

**SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL DISTRICT
COMPLIANCE DEPARTMENT**

COM 2171

APPROVED: _____ **SIGNED** _____ **DATE:** June 27, 2008
Jon Adams
Director of Compliance

TITLE: **RULE 4455 – COMPONENTS AT PETROLEUM REFINERIES,
GAS LIQUIDS PROCESSING FACILITIES, AND
CHEMICAL PLANTS**

SUBJECT: **INSPECTION OF COMPONENTS AT PETROLEUM REFINERIES,
GAS LIQUIDS PROCESSING FACILITIES, AND CHEMICAL
PLANTS.**

OBJECTIVE:

To establish uniform District policies and procedures for implementation of Rule 4455 – Components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants.

PURPOSE:

To minimize fugitive VOC emissions from components at Petroleum Refineries, Gas Liquids Processing Facilities, and Chemical Plants.

POLICY STATEMENT:

District staff will enforce Rule 4455 and permit conditions pertaining to the discharge of VOCs from fugitive components at Refineries, Gas Liquids Processing Facilities, and Chemical Plants. Failure to comply with the requirements of this rule is a violation and may subject the source to enforcement action. The rule requires the submittal of an Operator Management Plan, sets forth new limitations on VOC emissions, requires periodic operator inspections, and outlines record keeping requirements. Individual sources may have conditions on their permits, which are less restrictive or more restrictive than those described in Rule 4455. However, sources will be held to those applicable rules, regulations, or conditions that are most restrictive.

PROCEDURE:

- I.** Follow general inspection procedures and guidelines, as defined in **COM 2020 – INSPECTIONS**, to prepare for the inspection.

- II.** Facility Record Review.
 - A.** Review the Operator Management Plan (OMP) to identify the following information: (Due 10-20-05)
 1. Hazards or safety issues that may be of concern in the inspection area.
 2. Exempt areas where,
 - a. Liquid streams contain $< 10\%$ wt. VOC.
 - b. Gas & hydrogen streams contain $< 1\%$ wt VOC.
 - c. VOC streams are in vacuum service
 - d. Streams contain only commercial natural gas.
 3. Applicable (non-exempt) areas where,
 - a. Liquid streams contain $\geq 10\%$ wt. VOC.
 - b. Gas streams contain $\geq 1\%$ wt. VOC.
 4. Number of components of each component type.
 5. Employee training program for inspecting, repairing, & record keeping procedures.
 6. Changes to OMP due each year by January 30th.

 - B.** Review the company Inspection Log for compliance:
 1. What were previous inspection dates. (routine & required)
 2. Are quarterly inspections being conducted on pumps, compressors, and PRDs?
 3. Were changes in frequency notified in writing? (within 5 days)
 4. What was the compliance status of the last required (quarterly/annual) inspection?
 - a. Note violations of the leak standards (Section 5.1.4)
 - b. Leaks found during quarterly inspections that are repaired expeditiously are not violations of the rule (Section 5.1.3.2.1)
 - c. Leaks found during quarterly inspections that are not repaired expeditiously, may be violations depending on leak rate or %.
 - d. Leaks found during annual inspections are violations regardless of expeditious repair (Section 5.1.3.2.3).
 - e. Issue NOVs for violations as noted above.
 5. Were problem areas noted during the inspection?
 6. Were tagged components repaired during the required time frame?

7. Are hydrocarbon analyzers being calibrated?
8. Were major components and critical components physically identified with labels, tags, or some other system?
9. Was an in-house team or contractor identified to conduct inspections?
10. Are pumps, compressors, and PRDs audio-visually inspected every 24 hours?
11. If an audio-visual inspection reveals a leak, is the leak checked with a hydrocarbon analyzer within 24 hours?
12. Are new components being inspected immediately, once in service?
13. Are inaccessible components and pipes being inspected annually?
14. Are unsafe-to-monitor components being inspected at turnaround?
15. Were leaking components tagged & repaired according to Table 3?
16. Are PRDs checked within 24 hours of a release?
17. Are PRDs re-checked between 24 hours and 15 days?
18. Were leaking essential or critical components identified in the Management Plan and tagged and repaired appropriately?
19. Is PRD process monitoring in place? (electronic or telltale)
20. Were PRDs required to be connected to approved closed vent systems after VOC releases exceeding permitted limits?

III. Facility Inspection.

A. Inspect the facility in teams of two.

1. One inspector utilizing the hydrocarbon analyzer (see Policy COM 1151 for operation instructions for each analyzer, and for field calibration as requested by source).
2. The other inspector observing, keeping a tally of components checked, recording leaks, and taking notes as required.

B. When leaking components are observed record the following:

1. Location, area, and unit being inspected.
2. Component identification number and component type.
3. Leak concentration (ppm or %)
4. Service (liquid or gas).
5. Repair tag (date, leak concentration, repair date, operator)
6. If a repair tag is present, determine the type of inspection (annual or quarterly).
 - a. Components with repair tags resulting from quarterly or more frequent inspections and repaired within the time limits of Table 3 will not be considered toward violations of the leak standard in Section 5.1.4.

- b. Components with repair tags resulting from quarterly or more frequent inspections and not repaired within the time limits of Table 3 shall be counted toward determination of compliance with the provisions of Section 5.1.4.
- c. Components with repair tags resulting from annual inspections shall be considered toward violations of the leak standard in Section 5.1.4.

C. Reconcile the list of leaking components:

1. Categorize leaks as minor, major (10,000 to 50,000 ppm), major liquid, or gas leak > 50,000 ppm.
2. Total number of minor and major (10,000 to 50,000 ppm) leaks by component type.
3. To determine the leak percentage for each component type, divide the total number of minor and major (10,000 to 50,000 ppm) leaks by the total number of that component inspected during the entire inspection. For an annual inspection at a larger facility, this may be several days of data from several different units. For a start-up inspection of a single unit or an inspection at a smaller facility, this may be a much smaller number of components from a single day's inspection.
4. If more than 200 of a component type were inspected, compare the leak percent for each component type to that allowed in Table 2.
5. If 200 or less components were inspected, compare the total minor and major (10,000 to 50,000 ppm) leaks to Table 2 to determine compliance.
6. Any major liquid leak (visible mist or continuous flow) is a violation.
7. Any gas leak > 50,000 ppm is a violation.
8. Any open-ended line – not sealed with a blind flange, plug, cap, or double valve is a violation.

D. Post Inspection:

1. Were components properly identified with identification tags?
2. If leaks were found on essential and/or critical components, verify they were identified in the Operator Management Plan.
3. Verify last turnaround date and next projected turnaround date.
4. Determine if tagged essential or critical components were repaired during the last turnaround.
5. Discuss problem areas with source contact and issue any NOV's as required.