THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Environmental Conservation

DIVISION OF AIR QUALITY
Air Permits Program

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March 14, 2024

Drew Anderson, Environmental Specialist, P.E.
Hilcorp Alaska, LLC
3800 Centerpoint Drive, Suite 1400
Anchorage, AK 99503

Subject: Request for additional information for the application for Construction Permit AQ0069CPT02, Grayling Platform

Dear Mr. Anderson:

The Alaska Department of Environmental Conservation (Department) is reviewing the construction permit application submitted by Hilcorp Alaska, LLC (Hilcorp) for the Grayling Platform. By this letter, and under the provisions of AS 46.14.160(c), the Department is requesting additional information to complete processing of the application for Construction Permit AQ0069CPT02 as outlined below.

Actions Necessary for the Department to Complete the Application Processing

The Department acknowledges Hilcorp's request for receipt of a final permit as soon as possible. Therefore, we will continue to process the permit application to the extent possible while information is gathered. However, for the Department to complete processing of the construction permit application, Hilcorp must submit the information described below.

In accordance with 40 CFR 52.21(j)(3), BACT will be applied to each emissions unit at which a net emissions increase in SO_2 would occur as a result of the increase in the H_2S limit for fuel gas. Therefore, BACT will clearly apply to EUs 1, 3, 4a, 14 through 18, 28, 29, and 31 listed in Operating Permit AQ0069TVP04. Our records indicate BACT will also apply to EUs 19a, 19b, and 20a (glycol water heaters). The emissions calculations in the construction permit application also show two other gas fired units as part of the insignificant emissions unit inventory (Clayton ROG-60-1 Boiler and Clayton Sigma Fire). BACT will also apply to these units, and they should be given emissions unit IDs so they can be included in the construction permit. Please provide a complete list of emissions units subject to BACT with emissions unit IDs. The Department will include a full accounting of the units subject to BACT in the construction permit.

The RACT/BACT/LAER Clearinghouse (RBLC) identifies the use of low sulfur fuel gas as a control method for BACT for SO_2 in many circumstances for gas-fired units and low sulfur fuel gas from the Steelhead Platform is already used in the comingled fuel for the Grayling Platform. The proposed BACT limit of 650 ppm H_2S is based on using the maximum amount of sour produced gas the platform can provide and the sweet gas added from the Steelhead Platform. However, use of the low sulfur fuel in

place of the high sulfur produced gas is not identified as an available control option in the BACT analysis in the construction permit application. Please revise the construction permit application to include the use of low sulfur fuel gas as a control option for SO_2 BACT. In the analysis for this control option, the feasibility of using only sweet gas from the Steelhead Platform should be addressed and a cost analysis provided if the control method is feasible.

In Section C3.3.2.4 of Attachment C to the construction permit application, the Adsorption Process (Amine Treatment) control option is listed as technically infeasible because an additional treatment system for the sour gas stream would not be cost effective. In Step 2 of the top down BACT analysis process, control options are eliminated if they are technically infeasible due to physical, chemical, and engineering difficulties. Costs are not a consideration in Step 2. Please revise the reason provided for why the Adsorption Process is not feasible or include the Adsorption Process in Steps 3 through 5.

In the Direct Costs section of Table C2-1: Grayling Platform Capital Cost Factors in the construction permit application, the factors for platform construction costs are multiplied by the Basic Equipment and Auxiliaries Cost rather than the Total Purchased Equipment Cost as is shown in the EPA Air Pollution Control Cost Manual. Please provide an explanation for these calculations. If this was simply an error in the calculations, the Department will revise these costs in accordance with Air Pollution Control Cost Manual and note the change in the technical analysis report.

In the Indirect Costs section of Table C2-1: Grayling Platform Capital Cost Factors in the construction permit application, the Engineering and Procurement, Unit Operator Costs (UOC), and Start-up calculations are based on methods from Worley Parsons. Please provide an explanation of why those methods are used rather than those shown in the Air Pollution Control Cost Manual.

Under 18 AAC 50.326(c), the owner or operator of an existing Title V source who is planning a modification that requires a Title I permit as well as an operating permit modification may request either an integrated review of the Title I and Title V permits or changing the Title V permit by administrative amendment under 40 CFR 71.7(d). Hilcorp could also apply for a Title V permit modification after the construction permit is issued. It should be noted that operation under the new construction permit would not be allowed until the Title V permit is modified if the Title V permit initially contains a more stringent H_2S limit than the newly issued construction permit. Please indicate the preferred method for including the conditions of the construction permit in the Title V permit.

