. Once this new evaluation is complete, the public must have an opportunity to review and comment on this new draft permit.

IV. DEQ Must Consider the Potential Emissions from Railcar Unloading

DEQ regulations require that the potential emissions from the railcar unloading be considered in calculating CPBR's potential to emit ("PTE"). As written, the draft permit would allow over 1.8 billion gallons of crude oil to travel through Columbia River Gorge, Portland, Vancouver, and Columbia County communities each year. That is two full unit trains—200 cars—per day. Yet, as drafted, the permit does not include any controls or limits on potential emissions from these railcars. In 2014, DEQ indicated in its response to comments on CPBR's existing transloading permit that emissions from trains and marine vessels are considered secondary emissions that are not included when assessing a facility's PTE.[12] This interpretation is not consistent with the relevant definition of "secondary emissions," which clearly contemplates only those emissions generated by the ship or train engines themselves.[13] DEQ is

[9] Letter from Jaki Ferchland, *supra* n. 6.
[10] *See* OAR 340-216-0040(4) ("[a]ny owner or operator who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information."
[11] OAR 340-200-0020(166).
[12] Response to Comments, Proposed Air Contaminant Discharge Permit (05-0023-ST-01) for Cascade Kelly Holdings LLC, dba Columbia Pacific Bio-Refinery at 5 (August 19, 2014).
[13] *See* OAR 340-200-0020(138) ("Secondary emissions may include, but are not limited to: (a) Emissions from ships and trains coming to or from a facility…").

misinterpreting this definition of "secondary emissions" to further include emissions vented from the railcar tanks during the unloading operations at the facility. As a result, these emissions from unloading operations are improperly excluded from the facility's PTE calculations.

DEQ's treatment of marine vessel emissions in the draft permit is instructive. Ship engine exhaust, like train exhaust, is included in the definition of "secondary emissions," and these emissions are not included in the facility's PTE. However, marine vapor emissions from the loading of ships are included in the facility's PTE, as required by the Clean Air Act. That same approach must be used with respect to railcars: the emissions resulting from the unloading of the railcar tanks must be considered when calculating the facility's PTE.

Representatives from CPBR have claimed that no emissions occur when the railcars are vented because a vacuum is created before the vents are opened.[14] DEQ cannot rely solely on the facility's word as proof of this. The permit should include a clear description of the railcar unloading process, including those steps that must be taken to ensure no vapors are emitted during the transfer of product from the railcars to the storage tanks. For example, the permit should include an enforceable requirement that the railcar vents not be opened until a vacuum has been established in the tank. At the very least, the permit should include enforceable monitoring and reporting requirements related to the railcar unloading to prove that there are, in fact, no emissions associated with the unloading of 200 railcars per day.

Even if DEQ or CPBR were to argue that any emissions resulting from the transloading of product from the railcars to the storage tanks are fugitive, those emissions must still be considered when determining whether the facility is a major source because the storage capacity at CPBR is greater than 300,000 barrels. DEQ's regulations are very clear that "fugitive emissions from certain categories of stationary sources must be considered in determining whether those sources are major stationary sources."[15] One such category is "[p]etroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels."[16] Under "operating scenario #1," CPBR would have a total storage capacity of 621,000 barrels—over twice the regulatory threshold. Unless CPBR revises its application to remove the four unconstructed tanks from "operating scenario #1," the storage capacity at the facility clearly triggers the need for DEQ to consider fugitive emissions. It would be extremely dubious for CPBR to claim that the transfer of product from the railcars to the storage tanks results in no fugitive emissions.

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[14] *See NW Envtl Defense Ctr v. Cascade Kelly Holdings LLC*, 155 F.Supp. 3d 1100, 1115 (D. Or. 2015) (noting that CPBR's expert witness "stated that railcars do not result in emissions because the railcars are unloaded under neutral to negative (*i.e.*, vacuum) pressure. If there is no positive pressure in the railcar, the railcars will not emit outward vapors. The Facility's standard operating procedures discuss venting a railcar by opening the pressure relief valve on the gauge, but this occurs only after a vacuum has developed in the head space of the railcar.").

[15] OAR 340-200-0020(91)(B).

[16] OAR 340-200-0020(91)(B)(xxii).

Any emissions, fugitive or otherwise, that are emitted from the railcar tanks must be considered in DEQ's determination of whether CPBR is a major source. DEQ should not allow the company to escape the more stringent requirements that come with a Title V permit based simply on the company's word.

