Company Name _____

EPA ID# No. N___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Region/Inspector _____

Inspection Date _____

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

APPENDIX X

AIR EMISSIONS-SUBPART AA, BB and CC CHECKLIST
(Only for Permitted TSDs, Interim status TSDs, and LQGs)

Subpart AA

Background: If a facility (TSD or LQG) manages hazardous wastes greater than 10 ppmw of organics in a process vent used in distillation, fractionation, solvent extraction, thin-film evaporation, air or steam stripping, Subpart AA may apply. Subpart AA would not apply in a bona fide closed loop scenario at LQGs and TSDs. To comply, the facility would need to determine if the process vent(s) releases greater than 3.0 lbs/hr or 3.1 tons/year of organic air emissions to the atmosphere. If it does not release that much then the facility is in compliance with Subpart AA. If its emissions are greater, then a control device is necessary to bring the facility into compliance. The control device may be a condenser, flare, carbon absorber, etc., that brings the equipment's emissions rate below 3.0 lbs/hr **and** 3.1 tons/year, **or** reduces the organic emissions by 95%.

Objective: The Inspector should try to determine if Subpart AA applies at a particular facility and, if applicable, evaluate the facility's efforts to achieve compliance. Has the facility calculated or measured the organic emissions from all vents and compared that with the emissions limit?

1. IDENTIFICATION OF AFFECTED PROCESS VENTS - 373-3.27(a)

   (a) Does the facility have any hazardous waste management unit using the following process? ___ Yes ___ No

   ___ Distillation
   ___ Fractionation
   ___ Thin-film evaporation
   ___ Solvent extraction
   ___ Air stripping
   ___ Steam Stripping

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(b) Are any of these units/processes exempt under the closed-loop recycle exemption? ___ Yes ___ No

Please Explain:_____

_____

(c) Does the facility manage hazardous wastes greater than 10 ppmw of organics in a process vent used in above processes?

___ Yes. (Complete Subpart AA)
___ No. (Describe the information/documentation used to make the determination and collect the supporting documentation. Proceed to the Subpart BB checklist.)

_____

_____

2. STANDARDS FOR PROCESS VENTS - 373-3.27(c)

(a) Total organic emissions from all affected process vents at the facility are below 3 lb/hr and 3.1 tons/yr. - 373-3.27(c)(1)(i):

___ If Yes, the calculations/analysis or performance tests are done according to 373-3.27(e). (Provide copies of the calculation and associated information - 373-3.27(c)(3).) ___

___ If No, did the facility reduce the total organic emissions, by using a control device, from all affected vents at the facility by 95 weight percent: 373-3.27(c)(1)(ii). (All TSDs must have the control device in place and for LQGs by June 1999.) ___

3. STANDARDS FOR CLOSED-VENT SYSTEMS AND CONTROL DEVICES - 373-3.27(d)

(a) Please explain/describe the type of control device used at the facility:

_____

(b) ___ The closed-vent system and control device must meet the requirements of subdivision 373-3.27(d); 373-3.27(c)(2). ___

(c) ___ The owner or operator shall monitor and inspect all control devices at least each operating day to ensure proper operation - 373-3.27(d)(6). ___

(d) ___ The owner or operator shall repair all detected defects as soon as practicable, but not later than 15 calendar days after the defect is detected - 373-3.27(d)(11)(iii)(a). ___

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(e) ___ A first attempt at repair shall be made no later than five calendar days after the defect is detected - 373-3.27(d)(11)(iii)(b). ___

4. RECORDKEEPING REQUIREMENTS - 373-3.27(f)

(a) ___ Owners and operators must record the following information in the facility operating record - 373-3.27(f)(2). ___

1. ___ Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each vent and for the overall facility - 373-3.27(f)(2)(ii)('a'). ___

2. ___ Information and data supporting determinations of vent emissions and emission reductions achieved by control devices based on calculations or performance tests - 373-3.27(f)(2)(ii)('b'). ___

3. ___ Design documentation and monitoring, operating and inspection information for each closed-vent system and/or control device shall be recorded and kept up to date in the facility operating record - 373-3.27(f)(3). ___

4. ___ Date of each control device startup and shutdown - 373-3.27(f)(3)(viii). ___

5. ___ The date that any leak was detected and the date of repairs - 373-3.27(f)(3)(x). ___

6. ___ Records of the monitoring, operating and inspection shall be maintained at least three years following the date of each occurrence, measurement, maintenance, corrective action, or record - 373-3.27(f)(4). ___

Subpart BB

Background: If a facility (TSD or LQG) has equipment (any valve, pump, compressor, pressure relief device, sampling connection system, flange, open-ended valve or line) that contacts hazardous wastes greater than 10% organics, that facility is subject to the inspection and monitoring requirements of Subpart BB. If the equipment used to transport hazardous waste with greater than 10% organics is used for less than 300 hours per year, then it is excluded from the requirements of 373-3.28(c) through 373-3.28(k) of this

subpart if the equipment is identified as required in 373-3.28(0)(7)(vi).

