# COMPLIANCE ASSURANCE MONITORING PLAN

Table A.1

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| I. Indicator Measurement Approach | Chamber Temperture - The chamber temperture is monitored with dual thermocouples.<br><br>Sensor: Pyco #K-250-INC-D-12-B-2A 0 to 1200 degrees C @ 0.75%<br><br>Recorder: Fuji #PHC33003-AAOYV -200 to 1370 degrees C @ 0.25% | Work Practice (Dest. Efficiency) Daily inspection performed, failure alarm notifies plant personnel of RTO faults. | Work Practice (Capture Effic.) Quarterly inspections done, failure alarm notifies plant personnel of RTO faults indicating problems with dampers. RTO control system monitors and logs all damper movement. |
| II. Indicator Range | An excursion is defined as temperature readings less than 1500* degrees F or the temperature achieved during the most recent compliance test; excursions trigger an alarm, inspection, corrective action and reporting as required. An exceedance is defined as temperature readings less than the applicable temperature on a one hour average; an electrical interlock shuts down line 3 production if RTO fails and reporting is required*** | An excursion is defined as a more than 50 degrees F difference between the two thermocouples.<br><br>An excursion is also defined as failure to perform daily inspection or respond to fault alarm. ** | An excursion is defined as failure to respond to a fault alarm caused by problems with the dampers (capture) within 1-hr.**<br><br>An excursion is also defined as failure to perform quarterly inspection or to document any release of captured emissions prior to the oxidizer. |
| III. Performance Criteria<br>A. Data Representativeness | The two sensors are loacted in the burn chamber as an intergal part of the RTO design. One strip, one backup chart recorder and PLC data logger record data. | Not applicable | Two separate sensors verify each damper and they must match the damper position or an alarm is triggered. |
| B. Verification of Operational Status | Control panel display in RTO control room; PLC data stream connected to plant data highway. | Temperature difference between the two sensors greater than 50 degrees F will trigger fault alarm. | RTO control panel monitors and records all damper movement. Improper damper movement triggers alarm. |

## COMPLIANCE ASSURANCE MONITORING PLAN (Continued)

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| C. Monitoring Frequency | Measured continuously ** | Daily inspections performed, failure alarms measured continuously through data highway. ** | Quarterly inspections done, failure alarms measured continuously through data highway. ** |
| Averaging Period | 1 hour average | | |
| Data Collection Procedure | Recorded continuously on strip and circluar chart recorders. PLC data stream continuously logged on data highway. | Records of daily inspection and fault alarm are maintained. | Records of quarterly inspection and fault alarm are maintained. |

*** Temperature is based off of most recent destruction efficiency test demonstrating compliance that has been accepted by EPC and may change as new DE tests are performed and approved. The stated temperature is based off of the 9/21/2010 DE test.**

**** Applies when the plant runs production operations. May not apply under maintenance, shut down or other non-production operations at the plant.**

***** Note: Following issuance of Permit No. 0570160-012-AV, operation of Line 3 may occur without oxidizer in operation as long as permit requirements for Alternative Modes #3 or #4 have been met.**