V. The Facility's Potential VOC Emissions Are Significantly Underestimated—to the Point that CPBR May be Improperly Categorized as a Minor Source

As currently drafted, the permit significantly underestimates the potential VOC emissions from the facility operations. A number of potential emissions sources are left out of the analysis completely, while those emissions sources that are analyzed are done so either incompletely or incorrectly. Taken together, these errors in the PTE calculations could very likely mean that CPBR has improperly been categorized as a minor source. Given the clear—and significant—inadequacies with the PTE calculations submitted by CPBR, we strongly urge DEQ to require the company to both re-run its calculations using corrected inputs and collect actual air monitoring data to support the accuracy of those calculations. CPBR's VOC limit of 78 tpy is too close to the minor source limit of 99 tpy for DEQ to ignore the serious issues with the PTE calculations submitted by the company.

This would not be the first air permit application where Global has attempted to obfuscate the emissions potential of one of its facilities by utilizing questionable inputs in the Environmental Protection Agency's (EPA) estimating calculations. Global Partners has a history of attempting to avoid the "major source" designation by relying on inaccurate calculation inputs, resulting in the appearance of a dramatically lower emissions potential than what is actually occurring at the company's facilities.[17] For example, in 2011, EPA launched an investigation into the accuracy of the PTE calculations Global submitted with respect to its VOC emissions at the 'Global Portland' facility in South Portland, Maine. As part of that investigation, EPA required Global Partners to conduct actual emissions testing and the results were stunning: the actual VOC emissions at the facility—for one product alone—were twice the facility's VOC emissions limit for the entire facility.[18] This case illustrates the critical need for accurate calculations in determining a facility's potential to emit.

With respect to the present situation, it is essential that DEQ require a more thorough and accurate calculation of potential VOC emissions from the facility before a new permit is granted.

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[17] *See* Sabrina Shankman, Bangor Daily News, *How a neighbor found out the South Portland oil tanks may emit more than previously reported* (June 2, 2020), https://bit.ly/3eTYPgz (noting that Global's decision to use a default value for vapor pressure in its calculations, despite knowing the product's actual vapor pressure, resulted in a much lower emissions rate than what was actually occurring at the facility).

[18] Complaint at 10-11, *U.S. v. Global Partners LP* (D. Me. 2019) (Case 2:19-cv-00122-DBH), *available at* https://www.justice.gov/enrd/consent-decree/file/1147471/download

If calculated correctly, there is a very real possibility the PTE data will tip CPBR into major source status, perhaps by a significant margin.

A. The Draft Permit Fails to Consider Emissions from the Unloading of Trucks and Marine Vessels

The draft permit impermissibly fails to include any analysis of the potential emissions from the unloading of trucks and marine vessels, despite clearly indicating that these are potential activities at the facility. The "Source Description" included in the draft permit's Review Report indicates that "[t]his ACDP allows CPBR to transload up to 1,839,600,000 gallons per year of volatile organic liquids (VOLs) . . . . VOLs can be brought to CPBR via truck, rail, and marine vessel."[19] However, the draft permit includes only an analysis of the potential emissions from the storage tanks (as coming from the railcar unloading rack) and the marine vessel loading—the permit includes no analysis of the potential emissions from the unloading of trucks or marine vessels.[20] This is especially glaring in a permit that includes multiple scenario options for the facility. If CPBR does, indeed, intend to bring VOL products into its facility via truck or marine vessel, the potential emissions from those unloading activities must be included in the permit. In the alternative, the permit must be revised to make clear that CPBR is only permitted to unload railcars and load marine vessels.

B. The Draft Permit Fails to Consider Fugitive Emissions from Marine Vessel Loading

The draft permit's failure to consider fugitive emissions from the loading of marine vessels is a critical omission. The draft permit falsely assumes that being "vapor tight" is the same as zero emissions. None of the four options listed in Section 3.5(e) of the permit can demonstrate that there will be no fugitive VOC or HAP emissions—all of which would be released uncontrolled to the environment. Practically, it would be impossible to capture 100% of the displaced vapors from the marine vessel loading—even a very small fraction of uncaptured vapor emissions during the loading of crude oil and ethanol will result in significant quantities of VOCs over time. The draft permit's failure to consider these fugitive emissions is an egregious omission that could very well make the difference between the facility being a minor or major source.

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[19] Standard Air Contaminant Discharge Permit (ACDP) Review Report (proposed), Permit No. 05-0023-ST-01 at 4.
[20] *See e.g.,* Cascade Kelly Holdings LLP, ACDP Permit Application, Figure 2 (May 31, 2019) (indicating product flowing either from rail receiving or from the ethanol production plant, no other unloading scenarios are indicated). The word "truck" is found nowhere in the draft permit itself.