Objective: The Inspector should determine if Subpart BB applies at a particular facility and, if applicable, evaluate the facility's leak detection and repair (LDAR) program. Does it cover all the affected equipment, what is its frequency (monthly, quarterly) and are there records of timely (<15 days) equipment repair when leaks are detected?

1. IDENTIFICATION OF AFFECTED EQUIPMENT - 373-3.28(a)

(a) Does the facility have any of the following equipment that contain or contact hazardous wastes greater than 10% organics by weights - 373-3.28(a)(2)? ___ Yes ___ No

___ Pumps
___ Compressors
___ Pressure relief devices
___ Sampling connections
___ Open-ended valves or lines
___ Valves

(b) Is any of this equipment in vacuum service, which will be excluded from this requirement - 373-3.28(a)(4)? ___ Yes ___ No

Please Explain:_____

(c) Is any of this equipment that contains or contacts hazardous waste with an organic concentration of at least 10% by weight for a period of less than 300 hours per calendar year, which will be excluded from this requirement - 373-3.28(a)(5)? ___ Yes___ No

Please Explain: _____

(d) ___ Each piece of equipment covered under these requirements shall be marked in such a manner that it can be distinguished readily from other pieces of equipment - 373-3.28(a)(3). ___

(e) ___ Any equipment or device that is equipped with a closed vent system capable of capturing and transporting leakage to a control device is exempt from these requirements provided that the closed-vent systems and control devices shall comply with the provisions of subdivision 373-3.27(d); 373-3.28(k). ___

2. OPERATING STANDARDS:

LIGHT LIQUID SERVICE: For a hazardous waste to be in light liquid service, the vapor pressure of one or more of the organic constituents in the material must be greater than 0.3 Kilopascals at 20 degrees C and the total concentration of pure organic constituents having a vapor pressure greater than 0.3 kilopascals at 20 degrees Centigrade is equal to or greater than 20% by weight.

A. Pumps in Light Liquid Service - 373-3.28(c)

(i) ___ Each pump shall be monitored monthly to detect leaks - 373-3.28(c)(1)(i). ___

Indicate:

X Violations

Indicate:

X Satisfactory
NA Not Applicable

(ii) ___ Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal - 373-3.28(c)(1)(ii). ___

(iii) ___ When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected - 373-3.28(c)(3)(i). ___

(iv) ___ A first attempt at repair shall be made no later than five calendar days after each leak is detected - 373-3.28(c)(3)(ii). ___

(v) ___ Each pump equipped with a dual mechanical seal system should meet the requirements of subdivision - 373-3.28(c)(4). ___

B. Compressors - 373-3.28(d)

___ Each compressor shall be equipped with a seal system and should meet the requirements of subdivision 373-3.28(d)(1) thru (9) - {i.e. daily inspection and implementation of leak detection and repair (LDAR) program}. ___

C. Pressure Relief Devices in Gas/Vapor Service - 373-3.28(e)

(i) ___ Except during pressure releases, each pressure relief device shall be operated with no detectable emissions - 373-3.28(e)(1). ___

(ii) ___ No later than five calendar days after each pressure release, the device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background - 337-3.28(e)(2). ___

D. Sampling Connections - 373-3.28(f)

___ Each sampling connection shall be equipped with a closed-purge, closed-loop, or closed-vent system and shall meet the requirements of subdivision - 373-3.28(f)(1) thru (3). ___

E. Open-ended Valves or Lines - 373-3.28(g)

___ Each open-ended valve or line shall be equipped with a cap, blind flange, plug or a second valve and shall meet the requirements of subdivision - 373-3.28(g)(1), (2) & (3). ___

F. Valves in Gas/Vapor Service or in Light Liquid Service - 373-3.28(h)

(i) ___ Each valve shall be monitored monthly to detect leaks by specified methods - 373-3.28(h)(1). ___

(ii) ___ When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected - 373-3.28(h)(4)(i). ___

(iii) ___ A first attempt at repair shall be made no later than five calendar days after each leak is detected - 373-3.28(h)(4)(ii). ___

G. Pump and Valves in Heavy Liquid Service, Pressure Relief Device in Light or Heavy Liquid Service, and Flanges and Other Connectors - 373-3.28(i)

