Monthly Report

January, 1999

TOSCO Refinery at Rodeo
Fenceline Monitor System

System Overview

Review/Objectives:

A 20,000-hour cryocooler was installed in the South FTIR and placed in service on January 20. The 20k-hour unit previously installed in the North FTIR (November '98) continues to perform well. A minor change to the report format appears in January report. The FTIR "False Positive" detections have been replaced with "J Values". The detections listed here are those previously classified as "< D.L." and included with the false positives in that count. False positive counts will not be explicitly reported but can be calculated as the difference between the total number of detections and the sum of the confirmed and J-value counts.

The factory service on the North fenceline PerspectUV units continued throughout January. Sci-Tec estimates that they will be returned to the refinery late in February or early March. The South fenceline units will then be sent to Sci-Tec for service. Loaner units will continue to provide coverage during the service period. The North fenceline transmitter suffered an internal power-supply failure in the transmitter unit. This occurred on January 20. The transmitter was repaired and the unit placed back on-line on January 22.

FTIR System

Operation:

The North fenceline FTIR on-stream efficiency was 87.5% with approximately 10% weather-related downtime. System testing and maintenance resulted in approximately 0.1% downtime. Approximately 2.4% of the downtime was due to the recurring, sporadic, software error ("Bomem= -305") that causes the unit to fall out of *Continuous Monitor* mode. Geophex has informed us that they are updating the software to address this problem, as well as Y2K compliance. At this time they have not given us an expected date of completion. In the meantime, we are continuing to try to find a temporary solution.

The South fenceline FTIR on-stream efficiency was 73.6% with approximately 1.8% weather-related down time. System testing and maintenance resulted in approximately 17.7% downtime, largely due to the factory installation of the 20k-hour cryocooler. Approximately 7.0% of the downtime was due to a recurring software error as described above.

Data:

The ambient gas QA compound results for the North Sensor show the mean Methane concentration was 1.20 ppm with a 0.28 ppm or 23.2% standard deviation. The mean Nitrous Oxide concentration was 0.271 ppm with a 0.049 ppm or 18.2 % standard deviation.

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The ambient gas QA compound results for the South Sensor show the mean Methane concentration was 1.46 ppm with a 0.456 ppm or 31.1% standard deviation. The mean Nitrous Oxide concentration was 0.286 ppm with a 0.058 ppm or 20.2 % standard deviation.

Note: The South FTIR data, beginning at 1829 pst on 01/20/99 and continuing until the end of the month, has been reprocessed due to a problem with the ETG software. Immediately after the new cryocooler was put in service, a new background was taken and the software restarted with the new file in place. The software did not implement the reference to the new background and used the previous one. The data has been reprocessed with the correct background file.

Data summary reports are attached.

UV System

OPERATION:

All units incurred approximately 1.1% downtime due to normal maintenance. The North fenceline incurred approximately 5.8% downtime due to a power-supply failure in the transmitter unit (as described above). Weather accounted for approximately 11.0% downtime on North PUV0008, 14.1% on North PUV0009, and 9.50% on both of the South units. North loaner PUV0008 incurred approximately 8.8% downtime due to an intermittent system error that prevents it from returning to normal operation following an automatic alignment check. Sci-Tec has been made aware of this bug and will address it before the primary units are returned to the refinery. South UV system downtime was due largely to beam-block conditions in the instruments. The susceptibility to beam-block will be addressed when the units go to Sci-Tec.

Sci-Tec is evaluating the current reliability of the instruments that have returned to the factory. We cannot vouch for the validity of the data obtained from them at this time. The UV data presented here should be used with caution.

DATA:

Data summary reports are attached.

TDLS System

OPERATION:

Weather accounted for approximately 13.1% downtime on the North NH_3, 14.6% on the North H_2S, 5.8% on the South NH_3, and 5.4% on the South H_2S. All units incurred approximately 0.1% downtime due to system maintenance.

DATA:

The data summary report is attached.

CGD System

OPERATION:

All Combustible Gas Detector (CGD) units except AT-5 functioned normally throughout the month. The AT-5 unit incurred additional downtime due to minor repairs to the detector head. That unit operated normally but was not

able to transmit data to the data collection computer. Approximately 0.7% downtime was due to system testing, maintenance and backup activities.

Except for AT-5, none of the CGD units experienced any hardware failures or hardware related downtime.

DATA:

The data summary report is attached.

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