C. The Draft Permit's Reliance on Temperature Monitoring of the VCU is Insufficient and Unenforceable

The draft permit suggests that monitoring the temperature of the VCU is sufficient to ensure that VOCs are adequately destroyed. However, the stack test data summarized in DEQ's permit review report directly contradicts this. The data shows that emissions of all three pollutants—CO, NOx, and VOCs—from the VCU depend on more than just the temperature of the exhaust gas.

Emission Device	Test Date	Production Rate	Pollutant	Measured Value	Stack Temp
EP-01: VCU A	8/14/2015	4,231 gal/min	CO	0.043 lb/hr	2,132°F
EP-01: VCU A	8/14/2015	4,231 gal/min	NOx	0.14 lb/hr	2,132°F
EP-01: VCU A	8/14/2015	4,231 gal/min	VOC (as propane)	0.098 lb/hr	2,132°F
EP-01: VCU A	10/19/2016	4,459 gal/min	CO	< 0.0020 lb/hr	2,060°F
EP-01: VCU A	10/19/2016	4,459 gal/min	NOx	0.201 lb/hr	2,060°F
EP-01: VCU A	10/19/2016	4,459 gal/min	VOC (as propane)	< 0.0115 lb/hr	2,060°F
EP-01: VCU A	7/10/2017	2,928 gal/min	CO	0.0189 lb/hr	1,796°F
EP-01: VCU A	7/10/2017	2,928 gal/min	NOx	0.0391 lb/hr	1,796°F
EP-01: VCU A	7/10/2017	2,928 gal/min	VOC (as propane)	< 0.0035 lb/hr	1,796°F
EP-01: VCU A	11/19/2019	3,763 gal/min	CO	< 0.02 lb/hr	2,190°F
EP-01: VCU A	11/19/2019	3,763 gal/min	NOx	0.15 lb/hr	2,190°F
EP-01: VCU A	11/19/2019	3,763 gal/min	VOC (as propane)	< 0.016 lb/hr	2,190°F
EP-01: VCU A	11/19/2019	3,763 gal/min	Acetaldehyde	0.001 lb/hr	2,190°F
EP-01: VCU B	8/14/2015	4,231 gal/min	CO	0.0081 lb/hr	2,134°F
EP-01: VCU B	8/14/2015	4,231 gal/min	NOx	0.050 lb/hr	2,134°F
EP-01: VCU B	8/14/2015	4,231 gal/min	VOC (as propane)	0.00 lb/hr	2,134°F
EP-01: VCU B	10/19/2016	4,459 gal/min	CO	0.0044 lb/hr	1,950°F
EP-01: VCU B	10/19/2016	4,459 gal/min	NOx	0.0254 lb/hr	1,950°F
EP-01: VCU B	10/19/2016	4,459 gal/min	VOC (as propane)	< 0.0036 lb/hr	1,950°F
EP-01: VCU B	7/10/2017	2,928 gal/min	CO	0.0059 lb/hr	1,740°F

Looking at just the 2015 tests, which were conducted when crude was being transloaded and are highlighted in green above, it is clear that while the production rate and the stack temperatures were identical for all practical purposes, the emissions are not.[21] VOC emissions show 0 for VCU B while they are 0.098 lb/hr for VCU A. Similarly, the CO emissions from VCU A (0.043 lb/hr) were nearly five times higher than those from VCU B (0.0081 lb/hr). The NOx emissions, which should depend primarily on temperature, are almost three times greater

[21] This table is a highlighted version of the "Source Testing" data located on page 13 of the ACDP Review Report (proposed), *supra* n.19.

for VCU A (0.14 lb/hr) compared to VCU B (0.05 lb/hr), despite the temperatures being nearly identical between the two units.

Similarly, the 2019 test (highlighted in red above) showed dramatic differences in the emissions of VCU A and VCU B, despite the temperatures being within eleven degrees of each other. Generally, the higher the temperature of the VCU, the greater pollutant destruction you see (meaning, fewer emissions). Counterintuitively, the CO emissions for VCU B (0.54 lb/hr) are dramatically higher than the CO emissions from VCU A (less than 0.02 lb/hr) despite VCU B operating at a lower temperature.

Collectively, these test results prove that monitoring temperature alone is an extremely unreliable indicator of emissions from the VCU. DEQ should require the use of VOC, NOx and CO Continuous Emissions Monitors (CEMS) to directly and continuously measure VOC emissions from the VCU.

