

**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.

Cooling Towers/Water All (A), PM emissions (P)

New Replacement (A) The cooling tower water shall be monitored monthly for VOC leakage from heat exchangers in accordance with the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or another air stripping method approved by the TCEQ Executive Director.

(The following paragraph may be used if Appendix P is too stringent [such as in renewals]. It allows an OVA to be used to monitor the air used to strip the cooling water rather than a TVA.) For all sampling required by this condition, the sample port for the water returning from the heat exchangers to the cooling tower shall be located on the top of the horizontal section of the water line returning to the cooling tower. The minimum detection level of the overall testing system shall be no greater than 0.15 ppmw VOC (concentration VOC in water entering the cooling tower). The minimum detection limit for the air stripped VOC shall be no greater than 2.50 ppmv (concentration VOC in the stripping air). Calibration standards shall include at least zero ppmv and 10 ppmv VOC in air (as methane).

Cooling water VOC concentrations above 0.08 *(0.15 if OVA is allowed)* ppmw indicate faulty equipment. Equipment shall be maintained so as to minimize VOC emissions into the cooling water. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs.

Emissions from the cooling tower are not authorized if the VOC concentration of the water returning to the cooling tower exceeds *(identify maximum acceptable VOC concentration, 0.8 would be 10 times the MAERT value, get team leader OK for any values > 1)* ppmw. The VOC concentrations above *(maximum acceptable VOC concentration)* ppmw are not subject to extensions for delay of repair under this permit condition. The results of the monitoring and maintenance efforts shall be recorded. *(You should use a new footnote 4 on the MAERT with this condition because it treats cooling water emissions as fugitive unless the concentration gets so high that no emissions are authorized. New footnote 4:*

- (4) *Emission rate is an estimate and is enforceable through compliance with the applicable Special Condition(s) and permit application representations.)*

New BACT (a)

(Use this condition if all facilities serviced by the cooling tower are new or if an emission factor lower than the AP-42 value is proposed. This condition makes the MAERT emission rates enforceable and does not consider cooling water emissions as fugitives.) The VOC associated with cooling tower water shall be monitored monthly with an air stripping system meeting the requirements of the TCEQ Sampling Procedures Manual, Appendix P (dated January 2003 or a later edition) or an approved equivalent sampling method. The results of the monitoring, cooling water flow rate, and maintenance activities on the cooling water system shall be recorded. The monitoring results and cooling water hourly mass flow rate shall be used to determine cooling tower hourly VOC emissions. The rolling 12 month cooling water emission rate shall be recorded on a monthly basis and be determined by summing the VOC emissions between VOC monitoring periods over the rolling 12 month period. The emissions between VOC monitoring periods shall be obtained by multiplying the total cooling water mass flow between cooling water monitoring periods by the higher of the 2 VOC monitored results. *(The permit reviewer may allow hourly emissions that are greater than the annual BACT level to allow for a leak to be corrected prior to a violation. This generally should not exceed 5 times the annual average concentration)*

PM monitoring (P)

The cooling water shall be sampled once a day for total dissolved solids (TDS). Dissolved solids in the cooling water drift are considered to be emitted as PM₁₀. The sampling method(s) for TDS shall be approved by the TCEQ Compliance Support Division prior to its implementation. *(use only if applicant wants to include cooling water PM, BACT for drift is < 0.001%)*

Old (a)

The VOC associated with cooling tower water shall be monitored monthly with an approved air stripping system or equivalent. The appropriate equipment shall be maintained so as to minimize fugitive VOC emissions from the cooling tower. Faulty equipment shall be repaired at the earliest opportunity but no later than the next scheduled shutdown of the process unit in which the leak occurs. The results of the monitoring and maintenance efforts shall be recorded. *(may not be enforceable - avoid using)*