



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

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OFFICE OF
AIR AND WASTE

MAY 18 2017

Mr. John Kuterbach
Program Manager
Air Permits Program
Division of Air Quality
Department of Environmental Conservation
410 Willoughby Avenue, Suite 303
P.O. Box 111800
Juneau, Alaska 99811-1800

Dear Mr. Kuterbach:

This letter responds to your program's request for an interpretation of the federal Prevention of Significant Deterioration rules (40 CFR § 52.21, largely incorporated without change into the state's rules) to changes at the Hilcorp Monopod facility located in Cook Inlet in Alaska. For the reasons below, the U.S. Environmental Protection Agency agrees with your interpretation.

In May 2014, Hilcorp, an existing PSD major source, submitted to the Alaska Department of Environmental Conservation (ADEC), an off-permit notification that five older reciprocating internal combustion engines are being replaced with three new reciprocating internal combustion engines. On August 25, 2015, after consulting with the EPA Region 10, ADEC informed Hilcorp by letter that the new engines were not replacement units and requested a revised PSD applicability analysis from Hilcorp. Region 10 has confirmed with the EPA Headquarters that, based on the information provided, the conclusion in the ADEC's August 25, 2015, letter to Hilcorp is consistent with how the EPA would apply the federal PSD regulations to this situation.

As the ADEC explained in its August 25, 2015, letter, by assuming the new engines were replacement units which are treated as existing emission units under the PSD regulations, Hilcorp used the actual-to-projected actual applicability test to determine whether the plant change was a major modification subject to the PSD program. Instead, the ADEC determined that the actual-to-potential applicability test for new units applies in this case. As we previously communicated to the ADEC and as explained below, the EPA agrees with the ADEC's conclusion.

In general, Alaska incorporates most of the EPA's PSD regulations at 40 CFR § 52.21 by reference into its EPA-approved State Implementation Plan. *See* 18 AAC 50.040(h). Relevant here, the ADEC's PSD regulations define "emissions unit" and "replacement unit" using the definitions found in the federal PSD regulations at 40 CFR § 52.21(b)(7) and (b)(33). To be considered a "replacement unit," all of the criteria listed in 40 CFR § 52.21(b)(33)(i) through (iv), incorporated by reference at 18 AAC 50.040(h)(4), must be met:

- (i) The emissions unit is a reconstructed unit within the meaning of § 60.15(b)(1) of this chapter, or the emissions unit completely takes the place of an existing emissions unit.

- (ii) The emissions unit is identical to or functionally equivalent to the replaced emissions unit.
- (iii) The replacement does not alter the basic design parameters (as discussed in paragraph (cc)(2) of this section) of the process unit.
- (iv) The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

In its September 2, 2015, response to the ADEC's August 25, 2015, letter, Hilcorp claimed that, because the total heat input rate of the three new engines is essentially the same as that of the five older engines, the basic design parameters of the process unit have not been altered, satisfying paragraph (iii). The EPA agrees with the ADEC that Hilcorp has not satisfied the third criterion in the definition of replacement unit because the replacement changes the basic design parameters of the process unit. As the ADEC pointed out, three of the replaced engines use a different fuel than the new engines and the new engines have greater overall and individual design capacities (on a horsepower basis¹) than that of the replaced engines. All three of the new engines burn diesel fuel, whereas two of the five older engines burned diesel and the other three remaining engines burned natural gas. The total horsepower of the three new engines is significantly greater (21%) than the total horsepower of the five older engines according to the information in Hilcorp's September 2015 letter.² Engine fuel type and capacity (horsepower) both serve as important design parameters for internal combustion reciprocating engines. Fuel type and horsepower output both generally affect the quantity and type of emissions as well as the applicable state and federal requirements. Clearly, the basic design parameters of Hilcorp's replaced engines — fuel type and horsepower output — have been altered with this modification.³

In summary, the EPA agrees with the ADEC that the three new engines installed at the Hilcorp Monopod facility do not meet the definition of "replacement unit" in 40 CFR § 52.21(b)(33), because the new engines cannot meet paragraph (iii) in that definition.

If you have any questions or would like to discuss any of these issues further, please call me at (206) 553-1783 or Bryan Holtrop at (206) 553-4473.

Sincerely,



Donald A. Dossett, Manager
Stationary Source Unit

cc: Patrick Dunn
Alaska Department of Environmental Conservation

¹ Engine horsepower is commonly used in federal regulations to depict the capacity of internal combustion engines. See, e.g., 40 CFR Part 60, Subpart IIII; 40 CFR Part 60, Subpart JJJJ; and 40 CFR Part 63, Subpart ZZZZ. See also general permits for engines issued under the EPA's tribal minor NSR rule. <https://www.epa.gov/tribal-air/general-permits-and-permits-rule-final-action-6-source-categories-september-16-2016>. Horsepower is a more appropriate design parameter than heat input for internal combustion engines because the typical purpose of these engines is the provide power, not heat energy.

² Hilcorp's September 2, 2015, letter presented the total horsepower of the three new engines as 4,443 and that of the five replaced engines as 3,658.

³For purposes of our analysis we need not address whether the "process unit" is the group of engines, as Hilcorp contends, or each individual engine. We agree with ADEC that, even if the group of engines is considered the "process unit," the replacement alters the basic design parameters of the process unit.