Additionally, as the permit is currently drafted, the emissions limits in the permit are entirely unenforceable. In Section 3.8d of the draft permit, DEQ requires that CPBR "maintain the operating temperature of the VCU system at or above the average operating temperature recorded during the most recent approved source test." Then, in Section of 4.6(a), the temperature limit set forth in Section 3.8d is declared an "action level" but allowed to drop by 25℉. Section 4.6(b) of the draft permit further declares that the "exceedance of an action level is not considered a violation of an emission limit in the permit."[22] So, essentially, DEQ is measuring emissions from the VCU based solely on assumptions having to do with temperature. That temperature is allowed to drop by 25℉, but any increased emissions—which will no doubt occur as a result of that temperature drop—cannot be assumed. Since the permit measures emissions from the VCU in no other way, CPBR has essentially been given a free pass to emit from the VCU. DEQ must revise the permit to include a mechanism by which to track and enforce the emissions from the VCU.

D. The Estimated Emissions CPBR Submitted With Respect to its Storage Tanks are Inadequate

We have identified a number of issues with how the potential emissions from the storage tanks has been calculated. First, it appears that tank 6104 will be heavily used, with up to three

[22] It is worth noting that the regulations contemplate action levels being set "in addition to applicable emissions standards." OAR 340-226-0120(2)(a). Here, however, there are no emissions standards applicable to the VCU aside from the temperature limit. DEQ either needs to set a clear emissions standard for the VCU or needs to remove the "action level" designation to the temperature limit.

turnovers per day.[23] This extremely heavy use will result in accelerated deterioration of its components, including the gaps and seals between the floating roof and the sides of the tank, as well as alignments associated with roof penetrations. All of this excessive wear will result in increased emissions that are not accounted for in the calculation methodology—which assumes the tanks are well maintained and in good working order.

Additionally, the PTE calculations for fugitive emissions from components such as valves and pumps are incorrect.[24] The emissions factors CPBR used are for estimating the average emissions, rather than the maximum emissions required for PTE calculations.[25] Furthermore, the calculations assume that none of the components can leak, which is also incorrect. Leaking components will result in much higher emissions, and must be factored into the facility's potential to emit.

Lastly, the equipment counts used in CPBR's PTE calculations are not supported by any engineering drawing or details—instead, DEQ appears to have accepted these counts without any verification.[26] All of these points are serious issues that likely resulted in CPBR underreporting the PTE from its storage tanks. We strongly urge DEQ to follow up with the company to resolve the errors and omissions in its PTE calculations.

E. CPBR's Use of EPA's Outdated TANKS Software Resulted in Flawed and Incorrect Emissions Estimates

A close look at the calculations CPBR submitted in its renewal application indicates that the company used EPA's TANKS software to run its emissions calculations, despite the fact that EPA has not updated that software since 2006 and no longer recommends or supports its use for emissions calculations.[27] The tables CPBR included in its permit application are clearly marked as being from "TANKS 4.0.9d." However, as EPA clearly states on its website, "[t]he TANKS model was developed using a software that is now outdated . . . . We will continue to recommend the use of equations/algorithms specified in AP-42 Chapter 7 for estimating VOC emissions from storage tanks."[28] Notably, EPA updated its Compilation of Air Emissions Factors (AP-42) in March 2020, to require, among other updates, that facilities use hourly (as opposed to daily)

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[23] *See* Columbia Pacific Bio-Refinery, Simple Technical Modification Application, Form AQ205 (February 17, 2020). That table indicates tank 6104 will experience 1,095 turnover per year—which amounts to three turnovers per day.

[24] *See id.* at Attachment C, p. 4.

[25] *See* OAR 340-200-0020(124) (defining "potential to emit" as the lesser of "(a) [t]he regulated pollutant emissions capacity of a stationary source; or (b) [t]he maximum allowable regulated pollutant emissions . . . ") (emphasis added).

[26] *See* Modification Application, *supra* n.23, at Attachment C, p.4.

[27] *See id.* at Attachment C.

[28] TANKS Emissions Estimation Software, Version 4.09D, https://www3.epa.gov/ttnchie1/software/tanks/

ambient temperatures in their PTE calculations. Since EPA is no longer supporting the TANKS software, this change would not have been incorporated into TANKS 4.09d, and thus would not have been incorporated into the calculations CPBR submitted in its permit application.

If CPBR is unable or unwilling to run the equations/algorithms itself, there are many commercially available software programs that the company can use that are regularly updated to reflect the current version of AP-42. In any event, DEQ should require CPBR to re-run, and resubmit, its PTE calculations using up-to-date information from EPA's Compilation of Air Emissions Factors (AP-42).

