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June 29, 2021

VIA EMAIL

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Re: Air Permit No 10673R00 - Response to Optima TH Request for Informal Permit Resolution

Dear Ms. Cooper,

This letter is in response to your letter of May 25, 2021 regarding the applicability of 15A NCAC 2D .0516 for the operation of a candlestick flare (CD-1) at the Optima TH facility ("Facility") located in Tar Heel, North Carolina. This letter also addresses the questions you raised during a June 2, 2021 meeting between the North Carolina Division of Air Quality ("DAQ") and Optima.

As further explained below, it is DAQ's position that 2D .0516 applies to the candlestick flare and that the proper means of complying with the rule is through reduction in the sulfur content of the tail gas combusted by the flare and not the purchase and combustion of natural gas or propane to artificially lower the pounds of sulfur dioxide per million BTU input in the Facility's emissions.

Applicability of 2D .0516

In your letter, you reiterated Optima's position that 2D .0516 "on its face" does not apply to the flare utilized by Optima at the Facility. 2D .0516 provides that "emission of sulfur dioxide from any source of combustion discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of sulfur dioxide per million BTU input." It is DAQ's understanding that Optima believes the flare is not a "source of combustion" and that gas from the flare is not discharged through a "vent, stack, or chimney."

DAQ does not agree with Optima's interpretation. First, the candlestick flare, which *combusts* waste gas from the gas upgrading system ("GUS") and releases emissions of sulfur dioxide into the atmosphere, is a "combustion source." This is clear not only from the ordinary meaning of

the term,[1] but also from Optima's own description of its operations. For example, on Form B9 of Optima's permit application, Optima describes the Candle Stick Flare as being "for Tail Gas and Biogas *Combustion."* Optima goes on to state in Form B9 that "the candlestick flare will be utilized primarily for tail gas *combustion* with biogas *combustion* occuring [sic] to increase the *combustion* efficiency of the flare when the tail gas heating value is not sufficient."

Second, the language "vent, stack, or chimney" clearly encompasses the candlestick flare that will be *venting* sulfur dioxide emissions into the atmosphere. While Optima has correctly noted that the definition of "stack" in 15A NCAC 2D .0533 excludes "flares" for purposes of "this rule"—meaning 2D.0533—that rule concerns the use of stack height as a pollutant dispersion technique to comply with air quality standards. Even assuming *arguendo* that the definition of stack in 2D .0533 applies to 2D .0516, DAQ believes that the term "vent" unambiguously encompasses the candlestick flare. *See, e.g., Sierra Club v. EPA*, 719 F.2d 436, 460 (D.C. Cir. 1983) (stating that "[a] flare is a pipe used in the oil, natural gas, and chemical industries to *vent* combustible gases by burning them at the top.").

As DAQ explained during the June 2nd meeting, DAQ's interpretation is in not unique to Optima. DAQ has applied 2D .0516 to flares at numerous other facilities and is aware of no basis for applying the rule differently for this Facility.

Variance from the Requirements of 2D .0516

At the June 2nd meeting, Optima asked whether DAQ could make an exception or allow for a variance from the requirements of 2D .0516. DAQ does not have authority to grant Optima a variance from the requirements of 2D .0516. However, DAQ notes that the Environmental Management Commission does have such authority. Pursuant to N.C. Gen. Stat. § 143-215.3(e), any person subject to the provisions of § 143-215.108 may apply to the Commission for a variance from rules established pursuant to § 143-215.107. The Commission may grant such a variance after public hearing where certain criteria specified in the statute are met. DAQ takes no position at this time on whether such a variance would be appropriate.

Compliance with 2D .0516 by Burning of Propane or Natural Gas to Artificially Raise Heat Input

At the June 2 meeting, Optima indicated that the Facility is currently purchasing propane or natural gas to artificially raise the heat input of the gas being combusted by the flare to achieve compliance with 2D .0516. Optima requested clarification as to DAQ's position on whether burning natural gas or propane for this purpose is authorized. It is DAQ's position that combustion of propane or natural gas to artificially raise the heat input of gas being combusted by the flare is not an appropriate means of compliance with 2D .0516. This position is consistent with the position DAQ took with respect to Align RNG's BF Grady Road Facility, as

[1] *See, e.g.*, Merriam Webster, Definition of Combustion, https://www.merriam-webster.com/dictionary/combustion (defining combustion as "an act or instance of burning" or "a usually rapid chemical process (such as oxidation) that produces heat and usually light"); Cambridge Dictionary, Meaning of Combustion, https://dictionary.cambridge.org/us/dictionary/english/combustion (defining combustion as "the process of burning" or "the chemical process in which substances mix with oxygen in the air to produce heat and light").

documented in the January 17, 2020 Letter from Brad Newland to Kraig Westerbeek, which has been shared with counsel for Optima.

First, combustion of propane in the candlestick flare for this purpose is not consistent with representations contained in Optima's permit application, which indicate that propane or natural gas will only be used as pilot fuel. For example, Permit Application, Form B9 describes the materials entering the Candlestick Flare as "Tail Gas," "Biogas" and "Propane or Natural Gas (Pilot Fuel)." Optima further states on Form B9 that "the candlestick flare will be utilized primarily for tail gas combustion with biogas combustion occuring [sic] to increase the combustion efficiency of the flare when the tail gas heating value is not sufficient." The application makes no mention of propane or natural gas being used as anything other than a pilot fuel. As reflected in the permit review prepared in connection with the Facility's permit, DAQ issued the permit in reliance on Optima's representation that propane or natural gas would only be combusted as a pilot fuel.

Second, it is DAQ's interpretation that the "BTU input" referenced in 2D .0516 refers to the BTU input associated with combustion of the gas stream associated with the Facility's normal operations and not an increase in BTUs generated through combustion of propane purchased offsite to artificially lower the SO2 emission rate per million BTU. DAQ further notes that the purpose of the rule is to reduce pollution. The approach that Optima is currently taking does not reduce the mass emission rate of SO2, needlessly wastes fuel, increases the emission of other pollutants, and is, therefore, contrary to the purpose of the rule.

Compliance with 2D .0516 Through Use of Uncombusted Biogas

At the June 2 meeting, Optima sought DAQ's position on whether Optima could use the heat content of methane gas going through the GUS for purposes of determining compliance with 15A NCAC 2D .0516. As DAQ indicated during the June 2 meeting, the GUS is not a combustion source. It is DAQ's position that Optima cannot account for the heat content of uncombusted methane gas injected from the GUS into an existing natural gas pipeline for transportation offsite as a means of compliance with 2D .0516.

Optima's Alternative Proposal to Emit H2S with No Controls

In your letter and at the June 2 meeting Optima indicated that to avoid the application of 2D .0516, Optima is considering removing the flare and venting H2S into the atmosphere without any controls. DAQ does not have adequate information to fully evaluate this approach and its permitting implications. However, DAQ notes that contrary to Optima's suggestion in your letter, removal of the flare would likely require a permit application. Furthermore, DAQ cautions that after considering Optima's proposed operation of the Facility absent controls, DAQ is not confident that Optima could ensure compliance with 2D.1806, which prohibits any facility from operating in a manner that causes or contributes to objectionable odors beyond the facility's boundary.

Please contact me with any questions regarding the contents of this letter.

Sincerely,

/s/ Asher P Spiller
Asher P. Spiller
Assistant Attorney General
Counsel for the Division of Air Quality