The regulatory requirements for both ambient meteorological and pollutant data, and PSD pre-construction monitoring data, are described under Appendix W to 40 C.F.R. 51 and 40 C.F.R. 52.21(m), respectively. Regulatory discussion and guidance regarding data freshness, however, continues to develop. The Department has observed that the use of data exceeding 10 years in age may demonstrate elements of diminishing representativeness. This observation is meaningful considering a relative reliance among regulated stakeholders upon representative site-specific data from nearby monitoring stations. The parametric inputs from legacy datasets are imbued with sufficient uncertainty that the subsequent model-estimated impacts may not withstand challenge. The use of more recent, regulatorily appropriate data is, therefore, recommended to mitigate this potential challenge. In the Meteorological Data section of Hilcorp's Ambient Air Quality Impact Assessment, Attachment F to the construction permit application, the five-year surface meteorological dataset includes several years from 2014 and older. This dataset was approved on a case-specific basis by the Department in April 2020. The Department notes, however, these data are now in excess of 10 years of age and may be unsuitable for regulatory use. The Department is, therefore requesting Hilcorp revise their site-specific data to address

both data quality and freshness concerns, or provide a supplemental analysis demonstrating the appropriateness of their current approach.

In the Meteorological Dataset Construction section F1.3.1.2 of Attachment F, the application states that AERMET version 19191 was used to process land-based data. The application acknowledges that AERMET version 19191 is not current and explains that the differences between version 19191 and version 22112 will not result in changes to the predicted model impacts. The current version of AERMET is 23132. Please review the Model Change Bulletin for AERMET version 23132 and provide an explanation that AERMET version 19191 will be sufficient or process using version 23132.

In section F1.6 Ambient Monitoring Data of Attachment F, the combination of AGDC LNG 2018-2019 ambient monitoring data and Agrium Kenai Nitrogen Operation 2013-2014 ambient monitoring data were used for preconstruction monitoring values. The Department notes that the 2013-2014 dataset is also subject to the aforementioned concerns regarding the use of legacy data. For PM concentration, the Department proposes using the 2015 AGDC LNG Air Quality Monitoring Program dataset, which Hilcorp currently used for background concentration values.

In section F2.3 SO_2 Cumulative Impact Analysis, nearby sources included in the model were selected by proximity to the platform, existing actual emissions, and dominant wind directions. Sources that were not major or were not considered to impact the project because of their upwind location were excluded from consideration. While the bimodal wind pattern approach is reasonable and has been used to screen modeling sources in the past, this selection and exclusion of specific sources was not defended in a quantitative approach. According to Appendix W to 40 CFR Part 51 section 9.2.3d(2), nearby sources should be modeled rather than using past analyses as part of background concentration. Please provide a culpability analysis or modeling demonstration to support this claim.

Additionally in section F2.3 SO_2 Cumulative Impact Analysis, the Beluga River Power Plant and Swanson River Field were excluded from the increment analysis inventory because the sources were operating prior to the Minor Source Baseline Date. The increment analysis inventory does not account for emission increases from these sources after the Minor Source Baseline Date in 1979 (Swanson River Field was aggregated with Cook Inlet Onshore Drilling and Well Testing Program under the operating permit AQ0059TVP02, 9/10/11). Please explain why emission increases from these projects were not included in the incremental analysis.

In Table F2-7: Inventory of Point Sources included in the Increment Analysis, the Trading Bay Production Facility coordinates overestimate the distance to the facility from Grayling Platform. The coordinates are off by a factor of approximately ten. The modeling files also have the coordinates for Trading Bay Production Facility listed in positive X and Y directions, in addition to the coordinate overestimates. The Department is requesting a scaled topographic map or aerial photograph with annotated meteorological and pollutant monitoring stations and receptor locations where the models predicted high concentrations of SO_2 and secondary formation of $PM_{2.5}$. In addition, please provide a site plan showing emission release locations and dispersion obstructing equipment if applicable. **Where to Find Air Quality Control Statutes and Regulations**

The Alaska statutes and regulations can be found at the following website: http://dec.alaska.gov/air/air-permit

How the Department will Maintain Fee Accounts for this Project

The Department will keep the billing account open until April 15, 2024 to allow Hilcorp time to provide the requested information. The Department will close the billing account and consider the application withdrawn if Hilcorp does not provide the requested information by this date. If the application is withdrawn, the Department will require new preconstruction and background met datasets.

Hilcorp may submit a written request to extend the deadline. The Department would also like to extend an invitation to Hilcorp to meet and discuss the requested materials further, if desired.

If you have any questions regarding this request for additional information, please contact Scott Faber at (907) 269-6883 or scott.faber@alaska.gov.

Sincerely,

Jesse Jack, Supervisor
Anchorage Air Permits Section

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