F. CPBR Unjustifiably Relies on Weather Data from Astoria, OR in its PTE Calculations

Despite being located nearly 35 miles inland from Astoria, CPBR relies on temperature data from Astoria, OR in its PTE calculations.[29] A quick search on weather.com shows that between the months of May and September, the average ambient temperature in Clatskanie is 5.8℉ higher than in Astoria.[30] As DEQ is well aware, the vapor pressure of a particular product is directly tied to its temperature—the higher the vapor pressure, the greater the emissions potential. A five degree difference in the temperature input would result in a significant underreporting of CPBR's PTE. In the absence of some clear justification from CPBR about the use of Astoria meteorological data, DEQ should require the company to re-run its calculations with temperature data that is more representative of the facility's actual location. Ideally, onsite meteorological data should already have been collected, particularly given the length of time the facility has been in operation.

In addition to requiring CPBR to correct all of these inadequacies in its application, DEQ should require CPBR to submit information about the actual emissions from the facility, and not rely on faulty estimations. As the Court noted in *Northwest Environmental Defense Center v. Cascade Kelly Holdings, LLC*, "small variances in the level of emissions could quickly send the Facility over the 100 tons-per-year threshold."[31] CPBR is teetering on the edge of major source status, and has much incentive to avoid being categorized as such. In addition to taking a hard look at the inputs the facility is using in its calculations, DEQ should require the company to verify the accuracy of those calculations by conducting actual emissions testing. This would go a long way to assuaging community concerns in the wake of this controversial permitting.

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[29] *See* Modification Application, *supra* n.23, at Attachment C.
[30] According to weather.com, the average temperature in Astoria, OR for May-Sept. is 65.6℉ while the average temperature for those same months in Clatskanie, OR is 71.4℉.
[31] *NW Envtl Defense Ctr v. Cascade Kelly Holdings LLC,* 155 F.Supp. 3d at 1126, n.28.

VI. The Draft Permit Inexplicably Fails to Require that CPBR Control the Displaced Vapors from Marine Loading of Biodiesel

In its February 2020 request for a permit modification, CPBR requested that it be permitted to vent marine vessel vapors directly to the atmosphere when these vessels are being filled with renewable diesel.[32] The company went on to explain that because diesel products contain very few VOCs, the company would have to use much more propane than desired to run the vapor combustion unit (VCU), resulting in unnecessary greenhouse gases, nitrogen oxides, and carbon monoxide emissions.[33] DEQ appears to have agreed to CPBR's request, as the draft permit only requires that CPBR control VOC emissions during the marine loading of crude oil or ethanol.[34] However, the draft permit repeatedly notes that vapors generated from the loading of marine vessels can be controlled through either the VCU or the vapor recovery unit (VRU).[35] After reviewing the application and draft permit, we see no logical reason supplied by the agency or the applicant as to why the VRU—which would not require additional propane to run—cannot be used to control the displaced vapors that result from the loading of renewable diesel. DEQ should revise the permit to either require that the vapors displaced during the marine loading of renewable diesel be controlled using the VRU, or explain why using the VRU is not possible.

VII. CPBR's Application—and Consequently the Draft Permit—Fails to Define the Properties of the Renewable Diesel Necessary to Accurately Calculate PTE

The potential emissions generated by the handling and transfer of any material, including biodiesel, depends on its physical properties—such as vapor pressure (which is heavily dependent on temperature) as well as liquid and vapor molecular weight. Yet, CPBR's application provides no composition information for the renewable biodiesel it plans to handle at the facility. Renewable biodiesel, unlike a pure compound, is a mixture of many different chemicals and, as such, its properties will vary depending on its composition. For example, the table excerpted below shows the range of vapor pressures across typical biodiesel types.[36]

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[32] *See* Modification Application, *supra* n.23, Form AQ102.
[33] *Id.* at 1, Form AQ102.
[34] *See* ACDP Draft Permit, Section 3.6 "[t]he permitte must control VOC vapors collected by the marine vessel vapor collection system during the marine loading of crude oil or ethanol by either the VCU or the VRU."
[35] *See e.g.*, ACDP Draft Permit at Sections 1, 3.6.
[36] This table is taken from Diaz, O.C., et. al., *Modeling the Vapor Pressure of Biodiesel Fuels*, World Academy of Science, Engineering and Technology International Journal of Chemical, Molecular, Nuclear, Materials and Metallurgical Engineering Vol:6, No:5, 2012, *available at* https://www.nist.gov/publications/modeling-vapor-pressure-biodiesel-fuels.