# COMPLIANCE ASSURANCE MONITORING PLAN

Table A.2

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| I. Indicator Measurement Approach | Chamber Temperture - The chamber temperture is monitored with dual thermocouples.<br><br>Sensor: Pyco #K-250-INC-D-12-B-2A 0 to 1200 degrees C @ 0.75%<br><br>Recorder: Fuji #PHC33003-AAOYV -200 to 1370 degrees C @ 0.25% | Work Practice<br>Daily inspection performed, failure alarm notifies plant personnel of RTO faults. | Work Practice (Capture Effic.)<br>Quarterly inspections done, failure alarm notifies plant personnel of RTO faults indicating problems with dampers. RTO control system monitors and logs all damper movement. |
| II. Indicator Range | An excursion is defined as temperature readings less than 1500* degrees F or the temperature achieved during the most recent compliance test; excursions trigger an alarm, inspection, corrective action and reporting as required.<br>An exceedance is defined as temperature readings less than the applicable temperature on a one hour average; an electrical interlock shuts down line 3 production if RTO fails and reporting is required*** | An excursion is defined as a more than 50 degrees F difference between the two thermocouples.<br><br>An excursion is also defined as failure to perform daily inspection or respond to fault alarm. ** | An excursion is defined as failure to respond to a fault alarm caused by problems with the dampers (capture) within 1-hr.**<br><br>An excursion is also defined as failure to perform quarterly inspection or to document any release of captured emissions prior to the oxidizer. |
| III. Performance Criteria<br>A. Data Representativeness | The two sensors are loacted in the burn chamber as an intergal part of the RTO design. One strip, one backup chart recorder and PLC data logger record data. | Not applicable | Two separate sensors verify each damper and they must match the damper position or an alarm is triggered. |
| B. Verification of Operational Status | Control panel display in RTO control room; PLC data stream connected to plant data highway. | Temperature difference between the two sensors greater than 50 degrees F will trigger fault alarm. | RTO control panel monitors and records all damper movement. Improper damper movement triggers alarm. |

## COMPLIANCE ASSURANCE MONITORING PLAN (Continued)

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| C. Monitoring Frequency<br><br>Averaging Period | Measured continuously **<br><br>1 hour average | Daily inspections performed, failure alarms measured continuously through data highway. ** | Quarterly inspections done, failure alarms measured continuously through data highway. ** |
| Data Collection Procedure | Recorded continuously on strip and circluar chart recorders. PLC data stream continuously logged on data highway. | Records of daily inspection and fault alarm are maintained. | Records of quarterly inspection and fault alarm are maintained. |

*** Temperature is based off of most recent destruction efficiency test demonstrating compliance that has been accepted by EPC and may change as new DE tests are performed and approved. The stated temperature is based off of the 9/21/2010 DE test.**

**** Applies when the plant runs production operations. May not apply under maintenance, shut down or other non-production operations at the plant.**

***** Note: Following issuance of Permit No. 0570160-012-AV, operation of Line 3 may occur without oxidizer in operation as long as permit requirements for Alternative Modes #3 or #4 have been met.**

# COMPLIANCE ASSURANCE MONITORING PLAN

Table A.3

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| I. Indicator Measurement Approach | Chamber Temperture - The chamber temperture is monitored with dual thermocouples.<br><br>Sensor: Pyco #K-250-INC-D-12-B-2A 0 to 1200 degrees C @ 0.75%<br><br>Recorder: Fuji #PHC33003-AAOYV -200 to 1370 degrees C @ 0.25% | Work Practice Daily inspection performed, failure alarm notifies plant personnel of RTO faults. | Work Practice (Capture Effic.) Quarterly inspections done, failure alarm notifies plant personnel of RTO faults indicating problems with dampers. RTO control system monitors and logs all damper movement. |
| II. Indicator Range | An excursion is defined as temperature readings less than 1500* degrees F or the temperature achieved during the most recent compliance test; excursions trigger an alarm, inspection, corrective action and reporting as required. An exceedance is defined as temperature readings less than the applicable temperature on a one hour average; an electrical interlock shuts down line 3 production if RTO fails and reporting is required*** | An excursion is defined as a more than 50 degrees F difference between the two thermocouples.<br><br>An excursion is also defined as failure to perform daily inspection or respond to fault alarm. ** | An excursion is defined as failure to respond to a fault alarm caused by problems with the dampers (capture) within 1-hr.**<br><br>An excursion is also defined as failure to perform quarterly inspection or to document any release of captured emissions prior to the oxidizer. |
| III. Performance Criteria<br>A. Data Representativeness | The two sensors are loacted in the burn chamber as an intergal part of the RTO design. One strip, one backup chart recorder and data logger record data. | Not applicable | Two separate sensors verify each damper and they must match the damper position or an alarm is triggered. |
| B. Verification of Operational Status | Control panel display in RTO control room; PLC data stream connected to plant data highway. | Temperature difference between the two sensors greater than 50 degrees F will trigger fault alarm. | RTO control panel monitors and records all damper movement. Improper damper movement triggers alarm. |

