CITGO Petroleum Corporation

P.O. Box 4689
Houston, TX 77210-4689

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March 24, 2006

Chief
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, DC 20044-7611
Reference Case No. 90-5-2-1-07277

Re:

Alternative Monitoring Plans, Appendix E and F
Corpus Christi East Refinery and Corpus Christi West Refinery
CITGO Petroleum Corporation
Civil Action Number H-04-3883
Southern District of Texas, Consent Decree entered January 26, 2005

Dear Chief:

CITGO submitted on July 26, 2005, pursuant to Section V.G., Paragraph 64.c. of the referenced Consent Decree, requests for Alternative Monitoring Plans (AMP) for NSPS Subpart J refinery fuel gas streams and fuel gas combustion devices at the Corpus Christi East Refinery and the Corpus Christi West Refinery. CITGO received a denial letter dated February 22, 2006 for one of the AMPs submitted. Therefore, CITGO has revised the AMPs and requests that the enclosed AMPs replace the July 26, 2005 submittals described in Enclosure 1. The AMP requests for fuel gas streams listed in Appendix E and fuel gas combustion devices listed in Appendix F are included as Enclosures 2 - 10.

Copies are being provided to EPA Headquarters and the Applicable EPA Region as described in Section XVII.

If there are questions, or additional information is required, please contact Janice DeVelasco at 832-486-1521.

Sincerely,

Janice DeVelasco

Allen Greene
Manager Environmental Protection

Enclosures

ENCLOSURE 9

ALTERNATIVE MONITORING PLAN
CITGO Petroleum Corporation
Corpus Christi East Refinery
Appendix F

ALTERNATIVE MONITORING PLAN
CITGO Petroleum Corporation
Corpus Christi East Refinery
NESHAP FF Incinerator

Introduction

The following Alternative Monitoring Plan (AMP) has been developed in accordance with USEPA's guidance issued in *Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas: Conditions for Approval of the Alternative Monitoring Plan for Miscellaneous Refinery Fuel Gas Streams (RFG Guidance).* The RFG Guidance specifies information that must be included to allow for a determination of appropriateness of the AMP. The following information is submitted, per the RFG Guidance, for approval of the use of described recordkeeping and reporting requirements as an alternative to the monitoring described in NSPS Part 60, Subpart J. This request is being made for the NESHAP FF Incinerator.

Process Description

The NESHAP FF Incinerator is a continuous operated incinerator which is designed to safely capture and destroy hydrocarbon vapors from the Benzene Waste Water Stripper, Liquid Seal Pot, and ADP Product Separator. Fuel Gas composed of roughly 45% H2, 30% C1, 20% C2 and 5% C3, is used to maintain the incinerator combustion temperature. An air blower provides the needed oxygen for the combustion in the incinerator. The flue gas leaving the incinerator is at ~1600F.

The Benzene Waste Water Stripper is designed to steam strip the benzene from contaminated waste water to less than 10ppm benzene before discharge to the wastewater treatment facility. Benzene and hydrocarbon vapors stripped from the waste water are sent to the NESHAP FF Incinerator for thermal destruction.

The Liquid Seal Pot provides a flashback protection by passing the API Sump vapors through a layer of water as fine bubbles. This elimination of a continuous vapor path protects against a flashback passing through the seal. The Liquid Seal Pot has been out of service for 10 years.

The feed to the Aromatics Disproportionation Process (ADP) unit consists of aromatic product streams from the reformers. The feed to the reformers is hydrotreated; therefore no H_2S is present in the ADP unit. Operation of the ADP unit is periodic based on the aromatics market economics. The ADP Product Separator offgas is used to purge lighter hydrocarbons, C1-C3, from the ADP recycle hydrogen stream. The ADP offgas stream is routed to the HYDRAR unit during normal ADP operation. The ADP offgas is routed to the NESHAP FF Incinerator during ADP catalyst regeneration.

The Benzene Waste Water Stripper vapor is therefore the single source of continuous vapor to the NESHAP FF Incinerator. A simplified process flow diagram is attached as Figure 1.

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No Crossover or Entry Points for Sour Gas

The NESHAP FF Incinerator does not contain any crossover or other entry points for sour gas to be introduced into the incinerator. The fuel gas stream which is combusted in the incinerator is from the mixed fuel gas drum which is monitored according to NSPS Part 60, Subpart J. Refer to attached P&ID's.

Low Sulfur Conditions and Requirements

There are no expected sulfur conditions in the vapors to the NESHAP FF Incinerator.

Initial Monitoring

CITGO Corpus Christi East Refinery monitored the H_2S (ppm) content of the Benzene Waste Water Stripper vapor and the sulfide concentration (mg/L) of the Benzene Waste Water Stripper feed from 06/01/05 to 06/16/05. The data collected is summarized in Table 1. The H_2S monitoring was conducted using GASTEC Detector Tubes (No. 4LT, Hydrogen Sulfide) and all samples were obtained as grab samples.

Monitoring Results Description/Evaluation

The Benzene Waste Water Stripper vapors H_2S content was 0.0ppm on all of the samples. The sulfide concentration in the Benzene Waste Water Stripper feed stream was 0.0mg/L (ppm), correlating with the 0.0ppm H_2S content of the waste water stripper vapor.

These results show that the average plus three standard deviations is less than 81ppm and therefore qualifies for an AMP.

Process Parameter

The process parameter that will be used to monitor H_2S concentration in the NESHAP FF Incinerator for this AMP is the Benzene Waste Water Stripper feed sulfides concentration.

Sulfide in waste water stripper feed exists in three forms: H_2S, bisulfide (HS^-) and sulfide (S^{2-}). CITGO Corpus Christi East Refinery will assume that 100% of the sulfide present in the waste water stripper feed is H_2S.

