



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

MAY 22 2019

Mr. Michael Hanlon
Environmental Specialist
HollyFrontier El Dorado Refining LLC
1401 Douglas Road
El Dorado, Kansas 67042

Dear Mr. Hanlon:

HollyFrontier El Dorado Refining conducted a revamp on the Catalytic Reforming Unit #2 reformer process heaters B2304 and B2306 in the Fall of 2018. This revamp project decreases nitrogen oxides (NO_x) emissions by an estimated 17 tons per year. However, heater B2306 became subject to 40 CFR Part 60 Subpart Ja because it met the reconstruction criteria by spending more than 50% of the fixed capital costs that would have been required to construct a comparable entirely new heater. To meet the New Source Performance Standard (NSPS) NO_x limit the heater would require ultra-low NO_x burners (ULNBs). However, the heater lacks sufficient space to accommodate ULNBs. HollyFrontier provided a December 21, 2017 letter from John Zink Company providing the results of an evaluation of the use of ULNBs in heater B2306. John Zink concluded that ULNBs would likely result in flame impingement on the heater process tubes due to ULNBs longer flame. Based on this evaluation, HollyFrontier installed low NO_x burners in heater B2306. Therefore, the heater is unable to meet the NSPS NO_x limit.

The U.S. Environmental Protection Agency recognized that existing heaters that become subject to the NSPS could have issues with insufficient space for the installation and operation of ULNBs and other combustion modification technologies. The regulation allows for site-specific NO_x emission limits in 40 CFR § 60.102a(i). HollyFrontier has submitted the information required in 40 CFR § 60.102a(i)(2)(i) through (iv) for evaluation of a site-specific NO_x emission limit. All the information, except for performance test data required by 40 CFR § 60.102a(i)(2)(iii), was submitted in an April 11, 2018, letter. HollyFrontier has since completed the revamp project and submitted January 2019 performance test data in a March 5, 2019, letter.

HollyFrontier is also requesting approval for alternative monitoring. 40 CFR § 60.13(g) requires separate continuous monitoring systems when affected facilities are not subject to the same emission standards. In HollyFrontier's case, heaters B2304 and B2306 are not subject to the same emission standards but they cannot be monitored separately. Heater B2304's flue gas is ducted into a convection section on heater B2306, and then to a common stack. Heater B2306's cell enters the stack later so there is no point that could be monitored or tested which could measure heater B2306's emissions without also measuring heater B2304's emissions. Furthermore, it is not possible to not operate heater B2304 to measure heater B2306's emissions since both heaters must be operated for the process. Therefore, this letter addresses both a request for alternative monitoring to allow for monitoring the emissions in the common stack of heaters B2306 and B2304 and the site-specific NO_x emission limit.



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First, the EPA is approving the alternative monitoring request for heaters B2306 and B2304 pursuant to 40 CFR § 60.13(i) because these heaters were existing units that were designed and installed before the NSPS required refinery process heaters to meet NO_x limits and since the current design makes separate monitoring impossible. Monitoring will be allowed in the common stack for heaters B2306 and B2304.

Second, the EPA is approving a site-specific NO_x limit of 0.064 lb/MMBtu higher heating value basis determined daily on a 30-day rolling average basis per 40 CFR § 60.102a(i). This limit is based on the vendor's guarantee and the actual January 2019 stack test results with a safety factor to allow for variability and equipment aging of 15 percent. Although only heater B2306 is subject to the NSPS, because of the inability to monitor only heater B2306, this limit applies to the emissions from the stack with the combined emissions from heaters B2306 and B2304. HollyFrontier will install and operate NO_x and O₂ continuous emission monitoring system as required by 40 CFR § 60.107a(d) to document compliance. Both heaters use a common fuel supply and will have the same F factor.

Please contact Ward Burns on my staff at (913) 551-7960 or burns.ward@epa.gov if you have any questions regarding this letter.

Sincerely,



Mark A. Smith
Director
Air and Radiation Division

cc: Mr. Gyanendra Prasai
Kansas Department of Health and Environment