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MEMORANDUM

SUBJECT: **Hilcorp Energy Company**
Support for the Administrative Order Alleging Violations Identified With the FLIR Camera on August 16, 2017

FROM: **Megan Arias**

TO: **File**

DATE: **~~TBD~~August 24, 2018**

The purpose of this memorandum is to explain the basis for issuing an Administrative Order to the Hilcorp Energy Company (Hilcorp) for violations of 40 Code of Federal Regulations (CFR) Part 60 (also known as the - New Source Performance Standards (NSPS)) Subpart OOOOa (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18th, 2015).This regulation was promulgated under Section 111 of the Clean Air Act (CAA).

Commented [VN1]: The CAA requires us - in Section 113(d) - to give the Respondent an opportunity for a hearing before the AO becomes final. Violations of Section 111 are exempt from this hearing requirement.

I. BACKGROUND

Hilcorp owns and operates the Annie Hill tank battery facility (Annie Hill facility), located in Chunchula, Alabama. The Annie Hill facility is a condensate tank battery which collects and stores raw natural gas condensate that originates from on-land wells. The raw gas condensate is approximately 60% methane with the remainder consisting of nitrogen, carbon dioxide, sulfur compounds and light hydrocarbons, which are volatile organic compounds (VOCs). The incoming raw gas condensate goes through a heater treater to remove water, salt and other impurities and sends the condensate to Tanks 2a-16-OST-CV and 2b-16-OST-CV for storage. The gas is then condensed and injected back into the well. The collected condensate is then transferred by tanker truck from the Annie Hill storage tanks to Hilcorp's Hatters Pond processing facility for refinement and sale.

The Annie Hill facility is located in Mobile County which is classified as either attainment or unclassified for all ambient air standards. The facility was constructed in 1978 and was previously permitted as a major sources subject to the Title V permit requirements. However, the Annie Hill facility was reduced to a synthetic minor on June 8, 2016, when most of the facility was shut down. The facility is subject to, among other things, 40 C.F.R. Part 60, Subpart JJJJ [New Source Performance Standards (NSPS) for Stationary Spark Ignition (SI) Internal Combustion Engines], Subpart OOOOa [Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015] and several requirements of the NSPS general provisions of Subpart A.

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On August 16, 2017, the EPA inspectors conducted an air compliance inspection (inspection) at the Annie Hill facility using a Forward Looking Infrared (FLIR) Gas Finder Camera. The FLIR camera can visualize chemicals that absorb infrared radiation between 3.2 and 3.4 microns (µm). The VOCs in the condensate in Tanks 2a-16-OST-CV and 2b-16-OST-CV, including butane, propane, and ethane, all have strong absorbance bands within the FLIR camera's detectable range.

At the time of the EPA inspection, the FLIR camera identified continuous releases of regulated air pollutants into the ambient air, including VOCs, from the pressure relief device (PRD) that is connected to both Tanks 2a-16-OST-CV and 2b-16-OST-CV. The tanks are used to store condensate and are above ground storage tanks, each with a storage capacity of 63,000 gallons. Both tanks are also fixed roof tanks that are equipped with one vapor recovery unit (VRU), as well as one PRD. According to a certificate of analysis provided by Hilcorp of a gas sample taken on January 9, 2018, the composition of the tank vapors collected by the vapor recovery unit VRU is 74.456% methane, 8.054% ethane, 1.058% propane, 4.466% butanes, and 5.907% pentanes. The remaining percentage was composed of carbon dioxide, nitrogen, hexanes, and heptanes.

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The PRD is a safety device that allows the tanks to release pressure if the VRU is not working correctly or if the pressure is too elevated for the VRU. Without the PRD, the tanks can become over pressurized and dangerous. At the time of the EPA inspection, the FLIR camera detected VOC emissions continuously releasing from the PRD while the VRU was running. The purpose of the VRU is to collect all gases, vapors, and emissions that are released from the tanks and to route it to the control device. The VRU, when working correctly, should prevent the vapors from emitting through the PRD. When the EPA inspectors showed the facility personnel that emissions were still being released continuously from the PRD while the VRU was running, they responded by increasing the suction to pull more air from the tank space. This action did not alter the continuous release of VOC emissions from the PRD.