Monitoring Proposal

1. CITGO Corpus Christi East Refinery will monitor the sulfides content of the Benzene Waste Water Stripper feed stream on a 1 time/day frequency.

2. Additionally, the H_2S content on the Benzene Waste Water Stripper Vapor will be sampled with detector tubes of an appropriate range on a reducing frequency schedule as follows:
   a. Twice per week for six months,
   b. Once per quarter for six quarters with a minimum of 1 month between samples,
   c. Twice per year with a minimum of 3 months between samples.

3. If, at any time, the sulfides concentration of the Benzene Waste Water Stripper feed stream or the detector tube result is equal to or exceeds 81 mg/L (ppm), then the stripper vapor stream shall be sampled with detector tubes on a daily basis for seven (7) days using detector tubes with appropriate ranges for the H_2S concentration.

4. The following actions will be taken accordingly:

   - ***Avg <81 ppm H_2S***
     If the average detector tube result plus 3 standard deviations for those seven samples is less than 81 ppm H_2S, CITGO shall resume the current monitoring schedule.

   - ***Avg >81 ppm H_2S***
     If the average detector tube result plus 3 standard deviations for those seven samples is greater than 81 ppm H_2S, CITGO shall notify the agency of those results before the end of the next business day following the last sample day. The Benzene Waste Water Stripper vapor stream shall subsequently be tested daily for a two-week period. After the two week period is complete, sampling will continue once per week, until the agency approves a revised sampling schedule or makes a determination to withdraw approval of the gas stream/system from the AMP.

Records of the Benzene Waste Water Stripper feed stream sulfides concentration and H_2S detector tube reading when applicable will be maintained for a period of two (2) years.

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Figure 1- Waste Water Incinerator PFD

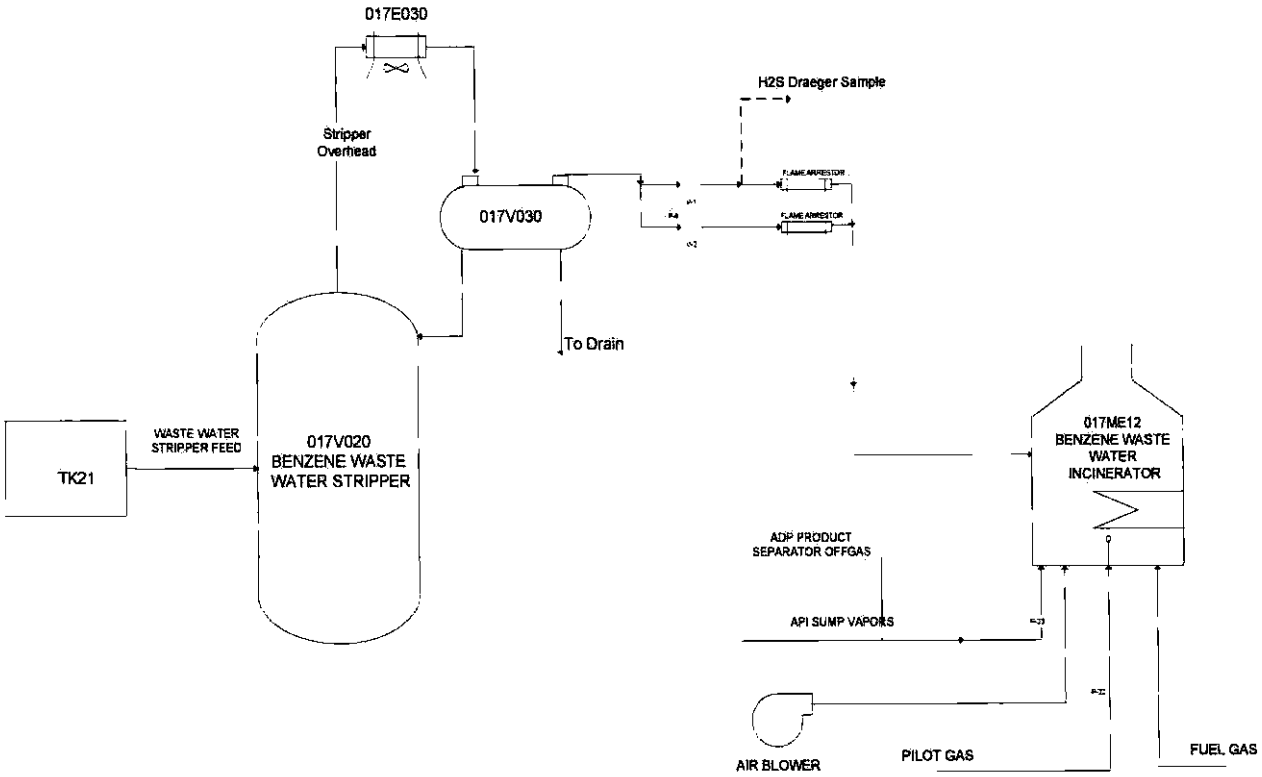

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Table 1

Sample Date	Waste Water Stripper Vapors, H_2S (ppm)	Waste Water Stripper Feed Sulfides, (mg/L)*
6/1/05	0.0	0.0
6/2/05	0.0	0.0
6/3/05	0.0	0.0
6/4/05	0.0	0.0
6/5/05	0.0	0.0
6/6/05	0.0	0.0
6/7/05	0.0	0.0
6/8/05	0.0	0.0
6/9/05	0.0	0.0
6/10/05	0.0	0.0
6/12/05	0.0	0.0
6/13/05	0.0	0.0
6/14/05	0.0	0.0
6/15/05	0.0	0.0
6/16/05	0.0	0.0
Average	**0.0**	**0.0**

*Mg/L = ppm