

**SANTA BARBARA COUNTY**  
**AIR POLLUTION CONTROL DISTRICT**  
***ENFORCEMENT POLICIES AND PROCEDURES***

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Topic       Rule 331 Fugitive I&M Enforcement Guidelines      

Distribution:       APCD Staff      

This policy and procedure document provides guidance to APCD staff concerning the enforcement of Rule 331, Fugitive Emissions Inspection and Maintenance (adopted December 10, 1991). This document also provides guidance to APCD staff regarding the review of Inspection and Maintenance Plans, and updates thereto, intended to meet or exceed the requirements of Rule 331.

This document follows Rule 331 by rule section in outlining APCD policy regarding compliance and enforcement.

RULE 331

A. Applicability

Rule 331 is applicable to components in piping systems or process equipment operating in liquid or gaseous hydrocarbon service at refineries, chemical plants, oil and gas production fields, oil and gas processing plants and pipeline transfer stations. Components at facilities not containing liquid or gaseous hydrocarbons, and completely isolated from other systems containing hydrocarbons, are not subject to this rule.

Examples of non-applicable components are:

- Components idled and purged of hydrocarbons and isolated from adjoining operating facilities by means of physical piping disconnects, isolation line blinds, rupture discs with bleed valves on the inlet side of Pressure Relief Devices (PRDs), or two closed and tamper-proof sealed valves. In the case of the latter two methods of isolation, components up to and including the PRD body bonnet, or the second valve stem, will remain subject to Rule 331.

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Tamper- proof sealed closed means the use of standard industry tamper-proof metal seals which will provide clear evidence of any valve tampering after the valve is closed and sealed. Means to also verify that the idled components are not experiencing positive internal pressure from hydrocarbons such as a vent valve, pressure gauge or open piping must also be clearly evident to the APCD Inspector on the idled facility. Equipment idled and depressurized as described above, but closed to prevent internal corrosion, may be protected from external over-pressure events, such as fire, with a pressure relief device (PRD) connected to a low-pressure closed hydrocarbon relief system. The discharge flange of the PRD would still be subject to the Rule in this case.

- Systems designed for non-hydrocarbon services such as waste water piping where volatile hydrocarbons are not typically present (except under conditions of breakdown where APCD Breakdown Rule 505 may be applicable). Oily water systems are not considered waste water systems, however these systems may qualify for exemption under Rule 331.B.3.a or 331.B.3.b.

Furthermore, this Rule is not intended to apply to:

- Lubrication systems for mechanical equipment which utilize non-volatile lubricating oils. This exemption is not applicable to grease/sealant fittings installed on components which are otherwise subject to the requirements of Rule 331.
- Non-volatile hydrocarbon fluids, such as Therminol, glycol, amine, etc, in their unused state (i.e. prior to contact with volatile hydrocarbon fluids).
- Non-volatile lube oils used as barrier fluids in dual seal arrangements on pumps.
- Residential type gas water heaters and furnaces used within the office buildings of facilities subject to this Rule (including the supply piping).
- Pipelines on easements crossing an applicable source's property where the pipelines are not physically connected to the source's facilities.
- Riveted and bolted tank seams and floating roof tank seals.
- Fittings on discharge drain lines to non-pressurized sumps from liquid service PRDs. The outlet point, however, remains subject to Rule 331. Any intermediate fittings are not to be included in the component count.
- Fittings on liquid drain lines downstream of the second closed block valve.
- Fittings on PRD discharge piping which discharges to atmosphere. The outlet point, however, remains subject to Rule 331 unless a rupture disc and vent valve is included on the inlet side. Any intermediate fittings are not to be included in the component count.

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- Oil and gas wells which have been shut-in and removed from APCD permits in accordance with the APCD Policy and Procedure 6100.031.93 "Removal of Oil and Gas Wells from Permits and I&M Programs."
- Components undergoing maintenance activities (any emissions as a result of such activities must be consistent with the source's APCD Permit to Operate).

