UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

APR 17 2014

Mr. Steve Cousins
Vice President and General Manager
Lion Oil Company
El Dorado Refinery
1000 McHenry
El Dorado, Arkansas 71731-7005

**RE: Alternative Monitoring Plan (AMP) – Flares SN-822 and SN-823 Subject to New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart Ja, Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After May 14, 2007; Lion Oil Company El Dorado Refinery located in El Dorado, Arkansas.**

Dear Mr. Cousins:

This letter is in response to your AMP dated January 22, 2014, and subsequently amended on February 6, 2014, pertaining to monitoring of hydrogen sulfide concentration in the sour gas stream routed to flare SN-822 or SN-823that are subject to NSPS Subpart Ja, located at the Lion Oil Company El Dorado Refinery ("El Dorado Refinery"). Based upon the information provided, the Environmental Protection Agency (EPA) conditionally approves your amended AMP, as outlined within this letter.

Specifically, the El Dorado Refinery operates two flare gas recovery systems (FGRS) that can function as one system, but normally operate separately in support of a single flare, SN-822 or SN-823. Each FGRS withdraws gas from the flare header upstream of the water seal at the base of the corresponding flare and recovers gas that would otherwise be burned in the flare. The sour gas stream is normally routed to the FGRS. However, at times when the quantity of gas exceeds the on-line compressor capacity and, before another compressor can be brought on line, the excess gas is routed directly to the flare.

In lieu of installing a continuous emissions monitoring system (CEMS), as required under NSPS Subpart Ja, the El Dorado Refinery proposes to sample the sour gas stream only when the stream is routed directly to the flare. Since the routing of the sour gas to the flare is infrequent and occurs for only brief periods of time, an automated sampling system can handle the initial sampling of the sour gas stream when routed to the flare with laboratory analysis results available within an hour of the routing. In the additional information submitted in the amended AMP dated February 6, 2014, you identified the number of excess gas releases routed to each flare in 2013 and the statistical evaluation of the excess gas hydrogen sulfide concentration in the gas. Per 40 CFR § 60.107a(a)(2) and in accordance with 40 CFR § 60.13(i)(2), the AMP will enable accurate and representative measurements while eliminating the safety concerns

associated with the flare system design and plant equipment layout modifications necessary to install the CEMS and associated equipment.

Upon evaluation of the facility specific information available, EPA approves your amended AMP with the following conditions:

1. The facility shall keep records of when the water seal is broken causing the flow of sour gas from the FGRS to Flares SN-822 and SN-823 and record the cause of the water seal being broken in onsite records.

    a. When the cause of the water seal being broken is from on-line compressor capacity being exceeded because of normal operations, the release is considered an excess emission, but no root cause analysis is needed.

    b. When the cause of the water seal being broken is a system malfunction, a root cause analysis will be conducted and the emission shall be reported as an excess emission.

2. The concentration of hydrogen sulfide in the excess sour gas which is being routed to the flares will be determined and recorded in the operating record during each release to either of the flares.

    a. Initially the low pressure flare system will use an assumed hydrogen sulfide concentration of 4.9238% to estimate emissions.

    b. Initially the high pressure flare system will use an assumed hydrogen sulfide concentration of 0.93213% to estimate emissions.

    c. A sample will be drawn using an automatic sampling system, which is activated when the water seal is broken.

    d. The drawn sample will be analyzed and the resulting hydrogen sulfide concentration determined in the laboratory analysis will replace the initial value for the final reporting needs.

    e. If the flaring of sour gas continues beyond one hour, additional samples shall be taken hourly to monitor the hydrogen sulfide concentration.

    f. The initial low pressure and high pressure flare hydrogen sulfide concentration values will be recalculated by January 31st of each year using the previous year's analytical results and setting the value at the upper 95% confidence level of the mean value.

We have coordinated this approval with EPA's Office of Air Quality Planning and Standards (OAQPS). If the facility specific operations change or if new information becomes available, such that representations made in your AMP are no longer valid, this approval may be void and a new request must be submitted.

If you have any questions regarding this conditional approval, please contact Mr. Charles Handrich of my staff at (214) 665-6552.

Sincerely,

Steve Thompson
Associate Director
Air/Toxics & Inspection
Coordination Branch

cc: Mike Bates, ADEQ
Brenda Shine, OAQPS