TABLE I
TEMPERATURE RANGE OF VAPOR PRESSURE AND HEAT CAPACITY DATA FOR SELECTED BIODIESEL FUELS

Biodiesel fuels Source	Code	Vapour Pressure	Liquid Heat Capacity	Reference
Canola (South Alberta)	CB-01	60-196 °C	13-55 °C	This work
Canola (Saskatchewan)	I-25	-	12-55 °C	This work
Soy (Sunrise, US)	SB100	-	14-55 °C	This work
Soy (Mountain Gold, US)	MGB100	140 °C	10-55 °C	This work
Rapeseed (Europe)	S102550	80-110 °C	13-55 °C	This work
Palm (Europe)	S090824	70-100 °C	23-55 °C	This work
Coconut (Europe)	S070717	95-125 °C	10-55 °C	This work
Tallow (Alberta)	I26	-	8-55 °C	This work
Tallow (South Alberta)	Sylfat	-	25-55 °C	This work
Soybean (Idaho)		275-350 °C	-	[2]
Rapeseed (Idaho)		215-360 °C	-	[2]
Beef Tallow (Idaho)		255-340 °C	-	[2]

The specific vapor pressure of a particular product is a critical data point for determining estimated emissions—the higher the vapor pressure, the higher the emissions. CPBR has claimed that the vapor pressure of the renewable diesel it plans to handle will be low (i.e., below 0.1 psi) but the company has provided no support for this.[37] While it may be true that the vapor pressure of all biodiesels that will be transloaded at CPBR under all expected temperatures will be less than 0.1 psi as the company claims, because vapor pressure is a critical aspect in the emissions calculations, CPBR's claim should be fully supported with data. In fact, CPBR does not use <u>any</u> biodiesel properties in its emissions calculations—it simply assumes that the properties for normal diesel (i.e, petro-diesel) are the same as biodiesel, again with no support whatsoever for this assumption.

DEQ should require CPBR to submit detailed information about the specific biodiesel products it intends to handle at its facility. Without this information, DEQ cannot calculate the facility's PTE with any degree of accuracy.

VIII. The Hazardous Air Pollutants (HAPs) Analysis is Unsupported

The hazardous air pollutants (HAPs) analysis in the permit is entirely unsupported. Neither CPBR in its application, nor DEQ in the draft permit, provide any indication of where the HAPs numbers were derived from.

[37] *See* Modification Application, *supra* n.23, AQ102.

As mentioned earlier, CPBR has not provided any information on the types of biodiesel it intends to handle. Without a product name or specific composition information it is impossible for DEQ to meaningfully estimate what the HAPs emissions from those products might be. Once again, the data submitted by CPBR is based on petroleum-based diesel, which the company has not shown to be indicative of the types of biodiesel it plans to handle.[38]

Furthermore, CPBR has not characterized the HAPs from the specific crude oil the facility plans to handle. Crude oil composition varies widely depending on batch and source location, yet DEQ has not required CPBR to report the composition of the products it intends to handle, nor does the permit include any requirements for testing. In the absence of this specific information, DEQ cannot meaningfully evaluate what the potential HAPs emissions from the transloading operation are. DEQ should require CPBR to submit specific information about the products it intends to handle, and that information should be clearly stated in the permit.

IX. The Potential Greenhouse Gas Emissions are Underreported

In its application, CPBR relied on an outdated figure for determining the global warming potential (GWP) of its operations, resulting in a significant underreporting of its greenhouse gas emissions. GWP is "a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO2)."[39] In its application, CPBR assumed that the GWP for methane is 25.[40] That number, however, is outdated. In its fifth, and most recent, assessment report, the International Panel on Climate Change (IPCC) conservatively estimated the GWP for methane to be 28 over a 100-year time frame.[41] DEQ should require a more accurate calculation of GWP, using the IPCC's latest estimate for methane, before a renewed permit is issued.

As discussed at length above, EO 20-04 directed state agencies—including DEQ—to "exercise any and all authority and discretion vested in them by law to help facilitate Oregon's achievement" of the Governor's goals of dramatically reducing greenhouse gas emissions within the state.[42] Failure on the part of DEQ to adequately assess the greenhouse gas emissions from an oil-by-rail facility it is actively permitting would be akin to turning a blind eye to the Governor's order. DEQ must ensure that CPBR's GHG emission potential is accurately calculated and reported in the permit—both the Clean Air Act and EO 20-04 demand it.

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[38] *See id.* at AQ403, n. 2.
[39] EPA, Understanding Global Warming Potentials, https://bit.ly/2A1P5Sp.
[40] *See* Modification Application, *supra* n.23, Attachment C at 1.
[41] *See* Global Warming Potential Values, https://bit.ly/2zYYhag.
[42] Exec. Order 20-04, *supra* n.7 (emphasis added).