## B. Exemptions

1. All exemptions allowed by Rule 331.B.2 and 331.B.3 must be applied for in writing to the APCD by reference in the source's I&M plan or by separate submittal. All requests for exemptions must receive APCD approval to be deemed valid. All requests for exemption must contain sufficient documentation for APCD staff to fully evaluate the request. Such documentation may include laboratory analyses of process streams, descriptions and/or design drawings of components, process flow descriptions, locations of components, company safety manuals or policies, information regarding initial inspections for determining leak-free status of stainless steel tube fittings, and other information as further detailed below.

Facilities subject to New Source Performance Standards (NSPS) may not be eligible for certain exemptions. The APCD will determine exemption eligibility for sources subject to NSPS requirements on a case by case basis.

Exemptions will not be recognized until approved by APCD either through approval of the source's I&M plan containing exemption requests or separate written approval. Where laboratory analyses are required to determine exemptions, analyses shall be submitted by the sources, whenever requested by APCD in accordance with authority granted by California Health and Safety Code Section 42303. Alternatively, the APCD may request access to the facility, in accordance with H&SC 41510, for the purpose of collecting samples to be used for determining exemptions. Any laboratory costs incurred by APCD for such analyses shall be reimbursed pursuant to APCD Rule 210. Future analyses, when requested, will assist APCD in verifying that process conditions have not changed. Each analysis must continue to meet the requirements of Rule 331 to maintain the exemption. If APCD determines that the results continue to substantiate the exemption, then no formal response from APCD will be required to continue the previously approved exemption and the information shall be forwarded to the source files with notations by APCD staff as to the status of the exemption.

All APCD requests for analyses shall be sent via certified mail. Failure of the source to submit the information requested by the APCD in accordance with the authority granted by H&SC 42303 shall constitute grounds for the suspension of the applicable operating permit issued to the source. Failure of an analysis to substantiate the exemption will void the exemption retroactively from the date the sample was taken.

The Inspector shall inform the Enforcement Supervisor and notify the source via

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certified mail that the applicable exemption is no longer valid. The notice shall further state that the affected components or facilities must be in full compliance with all applicable requirements of Rule 331 and that the affected components must be inspected by the source, consistent with Rule 331, within the same calendar quarter (or the same year if applicable) during which the exemption was voided in order to avoid possible enforcement action. Daily inspections, if required by the Rule for pumps, compressors and PRDs, must begin the calendar day following receipt of the certified notice. If APCD is unable to notify a source of a voided exemption before the last 30 days of the applicable calendar quarter (or year), the notice shall state that the source must inspect the previously exempted components in accordance with Rule 331 within 30 days of the receipt of the notification to avoid possible enforcement action. The Inspector shall document all voided exemptions by copying the notice to the Enforcement Supervisor, the Engineering Division Permitting Section Supervisor and the source files.

A source may reapply for an exemption which has been voided, or for a new exemption, by submitting documentation as described earlier in this section. However, all applicable provisions of Rule 331 will apply in the interim until the exemption is approved and/or reinstated by APCD. The APCD review and processing of all exemption requests and modifications of I&M plans shall be in accordance with the reimbursable provisions of APCD Rule 210.

2. Exemptions under Rule 331.B.2, once approved by APCD, will exempt the source's identified components from all requirements of Rule 331 (subject to conditions below):
  - a) **Components Exclusively Handling Natural Gas** (as defined by 331.C.18) - Exemptions for components must include lab analyses in accordance with Section B.1 of this Policy and a sufficiently detailed description of the system to enable APCD Inspectors to locate the exempted system components in the field.
  - b) **Components Buried Below Ground** - Exemptions for these components require a general statement in the I&M plans that components buried below ground are exempt from the provisions of Rule 331. The exposed portions of partially buried components are to remain subject to Rule 331. This exemption does not apply to components below grade in vaults, sumps or cellars. Such below grade components may qualify for "unsafe to monitor" status through Rule 331.B.4, if approved by APCD on a case by case basis.
  - c) **One-Half Inch and Smaller Stainless Steel Tube Fittings** - Exemptions for these components shall be on an individual component basis. For example, if a facility self-inspects 500 of these fittings in accordance with Rule 331.H test methods, and 490 are found and reported to be leak-free (below the liquid leak and minor gas leak thresholds as defined by Rule 331.C.15 and C.17), then only the 490 fittings would qualify for this exemption. The remaining 10 components could later qualify for this exemption as each leaking component is successfully repaired to leak-free status, re-inspected by the source operator in accordance