(i) ___ Pumps and valves in heavy liquid service, pressure relief devices in light or heavy liquid service, and flanges and other connectors shall be monitored within five days by specified methods, if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method - 373-3.28(i)(1). ___

(ii) ___ When a leak is detected, it shall be repaired as specified in this subdivision - 373-3.28(i)(3) (i.e., 15 days to repair and five days for first attempt). ___

3. RECORDKEEPING REQUIREMENTS - 373-3.28('o')

A. ___ The following information must be recorded in the facility operating record - 373-3.28('o')(2). ___

(i) ___ List all equipment to which this section applies. ___

(ii) ___ Equipment ID number and hazardous waste management unit identification. ___

(iii) ___ Approximate locations of units within the facility. ___

(iv) ___ Type of equipment (e.g., plum or valve). ___

(v) ___ Percent-by-weight total organics in the hazardous waste stream at the equipment. ___

(vi) ___ Physical state of hazardous waste at the equipment (e.g., gas/vapor or liquid). ___

(vii) ___ Method of compliance with the standard (e.g., “monthly leak detection and repair” or “equipped with dual mechanical seals”). ___

(viii) ___ The date the leak was detected and the date of repairs - 373-3.28('o')(4). ___

Subpart CC

Overview: The Subpart CC regulations apply to large quantity generators and treatment, storage and/disposal facilities that manage hazardous waste of volatile organic concentration of 500 ppmw or more on an average annual basis

in tanks and containers.

For tank storage, there are two levels that a facility may use to manage their waste. Tank Level 1 requires a fixed roof tank which uses a maximum organic vapor pressure to comply with Subpart CC. Tank Level 2 designs can be one of five options. These are: (1) an Internal Floating Roof (2) an External Floating Roof (3) a tank with a Fixed Roof vented through a closed-vent system to a control device (4) a Pressure Tank (5) a tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion device.

Most of the facilities will comply with Tank Level 1 which is the easiest to follow. The other option that will be seen a lot would be Tank Level 2 Option 3. The other options will be limited to a small number of facilities.

For container storage, most of the facilities will store their waste in DOT approved containers. RCRA regulations already cover such storage and, as a result, most facilities will be in compliance with the container storage regulations of the Subpart CC regulations.

1. IDENTIFICATION AND APPLICABILITY:

A. Does the facility have any of the following units that treat, store or dispose of hazardous waste with volatile organic (VO) concentrations of 500 ppmw or more on an average annual basis?
___ Yes ___ No

___ Tanks
___ Containers
___ Surface Impoundments

B. 373-3.29(a)(2) Exemptions:

(i) ___ Unit did not receive hazardous waste after 12/6/96.
(ii) ___ Container that has less than 26 gallons capacity.
(iii) ___ Unit undergoing closure.
(iv) ___ Units used in on-site RCRA or CERCLA cleanup.
(v) ___ Unit solely used for radioactive mixed hazardous waste.
(vi) ___ Units with Clean Air Act (CAA) air emission controls.
(vii) ___ Tanks with process vents (Subject to Subpart AA).

C. 373-3.29(d)(3) Exemptions:

(i) ___ Units for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 ppmw.
(ii) ___ Units for which the organic content of all hazardous waste entering the unit has been reduced by an organic destruction or removal process in accordance with 373-3.29(d)(3)(ii).
(iii) ___ Tanks used for biological treatment of hazardous waste in accordance with 373-3.29(d)(3)(ii)('d').
(iv) ___ All waste placed in the unit meets 376.4 (LDR) requirements.
(v) ___ Tank used for bulk feed of hazardous waste to a waste incinerator in accordance with 373-3.29(d)(3)(v).

D. Other 373-1.1(d) general exclusions/exemptions:

(i) ___ Hazardous waste recycling unit exemption.
(ii) ___ Totally enclosed treatment unit exemption.
(iii) ___ Elementary neutralization unit exemption.
(iv) ___ Wastewater treatment unit exemption.
(v) ___ Emergency or spill management unit exemption.
(vi) ___ Satellite accumulation containers.