X. DEQ Should Impose a Nine Pounds Per Square Inch Vapor Pressure Limit

DEQ should prohibit the facility from accepting crude oil that has a Reid vapor pressure (RVP) over nine pounds per square inch (psi). Washington State, through which most of the trains destined for this facility will travel, has passed legislation that prohibits the unloading of oil trains that have a vapor pressure of greater than nine psi, and the Oregon legislature is poised to follow suit.[43] RVP is a common measure of the volatility of petroleum products—the higher the vapor pressure in these railcars, the greater the likelihood of a catastrophic accident. We strongly urge DEQ to put the health and safety of the communities along the rail routes and near the facility first, and adopt a lower vapor pressure limit in the permit.

In 2015, the State of Washington's Department of Ecology ("Ecology") released a study that assessed the potential risks of oil-by-rail traffic through the region. The volatility of Bakken crude oil—which CPBR would be permitted to handle—features prominently as a risk factor in the report, which states, "[f]or Bakken crude, the greatest concerns are the potential volatility or flammability of the oil and the higher potential for groundwater intrusion due to its solubility. These properties create the potential for public safety, environmental and health risk."[44] Ecology's report highlights how the risks of Bakken crude oil became an international issue following the deadly Lac-Megantic oil train derailment, spill, and fire in 2013 that caused 47 fatalities, and the report notes that Bakken crude oil can be so volatile, it is "similar to gasoline.[45]

Similarly, in a 2015 petition submitted to the Pipeline and Hazardous Materials Safety Administration ("PHMSA"), the New York Attorney General provided a detailed explanation of why crude oil volatility should be a major concern for both state and federal regulators:

> The high volatility of certain forms of crude oil, and of Bakken crude oil in particular, has contributed to the large explosions and severe fires that have resulted from train crashes and derailments in recent years. These events have become more common as the volume of crude oil shipped by rail has expanded in the United States. Technology exists today that is widely used in some parts of the country that can stabilize the volatile crude oil to render the material less explosive and less flammable in the event of an accident. Given the large

[43] *See* RCW 90.56.580 "[a] facility constructed or permitted after January 1, 2019, may not load or unload crude oil into or from a rail tank car unless the oil has a vapor pressure of less than nine pounds per square inch."; *see also* Oregon House Bill 4105 ("prohibits facilities from loading or unloading oil or gas with vapor pressure of nine pounds per square inch or more").
[44] Washington State 2014 Marine and Rail Oil Transportation Study, Wash. Dept. of Ecology at 29 (March 1, 2015), *available at* https://fortress.wa.gov/ecy/publications/documents/1508010.pdf.
[45] *Id.* at 30.

> numbers of crude oil trains on U.S. railroads, the thousands of miles of railroad that these trains travel each day, and the inherently volatile nature of Bakken crude oil, incidents such as the explosion in Lac-Mégantic, Quebec, which destroyed the town and killed 47 people, may well recur unless federal standards are imposed to limit the volatility of crude oil.[46]

The petition continues by stating, "[t]o protect our communities and our environment in which these accidents could occur, it is important to limit the volatility of the crude oil itself.[47]

Furthermore, Bakken crude has been shown to carry elevated levels of dissolved propane and butane, resulting in increased volatility and flammability of the fuel.[48] A Wall Street Journal analysis found that "[c]rude oil from North Dakota's Bakken Shale formation contains several times the combustible gases as oil from elsewhere . . . raising new questions about the safety of shipping such crude by rail across the U.S."[49]

Through years of repeated, devastating experiences with oil train derailments (including the Mosier oil train derailment), Oregonians have learned that crude oil volatility is one factor that Oregon DEQ should consider when assessing the air pollution and safety risks of the Global Partners facility. If DEQ choses to permit Global Partners to handle crude oil, the agency should set a much stricter vapor pressure limit in the permit to safeguard the health and safety of the communities along the rail routes and near the facility.

XI. Overlapping Equipment and Permit Limits Increases the Potential for CPBR to Abuse Its Permit

Our organizations continue to be concerned that many of the same storage tanks and equipment are regulated under both of the facility's air permits. It is rare—but not unheard of—for a facility to have multiple air permits that cover different operations on the same property. What is unheard of is for those separate permits to regulate the exact same equipment. Even after consultation with technical experts, we are unaware of any similar permitting scheme under the Clean Air Act anywhere in the United States. As currently written, the draft ACDP for CPBR's transloading operation permits the company to build and operate tanks for crude oil, ethanol, and renewable diesel storage that Global intends to also use for its ethanol production

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[46] In re: Petition for Rulemaking to Amend the Requirements for the Operation of High-Hazard Flammable Trains Under 49 C.F.R. Part 174, submitted by the N.Y. Office of the Atty. General at 1 (Dec. 1, 2015), *available at* https://ag.ny.gov/pdfs/NYSOAG-Petition-to-PHMSA-for-rulemaking.pdf

[47] *Id.* at 2.

