

**Texas Commission on Environmental Quality
Air Permits Division**

New Source Review (NSR) Boilerplate Special Conditions

This information is maintained by the Chemical NSR Section and is subject to change. Last update was made **August 2011**. These special conditions represent current NSR boilerplate guidelines and are provided for informational purposes only. The special conditions for any permit or amendment are subject to change through TCEQ case-by-case evaluation procedures [30 TAC 116.111(a)]. Please contact the appropriate Chemical NSR Section management if there are questions related to the boilerplate guidelines.

FCC - All (A), ESP (E), Scrubber (S)

(A) Exhaust Conc The maximum allowable concentration of the following pollutants in the fluid catalytic cracking unit (FCCU) flue gas vent stack averaged over a one-hour period are given below:

carbon monoxide (CO) 500 ppmv
sulfur dioxide (SO₂) 300 ppmv
nitrogen oxides (NO_x) 200 ppmv

All concentrations shall be measured on a ppmvd basis; SO₂ and NO_x concentrations are measured on an air-free basis. *(Note that the annual allowable emission rates for SO₂ and NO_x should be based on a concentration 100 ppmv)*

(A) Opacity The opacity of emissions from the FCCU stack shall not exceed 20 (15 for scrubber) percent averaged over a six-minute period, as determined by a trained observer.

(A) PM limit Emissions from the FCCU stack shall not exceed 1.0 pound of particulate matter per 1,000 pounds of coke burn-off, on an hourly average.

(A) Sampling *see [Stack Sample](#), The Procedure/parameters specified in A.(6) should include: feed stock throughput, coke burn rate, and sulfur load rate.*

The requirements during subsequent operations in D. should include: the FCCU throughput, coke burn-off rate, and sulfur loading shall be maintained at levels no greater than those recorded during the test period. The FCCU regenerator scrubber liquid to gas ratio and gas pressure drop (for venturi type) shall be minimized consistent with planned operations. ESP parameters would include current and voltage.

(A) CEMS *see [CEMS](#), CEMS necessary for CO, NO_x, SO₂, and oxygen*

(E) COMS *see [COMS](#)*

(E) ESP monitoring Monitor and record the hourly average current and secondary voltage and maintain them above that maintained during the last satisfactory stack test. The monitoring system shall be maintained in a manner consistent with the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment will monitor accurately. Readings shall be recorded at least once every 15 minutes and there must be a minimum of four successive cycles of operation to have a valid hour of data (or at least two if a calibration check is performed during that hour or if the continuous parameter monitoring system is out-of-control).

Quality assured (or valid) data must be generated when the FCCU is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the FCCU operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

(S) Scrubber monitoring The FCCU Regenerator Scrubber liquid flow rate shall be continuously monitored and be maintained at levels greater than the minimum one hour average value observed value in the last satisfactory stack test performed in accordance with Special Condition. The liquid to gas ratio and gas pressure drop (for venturi type) shall also be continuously monitored and be maintained greater than the minimum one hour average value observed in the last satisfactory stack test performed in accordance with Special Condition. Liquid flow rate, liquid to gas ratio, and gas pressure drop shall be maintained above the levels identified in the permit application prior to the initial stack test.

The flow rates and pressures shall be recorded every 6 minutes as six minute averages and the pH shall be recorded at least once a minute. Each flow and pressure monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications, or at least annually, whichever is more frequent, and shall be accurate to within 2 percent of span or 5 percent of the design value.

Quality assured (or valid) data must be generated when the FCCU is operating except during the performance of a daily zero and span check. Loss of valid data due to periods of monitor break down, out-of-control operation (producing inaccurate data), repair, maintenance, or calibration may be exempted provided it does not exceed 5 percent of the time (in minutes) that the FCCU operated over the previous rolling 12 month period. The measurements missed shall be estimated using engineering judgment and the methods used recorded.

(a) Throughput

The FCCU shall be limited to a feed rate of (*number of*) barrels per day of gas oil feedstocks. Records shall be kept of the daily production rate.