E. Waste determinations:

(i) ___ An owner or operator shall determine the average V0 concentration at the point of waste origination for each hazardous waste management unit exempted under (VO <500 ppmw) the provisions of 373-3.29(d)(3)(i) from using air emission controls - 373-3.29(e)(1)(i). ___

(ii) ___ The average VO concentration of hazardous waste at the point of waste origination shall be determined - 373-3.29(e)(1)(ii). ___

(a) ___ by using direct measurement as specified in 373-3.29(e)(1)(iii) OR ___

(b) ___ by using knowledge as specified in 373-3.29(e)(1)(iv). ___

2. STANDARDS FOR TANKS - 373-3.29(f)

A. ___ The owner or operator shall control air pollutant emissions from the tank in accordance with the Tank **Level 1** controls as specified in 373-3.29(f)(3) OR Tank **Level 2** controls as specified in 373-3.29(f)(4). ___

B. Tank Level 1 Controls:

1. ___ Tank must meet the following three conditions to qualify to use Level 1 controls - 373-3.29(f)(2)(i). ___

(i) ___ Waste maximum organic vapor pressure should be less than the cutoff for tank design capacity - 373-3.29(f)(2)(i)('a'). ___

(ii) ___ No heating of hazardous waste in tank to or above the temperature at which maximum organic vapor pressure is determined - 373-3.29(f)(2)(i)('b'). ___

(iii) ___ No waste stabilization in the tank - 373-3.29(f)(2)(i)('c'). ___

2. ___ Maximum organic vapor pressure for hazardous waste to be managed in the tank, using Level 1 control, should be determined according to 373-3.29(e)(3); 373-3.2(f)(3)(i). ___

3. ___ The tank shall be equipped with a fixed roof ___

meeting the following requirements - 373-3.29(f)(3)(ii).

(i) ___ Fixed roof designed with no visible cracks, holes, gaps or other open spaces in roof seams and mountings. ___

(ii) ___ Fixed roof openings can be: ___
___ Equipped with closure device designed with no visible cracks, holes, gaps, or other open spaces when secured in closed position. ___
___ Equipped with permanent opening vented to organic emission control device. ___
___ Equipped with pressure relief device vented to atmosphere. ___

(iii) ___ Closure device to be maintained in a closed position except when necessary to access the waste or equipment under the cover. ___

C. Tank Level 2 Controls:

Tank using Tank Level 2 controls shall use one of the following Five control alternatives:

1. ___ Fixed roof tank with internal floating roof.
2. ___ External floating roof.
3. ___ Tank vented through a closed-vent system to a control device.
4. ___ Pressure Tank
5. ___ Tank inside enclosure vented to combustion control device.

1. ___ Tank using Level 2 control with a fixed roof with an internal floating roof shall meet the requirements specified in 373-3.29(f)(5). ___

2. ___ Tank using Level 2 control with external floating roof shall meet the requirements specified in 373-3.29(f)(6). ___

3. ___ Tank using Level 2 control by venting the fixed roof tank to a control device shall meet the following requirements as specified in 373-3.29(f)(7). ___

(i) ___ The fixed roof and its closure devices shall form a continuous barrier over the entire surface area of the liquid in the tank. ___

(ii) ___ Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. ___

(iii) ___ Closure device to be maintained in a closed position and the vapor headspace underneath the fixed roof vented to the control device. ___

4. ___ Tank using Level 2 control by a pressure tank shall meet the requirements as specified in 373-3.29(f)(8). ___

5. ___ Tank using Level 2 control with tank inside the enclosure vented to combustion control device shall meet the requirements as specified in 373-3.29(f)(9). ___

D. Waste Transfer Requirements:

___ Transfer of hazardous waste to the tank from another tank subject to using air emission controls under Subpart CC must be conducted according to 373-3.29(f)(10) requirements by using continuous hard-piping or another ___

closed system that does not allow exposure of the waste to the atmosphere.

E. Inspections and Monitoring:

1. ___ The owner or operator shall perform an initial inspection of the tank cover and its closure device and, thereafter, the subsequent inspection and monitoring should be performed at least once a year as specified in 373-3.29(f) & (i); 373-3.29(j)(1). ___

2. ___ The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring - 373-3.29(j)(2). ___

3. ___ Each defect detected during the inspection shall be repaired as soon as practicable but no later than 45 calendar days after the detection. A first effort at repair shall be made no later than five calendar days after the detection - 373-3.29(f)(11). ___

F. Recordkeeping Requirements:

1. ___ For fixed roof tank with Level 1 control, the records for each determination of maximum organic vapor pressure of the hazardous waste in tank - 373-3.29(k)(2)(ii)('a'). ___

2. ___ Records of inspection dates and defect repairs - 373-3.29(k)(2)(i)('b'). ___

3. ___ Design documentation for floating roof covers and enclosures - 373-3.29(k)(ii)('b'). ___