[48] Russell Gold, The Wall Street Journal, *Bakken Shale Oil Carries High Combustion Risk* (Feb. 23, 2014), *available at* https://www.wsj.com/articles/no-headline-available-1393197890

[49] *Id.*

operation. The two permits also include shared vapor combustion units and piping to move oil and ethanol between tanks. Having the same equipment covered under two different permits puts an enormous administrative burden on DEQ—a burden that DEQ has not even attempted to address. If DEQ intends to regulate the same equipment under two separate permits it must include—in both permits—specific recordkeeping and reporting requirements that require CPBR to record, on a daily basis, which permit is in play—with respect to each specific piece of equipment—on any given day. In the absence of such specific recordkeeping and reporting requirements, DEQ owes the public a clear explanation of how it intends to enforce these permits.

Furthermore, since the HAPs emissions from the ethanol production operation and the transloading operation must be combined to assess whether CPBR is a major or minor source, both permits need to be revised to clearly indicate the specific period of time during which the HAPs limits apply. As currently drafted, both permits say "the annual plant site emissions limits apply to any 12-consecutive calendar month period."[50] Since the facility is operating under two separate permits for which the combined HAPs emissions need to be under 10/25 tpy, those 12-month periods need to overlap. As the permits are currently written, there is nothing preventing Global from obfuscating the HAPs limits by reporting its HAPs emissions using different 12-consecutive calendar month periods. DEQ needs to revise both permits to make clear that the "12-consecutive calendar month period" must be exactly the same for both permits.

As written, the draft permit also fails to account for the emissions that will result from the repeated tank cleaning CPBR will need to undertake in order to switch between products. This will no doubt generate a significant amount of emissions since the company intends to use these same tanks for three very different products and will need to repeatedly flush the tanks between products to ensure no cross-contamination occurs. The potential for significant emissions from tank cleaning is particularly high with respect to tank 6104, which CPBR stated in its application it intends to turn over as many as three times per day. [51] We do not see these emissions accounted for anywhere in the draft permit—which is yet another significant omission from Global's PTE calculations.

This overlapping permit scheme not only creates an avenue for Global to hide its full emissions potential, but it also sets a bad precedent for public transparency, public trust in the agency, and—with respect to administrative burden—for the agency itself. Allowing this novel application of separate permits will create an opportunity for other regulated entities to request similar treatment, especially fossil fuel terminals which could abuse such flexibility to substantially change their operations without public process or analysis.

[50] ACDP Draft Permit at Section 5.3; ACDP No. 05-0006-ST-01 at Section 4.3
[51] *See*, *supra* n.23.

XII. DEQ Must Stop Allowing Global to Make Significant Changes to the Columbia Pacific Bio-Refinery Without Public Notice, Comment, or Analysis of Potential Impacts

DEQ has allowed Global to alter its plans for the Columbia Pacific Bio-Refinery multiple times without public notice or comment. Continuing to create opportunities for the facility to do so erodes public trust in the agency. Under a "Notice of Intent to Construct" issued in 2017, for instance, DEQ authorized Global to begin handling crude oil in the tanks that Global planned to purchase from PGE.[52] DEQ's actions undermine the public's ability to understand CPBR and its impact on public safety, air quality, and water resources. We request that DEQ refrain from allowing any significant changes to Global Partners' operation of the CPBR without first issuing public notice and soliciting public comment.

In conclusion, we urge DEQ to either deny the draft ACDP for Global Partners' Columbia Pacific Bio-Refinery or withdraw it and amend it significantly to address the issues set forth above. If the draft permit is withdrawn and revised, DEQ should circulate a new draft permit for public comment. DEQ should not allow Global to establish an oil-by-rail terminal under the guise of an ethanol facility, nor should it allow Global to threaten the health, safety, and air quality of Columbia County residents by underreporting its potential emissions in an effort to avoid being categorized as a major source.

Thank you for considering these comments.

Sincerely,

Erin Saylor, Staff Attorney for Columbia Riverkeeper

Tori Heroux, Program Director for Neighbors for Clean Air

[52] *See* Cascade Kelly Holdings LLP, ACDP Permit Application, *supra* n.20, Figure 2 at 2.

Jonah Sanford, Staff Attorney for Northwest Environmental Defense Center

Submitted on behalf of:

Columbia Riverkeeper
Neighbors for Clean Air
Northwest Environmental Defense Center
Oregon Conservancy Foundation
Human Access Project
Willamette Riverkeeper
Center for Sustainable Economy
Envision Columbia County
Friends of the Columbia Gorge
350 PDX
The Lands Council
The Stand Up to Oil Coalition
The Climate Action Coalition
The Stop Zenith Collaborative
Friends of the Earth