## COMPLIANCE ASSURANCE MONITORING PLAN (Continued)

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| C. Monitoring Frequency<br><br>Averaging Period | Measured continuously **<br><br>1 hour average | Daily inspections performed, failure alarms measured continuously through data highway. ** | Quarterly inspections done, failure alarms measured continuously through data highway. ** |
| Data Collection Procedure | Recorded continuously on strip and circluar chart recorders. PLC data stream continuously logged on data highway. | Records of daily inspection and fault alarm are maintained. | Records of quarterly inspection and fault alarm are maintained. |

*** Temperature is based off of most recent destruction efficiency test demonstrating compliance that has been accepted by EPC and may change as new DE tests are performed and approved. The stated temperature is based off of the 9/21/2010 DE test.**

**** Applies when the plant runs production operations. May not apply under maintenance, shut down or other non-production operations at the plant.**

***** Note: Following issuance of Permit No. 0570160-012-AV, operation of Line 3 may occur without oxidizer in operation as long as permit requirements for Alternative Modes #3 or #4 have been met.**

# COMPLIANCE ASSURANCE MONITORING PLAN

Table A.4

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| I. Indicator Measurement Approach | Chamber Temperture - The chamber temperture is monitored with dual thermocouples.<br><br>Sensor: Pyco #K-250-INC-D-12-B-2A 0 to 1200 degrees C @ 0.75%<br><br>Recorder: Fuji #PHC33003-AAOYV -200 to 1370 degrees C @ 0.25% | Work Practice Daily inspection performed, failure alarm notifies plant personnel of RTO faults. | Work Practice (Capture Effic.) Quarterly inspections done, failure alarm notifies plant personnel of RTO faults indicating problems with dampers. RTO control system monitors and logs all damper movement. |
| II. Indicator Range | An excursion is defined as temperature readings less than 1500* degrees F or the temperature achieved during the most recent compliance test; excursions trigger an alarm, inspection, corrective action and reporting as required. An exceedance is defined as temperature readings less than the applicable temperature on a one hour average; an electrical interlock shuts down line 3 production if RTO fails and reporting is required*** | An excursion is defined as a more than 50 degrees F difference between the two thermocouples.<br><br>An excursion is also defined as failure to perform daily inspection or respond to fault alarm. ** | An excursion is defined as failure to respond to a fault alarm caused by problems with the dampers (capture) within 1-hr.**<br><br>An excursion is also defined as failure to perform quarterly inspection or to document any release of captured emissions prior to the oxidizer. |
| III. Performance Criteria<br>A. Data Representativeness | The two sensors are loacted in the burn chamber as an intergal part of the RTO design. One strip, one backup chart recorder and data logger record data. | Not applicable | Two separate sensors verify each damper and they must match the damper position or an alarm is triggered. |
| B. Verification of Operational Status | Control panel display in RTO control room; PLC data stream connected to plant data highway. | Temperature difference between the two sensors greater than 50 degrees F will trigger fault alarm. | RTO control panel monitors and records all damper movement. Improper damper movement triggers alarm. |

## COMPLIANCE ASSURANCE MONITORING PLAN (Continued)

| | Indicator No. 1 | Indicator No. 2 | Indicator No. 3 |
|---|---|---|---|
| C. Monitoring Frequency<br><br>Averaging Period | Measured continuously **<br><br>1 hour average<br>data point every 15 seconds | Daily inspections performed, failure alarms measured continuously through data highway. ** | Quarterly inspections done, failure alarms measured continuously through data highway. ** |
| Data Collection Procedure | Recorded continuously on strip and circluar chart recorders. PLC data stream continuously logged on data highway. | Records of daily inspection and fault alarm are maintained. | Records of quarterly inspection and fault alarm are maintained. |

*** Temperature is based off of most recent destruction efficiency test demonstrating compliance that has been accepted by EPC and may change as new DE tests are performed and approved. The stated temperature is based off of the 9/21/2010 DE test.**

**** Applies when the plant runs production operations. May not apply under maintenance, shut down or other non-production operations at the plant.**

***** Note: Following issuance of Permit No. 0570160-012-AV, operation of Line 3 may occur without oxidizer in operation as long as permit requirements for Alternative Modes #3 or #4 have been met.**