II. SUMMARY OF REGULATORY REQUIREMENTS

A. Summary of the General Provisions Applicability - 40 C.F.R. Part 60, Subpart A

40 C.F.R. Part 60, Subpart A, "General Provisions" of the NSPS was established pursuant to Section 111 of the CAA. as amended in 1990. The provisions of this part apply to the owner or operator of any stationary source which contains an "affected facility," the construction or modification of which is commenced after the date of publication in this part of any standard (or, if earlier, the date of publication of any proposed standard) applicable to that facility. Except for § 60.11,[1] the General Provisions apply, and both "storage vessels" (Tanks: 2a-16-OST-CV and 2b-16-OST-CV), each of which is an "affected facility," as defined at § 60.2, to mean "with reference to a stationary source, any apparatus to which a standard is applicable."

B. Summary of Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced after September 18, 2015)

Section 60.5430a defines a storage vessel "as a tank or other vessel that contains an accumulation of crude oil, condensate, intermediate hydrocarbon liquids, or produced water …." Further, § 60.5365a(e), specifies that OOOOa applies to storage vessel affected facilities, which is a single storage vessel with

[1] Table 3 to Subpart OOOOa, specifically states that § 60.11, does not apply because the requirements are specified in that subpart, (at Section 60.5370a).

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the potential for VOC emissions equal to or greater that 6 tons per year (tpy). §§ 60.5411a(b)(3) and 60.5411a(c)(1) require that: each storage vessel be equipped: with a thief hatch that is maintained and operated to ensure that the lid remains properly seated and sealed under normal operating condition and a closed vent system that routes all gases, vapors, and fumes emitted from the material in the [HYPERLINK "https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=060d23382 4a10b847a82c0815f91edb9&term_occur=7&term_src=Title:40:Chapter:I:Subchapter:C:Part:60:Subpart:OOOOa: 60.5411a" \o "storage vessel"] to a control device.

The Annie Hill facility is subject to Subpart OOOOa because it is a natural gas facility reconstructed after September 18, 2015 that contains two storage vessels (Tanks 2a-16-OST-CV and 2b-16-OST-CV), that store condensate. Each of the tanks have the potential to emit VOC emissions equal to or greater than 6 ~~6 tons per year (~~tpy.

Section § 60.5370a of Subpart OOOOa requires that "at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to … review of operating and maintenance procedures, and inspection of the source."

In accordance with § 60.5370a, the Annie Hill facility is required to maintain and operate Tanks 2a-16-OST-CV and 2b-16-OST-CV (affected facilities), including any associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. As discussed below, the determination that the Annie Hill facility is in violation of 40 C.F.R. § 60.5370a, is based on information collected during the EPA inspection at that facility on August 16, 2017.

III. Justification for Administrative Order

On August 16, 2017, during the EPA inspection of the Annie Hill facility, the FLIR camera detected a continuous releases of VOC emissions from the two tanks that store condensate (Tanks 2a-16-OST-CV and 2b-16-OST-CV). The following are the justifications for the issuance of an Administrative Order.

The PRD that is connected to both storage vessels: Tanks 2a-16-OST-CV and 2b-16-OST-CV, was identified by the FLIR camera as having continuous releases of VOC emissions. During the inspection, the EPA inspectors observed through the FLIR camera, continuous releases of VOC emissions from the PRD even while the VRU was in operation.

In accordance with Subpart OOOOa of the NSPS, 40 CFR § 60.5370a, the Annie Hill facility is required to maintain and operate Tanks 2a-16-OST-CV and 2b-16-OST-CV, including any associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. During the inspection, the EPA inspectors used a FLIR camera to observe continuous releases of VOC emissions from the PRD, which demonstrates that the Annie Hill facility violated Subpart OOOOa, 40 CFR § 60.5370a.

Commented [AM2]: Something about facility personnel witnessing release.
Should the properties of the gas be mentioned? Should it be mentioned the facility said it was sweet gas?

III. CONCLUSION

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The Annie Hill -facility collects and stores raw natural gas condensate and sends the condensate to its neighboring facility, Hatter's Pond. The facility has two condensate tanks, which are "affected facilities" subject to Subpart OOOOa, Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction or Modification Commenced After May 18, 1978 and Prior to July 23, 1984. Under Subpart OOOOa 40 C.F.R. § 60.5370a, owners and operators must -at all times, - including periods of startup, shutdown, and malfunction, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. As explained above, based on the EPA inspection conducted on August 16, 2017, Hilcorp failed to comply with § 60.5370a.

Pursuant to the Administrative Order, the Annie Hill facility will be required to comply with Section 60.5370a of 40 CFR Part 60, Subpart OOOOa, by taking the necessary corrective actions to prevent the release of VOC emissions including, maintaining, repairing or replacing the components that resulted in the continuous releases of VOCs into the ambient air, and maintain and operate any affected facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

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