3. STANDARDS FOR CONTAINERS - 373-3.29(h)

A. General Requirements.

1. ___ For a container with design capacity greater than $0.1 m^3$ (26 Gal) and less than $0.46 m^3$ (119 Gal), and no waste stabilization in container shall use container **Level 1** control - 373-3.29(h)(2)(i)('a'). ___

2. ___ For a container with design capacity greater than $0.46m^3$ (119 Gal) that is not in light material service, and no waste stabilization in container shall use container **Level 1** control - 373-3.29(h)(2)(i)('b'). ___

3. ___ For a container with design capacity greater than $0.46m^3$ (119 Gal) that is in light material service, and no waste stabilization in container shall use container **Level 2** control - 373-3.29(h)(2)(i)('c'). ___

4. ___ For a container with design capacity greater than $0.1m^3$ (26 Gal) and is used for waste stabilization shall use container **Level 3** control - 373-3.29(h)(2)(ii). ___

B. Container Level 1 Standards:

Container using container Level 1 control shall use **one** of the following three control alternatives:

1. ___ Use a container that meets the USDOT regulations as specified in 373-3.29(h)(6); 373-3.29(h)(3)('a'). ___

2. ___ Use a container which is equipped with a cover and closure devices that form a continuous barrier over the container openings to minimize exposure of hazardous waste to the atmosphere - 373-3.29(h)(3)('b'). ___

3. ___ Use a container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere - 373-3.29(h)(3)('c'). ___

C. Container Level 2 Standards:

1. ___ Container using Level 2 control shall use **one** of the following three control alternatives: ___

(i) ___ Use a container that meets the USDOT regulations as specified in 373-3.29(h)(6); 373-3.29(h)(4)(i)('a'). ___

(ii) ___ Use a container that operates with no detectable organic emissions as defined in 373-3.29(b) and determined in accordance with the procedure specified in 373-3.29(h)(7); 373-3.29(h)(4)(i)('b'). ___

(iii) ___ Use a container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR Part 60 Appendix A, ___

Method 27, in accordance with the procedure specified in 373-3.29(h)(8); 373-3.29(h)(4)(i)('c').

2. ___ Transfer of hazardous waste in or out of a container using Level 2 controls shall be conducted in such a manner as to minimize exposure of hazardous waste to the atmosphere. Waste transfer should be done using any **one** of the following - 373-3.29(h)(4)(ii). ___

(i) ___ A submerged-fill pipe or other submerged-fill method **or** ___

(ii) ___ A vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operation **or** ___

(iii) ___ A fitted opening in the top of a container through which the hazardous waste is filled. ___

D. Container Level 3 Standards:

1. ___ Containers using Level 3 control shall use **one** of following two control alternatives: ___

(i) ___ Use a container that is vented directly through a closed vent system to a control device - 373-3.29(h)(5)(i)('a'). ___

(ii) ___ Use a container that is vented inside an enclosure which is exhausted through a closed vent system or a control device - 373-3.29(h)(i)('b'). ___

2. ___ The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T..Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B - 373-3.29(h)(5)(ii)('a'). ___

3. ___ The closed-vent system and control device shall be designed and operated in accordance with the requirements of 373-3.29(i); 373-3.29(h)(5)(ii)('b'). ___

E. Inspections and Monitoring:

1. ___ The containers should be inspected visually within 24 hours after the container is accepted at the facility, when a hazardous waste already is in the container - 373-3.29(h)(3)(iv)('a') & 373-.29(h)(4)(iv)('a'). ___

2. ___ Containers that remain at the facility shall visually be inspected initially and, thereafter, at least once every 12 months to check for cracks, holes, gaps or other openings - 373-3.29(h)(3)(iv)('b') & 373-3.29(h)(4)(iv)('b'). ___

3. ___ Each defect detected during the inspection shall be repaired as soon as practicable but no later than five calendar days after the detection. A first effort at repair shall be made within 24 hours after the detection - 373-3.29(h)(3)(iv)('c') & 373-3.29(h)(4)(iv)('c'). ___

4. ___ For container Level 3 controls, the inspection and monitoring of closed-vent system and control device shall be done as specified in 373-3.29(i); 373-3.29(h)(5)(iv). ___

F. Record Keeping Requirements:

1. ___ Containers using Level 3 controls shall prepare and maintain design documentation and calculations for enclosures - 373-3.29(k)(4)(i). ___

2. ___ Records required for the closed-vent system and control device in accordance with 373-3.29(k)(5); 373-3.29(k)(4)(ii). ___

4. STANDARDS FOR SURFACE IMPOUNDMENTS:

___ The owner or operator shall control air emissions from the surface impoundment according to the requirements of 373-3.29(g); 373-3.29(d)(2). ___