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with Rule 331.H test methods, and reported as leak-free to APCD in a subsequent written request for exemption.

Any such fittings not qualifying for this exemption may require separate physical identification in a manner approved by APCD so that facility operators and APCD Inspectors can differentiate between the exempted and non-exempted one-half inch and smaller stainless steel tube fittings.

Once exempted, each one-half inch and smaller stainless steel tube fitting will remain exempted until such time it is disassembled or found to be leaking by an APCD Inspector. Following re-assembly it must be re-inspected and determined to be leak-free by the source to maintain the exemption. This exemption does not apply to one-half inch and smaller valves, whether made of stainless steel or other materials.

3. The exemptions under Rule 331.B.3, once approved by APCD, relieve the source (subject to conditions below) from the requirements of Rule 331 Sections F.1, F.2, F.3, F.4 and F.7.

Components approved by APCD for the following exemptions are required to be clearly identified in the source's I&M plan so that APCD Inspectors can differentiate between exempt and non-exempt components. This does not necessarily require tagging of individual non-critical exempt major components, particularly if entire areas or sections of facilities are exempted from regular scheduled monitoring through Rule 331.B.3 and these areas can be clearly identified in the plan. The extent of field tagging of non-critical exempt components will be determined on a case by case basis by the APCD during the I&M Plan review process. However, any critical component, even if exempted under Rule 331.B.3, must be individually tagged in the field in accordance with Rule 331.G.

- a) **Components in Heavy Liquid Service** - Initial and subsequent lab analyses, performed in accordance with the Rule 331.H.3 test method, must be submitted as described in Section B.1 of this Policy in order to obtain and maintain the "heavy liquid service" exemption. The test method described in Rule 331.H.3 is to be applied to only the ROC portion of the liquid stream. For example, a liquid stream consisting of 50% water and 50% ROC hydrocarbon must have the water removed prior to testing in order to determine the percentage of ROC hydrocarbon liquid evaporation at 150 degrees centigrade. Components in some liquid ROC hydrocarbon service may qualify for this exemption without having to perform the test method analysis described in Rule 331 H.3. if the published initial boiling point of the liquid is greater than 150°C (302°F). For example, No.2 fuel oil (diesel) has an initial boiling point of 325°F. To qualify No.2 diesel fuel oil for this exemption, the source need only submit a request for exemption along with a MSDS or Product Data Sheet that documents the initial boiling point of the diesel is above 150°C.

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This exemption only applies to components containing or contacting a liquid which has been demonstrated to be exempt through the test methods stated in Section H.3 of the Rule.

Example: Components of a well which under normal operating conditions contain or are in direct contact with the exempt liquid.

This exemption is not valid for any idle or out of service components which no longer contain or are in direct contact with the exempt liquid.

Example: Components of an idle well which is no longer actively producing an exempt liquid and where said components now contain or are in direct contact with non-exempt hydrocarbon gasses or vapors.

Liquid and gaseous vapor leaks detected from heavy liquid service exempted process stream components, including wellhead polished rod stuffing box (pump seals), shall not constitute a violation of Rule 331.D.1. Leaking heavy liquid service components, however, remain subject to the repair timelines specified in Rule 331.E.

