Castro, Javier

Von: Tony Calenda [acalenda@agcert.com]

Gesendet: Dienstag, 25. Juli 2006 14:02 **An:** Castro, Javier; Kleiser, Thomas

Cc: David Higdon; Lenina Garnhart; Michael Mirda

Betreff: FW: MX49 CR4

Javier,

The following paragraph is what we've included in the most recent PDDs (Section A.4.2) to address this concern. We plan on scaling down on the description in the PDD as we feel it provides information we don't want competitors knowing. We will be changing the CO2 content in table D1 to "measure and calculate". We don't see any requirement to measure CH4 concentration after the flaring process.

I hope this addresses your concern. Please feel free to call me regarding this issue if you need further clarification.

The flare system uses an automated process controls gas flow and ignition through combustion. As shown in Figure A2 when sufficient pressure is achieved within the digester, a pressure transducer/transmitter sends a signal to a relay control which in-turn opens a solenoid valve and activates the blower motor. The gas is sucked past a meter and routed to a solar panel operated constant ignition system. This causes the gas to ignite and the heat generated causes a thermocouple to send a signal to the relay allowing the solenoid vale to remain in the open state and the blower motor in operation. If at any point in the process the flame is extinguished due to insufficient gas, the thermocouple cools immediately and sends a signal to the system to stop biogas flow by shutting down the blower motor and closing the solenoid valve.

This process has the controls in place to ensure that any gas which has passed through the meter is combusted. The component parts are tested and verified functional on a periodic basis in accordance with technical specifications and those results are examined by the verifying DOE.

Gas Flow

Gas Flow

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1 = Flare
2 = Temperature Sensor and Control
3 = Time Relay
4 = Relay Cornol
5 = Sciencial valve
6 = Biogas refer
7 = Pressure sensor
9 = Dispester
9 = Dispester

Figure A2. Flare System.

Best regards,

Tony Calenda

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From: David Higdon

Sent: Monday, July 24, 2006 7:38 AM

To: Jim Winch; George Mirda

Cc: Tony Calenda Subject: MX49 CR4

Clarification Request No.4

The detail of the metering equipment needs to be submitted to the validator including the analyzing methods.

CR4 - This information is provided in Section D.5 of the PDD.

There is no information about the run time meter connected to a flame detector or a flame continuous temperature controller and about the accuracy of this equipment.

For the methane concentration in the gas before the flare, a positive pressure should be confirm in order to avoid the entrance of air, in this case the measurement base on CO2 is not valid. Additionally in the Table D1 says the methane content will be measured, in this case will be calculated base on the CO2 content.

There is no mention about the procedure for the measurement of the CH4 concentration after the flaring

David Higdon

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