

## Monthly Technical Report

*(Due to AQRP Project Manager on the 8<sup>th</sup> day of the month following the last day of the reporting period.)*

<b>PROJECT TITLE</b>	Assessment of Two Remote Sensing Technologies to Control Flare Performance	<b>PROJECT #</b>	14-023
<b>PROJECT PARTICIPANTS</b> (Enter all institutions with Task Orders for this Project)	UT Austin	<b>DATE SUBMITTED</b>	7/8/14
<b>REPORTING PERIOD</b>	<b>From:</b> June 1, 2014 <b>To:</b> June 30,2014	<b>REPORT #</b>	1

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15<sup>th</sup> of the month following the reporting period shown above.

### **Detailed Accomplishments by Task** *(Include all Task actions conducted during the reporting month.)*

During this reporting period, an initial site visit was made to the Petrologistics plant on June 12. The project team spent most of the morning reviewing, understanding and discussing the process flows, typical compositions of the vent gas and plant fuel gas (C2s and lighter), ability of the plant to vary these flows and compositions, and other information required to update the QAPP and develop the field test plan. Hydrogen content in the vent gas can't be reduced but it can be increased. While vent gas flow rates can be changed in a matter of minutes, changes to the vent gas composition will take an hour. This will be taken into account in planning the matrix of test conditions. The project team also learned that Petrologistics has budgeted to install new steam flow measurement instrumentation by the end of the year. The current system (orifice plate) provides +/-20% accuracy. The steam flows as currently configured cannot provide separate measurements of the center steam flow from the lower and upper steam flows. Petrologistics intends to change this. The Project Team decided that increased accuracy in the measurement of the steam flow rates and separate measurements of center and lower/upper steam were important. Therefore, it was decided to delay the field tests as late as possible to allow for the steam flow modifications. Additional information (specifications for new steam flow instrumentation, plant permit, wind data file, and electronic copies of handouts from meeting) not available will be sent later.

After some discussion, the preferred approach to pursue for extractive sampling of the plume was to employ a small drone helicopter that would be able to elevate and position the sampling line downwind and in the plume. ARI is pursuing this approach with the name of companies suggested at the meeting.

The group also took a tour of the flare site, spoke with safety and maintenance personnel about the concept for field test set-up, and took some visible light (night & day) and FLIR camera

(night only) evaluation videos. While the plume sampling approach requires further discussions and approvals, all other aspects of the concept for the field test set-up appear to be acceptable to the plant and the project teams.

#### Date of Field Tests

The date agreed to by those present for the field tests was the week of December 1-5, 2014, with setup occurring before the week begins. This will allow Petrologistics time to install new steam flow measuring equipment and make modifications to independently control/set how much center steam is sent to the flare.

#### Safety Requirements

Anyone desiring to attend the field testing must have completed the Basic Plus (5 hr) and the Petrologistics Site Specific (2 hr, Course # 19PLHOU).

#### Average Vent Gas Composition

At the meeting, a request was made for the average vent gas composition to the flare. The average vent gas composition was provided by Vance Darr (Petrologistics) last August was subsequently sent to the group.

#### **Preliminary Analysis** (*Include graphs and tables as necessary.*)

None performed during the reporting period.

#### **Data Collected** (*Include raw and refine data.*)

No data were collected during this time period.

#### **Identify Problems or Issues Encountered and Proposed Solutions or Adjustments**

On June 26, 2014, the flare site contact for Petrologistics, Vance Darr, notified the Principal Investigator that the representative from Flint Hills Resources (FHR), who was present during the planning meeting on June 12<sup>th</sup>, informed Petrologistics that FHR will not continue participation in the study after the acquisition of Petrologistics is complete. FHR is in the process of purchasing Petrologistics and it is now anticipated that this acquisition will be concluded before the study can be completed. Mr. Darr has reviewed the purpose and scope of the study with FHR, and Petrologistics involvement with the TCEQ and EPA. Nonetheless, FHR has elected not to participate in this study.

Given this development, a solicitation was made to the project's Industry Advisory Committee for the project to identify other potential plant sites. On July 1, a representative from Lubrizol contacted the Principal Investigator and expressed interest in participating in the project. They are seeking approval within their company. UT Austin has requested basic information about the flare, its location at the Lubrizol site and typical vent gas composition to assess the preliminary feasibility of using their flare as a substitute for the study.

If by the end of July, no alternative flare has been confirmed, the Principal Investigator and Co-principal Investigator will discuss the future prospect of the project with the AQR Project Manager.

**Goals and Anticipated Issues for the Succeeding Reporting Period**

To locate a possible alternative flare and plant location by the end of July or August 31 at the latest.

**Detailed Analysis of the Progress of the Task Order to Date** *(Discuss the Task Order schedule, progress being made toward goals of the Work Plan, explanation for any delays in completing tasks and/or project goals. Provide justification for any milestones completed more than one (1) month later than projected.)*

The project is on schedule.

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Submitted to AQRP by: Vincent M. Torres

Principal Investigator: Vincent M. Torres

*(Printed or Typed)*