- b) **Components in Service Containing 10 Percent or Less by Weight ROC** - Initial and subsequent lab analyses performed in accordance with Rule 331.H.2 test methods must be submitted as described in Section B.1 of this Policy in order to obtain and maintain the "10 percent or less by weight ROC" exemption. An example of components potentially qualifying for this exemption, in the non-gas plant case, would be a process fluid stream containing 90.0% by weight carbon dioxide (considered a non-ROC carbon containing compound in accordance with APCD Rule 102) and 10.0% by weight ROC hydrocarbons, as verified according to Rule 331.H.2 test methods and approved by APCD.

Except for components within gas processing plants, APCD has determined that components exclusively in service with gas from the local gas utility company (PUC quality) qualify for the 331.B.3.b exemption. This is based on the regular weekly gas analyses, performed in accordance with Rule 331.H test methods, currently submitted to the APCD by the local gas utility company. Therefore, initial lab analyses from individual sources for components exclusively in this service will not be required with the written application for this exemption. However, APCD will verify the source of this gas during field inspections and/or may request copies of gas company billing receipts. APCD may also request sampling and testing for verification purposes at any time in accordance with authority granted by California Health and Safety Code Sections 41512 and 42303. Gas, purchased or otherwise, within gas processing plants would not qualify for an exemption unless it meets the more stringent requirement defined by Rule 331.C.18.

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- c) **Totally Contained or Enclosed Components** - This exemption applies if disassembly of a sealed device or cover is required to inspect the component. Typical examples would be PRDs that discharge into a sealed or closed system, compressor seals within sealed flanged covers (the flanged covers would be monitored components, unless also approved for the negative pressure exemption of Rule 331.B.3.d), the inner seal of dual mechanical seal pumps utilizing non-volatile lube oil barrier fluid between the seals (the outer seal would also not require monitoring as described in Section A of this Policy), and welded connections. Any request for this exemption should fully describe the type of system used in order for APCD to be able to evaluate and approve the exemption.

**Components encased by insulation do not qualify for this exemption.** Due to the potential for asbestos exposure, insulated components shall be monitored with the probe as close as possible to the component, without destroying, disturbing or dismantling the insulation.

- d) **Components Operating Under Negative Pressure** - Any request for the negative pressure exemption must specify the type of monitoring devices to be used by the source for verifying that these components are operating exclusively under negative pressures (such as pressure gauges readily visible at all times or other equivalent measures). For the purposes of enforcing this exemption, the term "exclusively under negative pressure" implies there is no potential to experience internal positive pressure (except under conditions of breakdown where APCD Breakdown Rule 505 may be applicable).
- e) **Control Valve Actuation Systems** - An exemption request is required for any control valve or pilot valve actuation system using gas pressure (excluding gas from the local gas utility company) which is released to the atmosphere during the actuation process. The exemption request shall include information as necessary for the specific case such as:
- A description of the actuation system including valve design, manufacturer, size and location;
  - Laboratory analyses of the actuating gas;
  - A description of the service including temperature, pressure, flow rates, control range, shut-off conditions, allowable pressure drop, type of fluid medium (gas, liquid or two phase flow), composition of the fluid, or any other information deemed necessary by APCD;

From some or all of the above information APCD will determine on a case-by-case basis the availability of a feasible alternative valve design.

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4. **Unsafe to Monitor Components** - It is APCD policy that the owner/operator is assumed to be the most qualified to determine the locations (if any) of unsafe to monitor components at their facility. Requests for exemption from Rule 331 Sections F.1, F.2, and F.7 for unsafe to monitor components must include documentation in the form of a company safety manual or policy that describes the company's parameters used to classify a component as unsafe. APCD must approve the adequacy and completeness of the documentation.

Rule 331 F.3. requires the owner/operator to inspect "unsafe to monitor" components when this can be done safely. "Unsafe to monitor" components should be inspected by the owner/operator during any planned or unplanned access to the component for repair, replacement, and/or maintenance purposes. This monitoring schedule is consistent with the Rule language as planned or unplanned access will require the owner/operator to address all safety concerns prior to accessing the "unsafe to monitor" component.

C. Definitions

The following paragraphs are provided for guidance in interpreting and enforcing the provisions of Rule 331.C:

**Component** - Both major and minor components may have numerous associated leak paths in accordance with this Rule's definitions of "component". These associated leak paths include, but are not limited to, attachment flanges, vent taps, grease/sealant fittings, or plugs, compressor cylinder cover plates, compressor seals, and valve bonnets. Leak paths are considered part of the compressor, pump or valve, which is treated as one single component. Any flange or threaded connection, regardless of size, which is not associated with a valve, PRD, pump or compressor component is to be categorized in Table 1 of Rule 331.F.2 as an "other" minor component. Piping clamps, screwed couplings, screwed tees, screwed elbows, hatches, meters, sight glasses, level gauges, and diaphragms are also considered "other" single minor components if not associated with a valve, PRD, pump or compressor.

**Liquid Leak** - The leak threshold of "more than three drops per minute" as described by Rule 331.C.15 requires APCD Inspectors or source inspectors to be able to clearly and visibly quantify and document the liquid leak concentration. For example, heavy liquid leaking from a component/leak path must be observed to be leaking liquids at a volume/rate which is equivalent to more than three drops per minute or a steady stream in order to determine the exceedance of the leak threshold.

**Natural Gas** - PUC quality purchased gas does not meet the Rule 331.C.18 definition of natural gas. PUC purchased gas averages four to six percent ROC on a weight basis. This precludes PUC quality purchased gas from qualifying for the Natural Gas exemption under Rule 331.B.2.a. However, exemption under Rule 331.B.3.b is available, if the source is not a gas processing plant, when the total ROC content by weight of PUC quality gas averages ten percent or less based on the test results discussed in Section B.3.b of this Policy.

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**Process Unit Shutdown** - The next process shutdown for replacing a leaking critical component with approved BACT shall be the actual shutdown of the component's specific process area.

D. Requirements - General

Except for Part 70 sources, the APCD shall only count leaks determined by APCD Inspectors (using random inspection techniques) as the basis of enforcement action for exceeding allowable leak thresholds as specified in Table 1 of Rule 331.F.2. Pursuant to 40 CFR § 70.6 (a)(3), deviations from Part 70 permit requirements which are also deviations of Rule 331 must be reported to the APCD by the source. Pursuant to 40 CFR §70.11(a)(3)(i), deviations reported to the APCD by Part 70 sources will be appropriately documented by the APCD. Allowable leak thresholds shall be enforced on a facility basis and not on a stationary source basis. However, the rule allows the APCD to assess the additional use of operator inspection records for enforcement action applicable to non-Part 70 sources (concurrently with random APCD inspection records) in the future. A formal revision of this policy and procedure document will be issued in that case.

The separate records of both APCD and owner/operator discovered leaks will be used as a basis for determining quarterly versus annual inspection frequencies in accordance with Rule 331.F.2. For the purposes of Rule 331.F.2, the allowable leak thresholds will be based on the total number of components inspected for each component category (scheduled and unscheduled) by the owner/operator's inspectors during the inspection period (a calendar quarter or year, as applicable), or the total number of components inspected by APCD inspectors during a APCD field inspection period. Leaks found by APCD Inspectors will not be added to those found by the owner/operator's inspectors for this determination.

Idled (but not abandoned) wellheads of the same owner/operator within a facility/lease are to be grouped and considered as one separate facility for the purposes of Rule 331.F.2 Table 1. For the purpose of this policy and procedure, an idled wellhead is defined as any well which; 1) for any reason other than maintenance, has not produced oil and/or gas for a period of six (6) months or longer prior to the inspection, and/or 2) is physically disconnected or isolated from the flowlines leading to the downstream gathering or processing equipment by means of two closed valves, plugs, isolation blinds, etc. However, wellheads shut-in or abandoned in accordance with the APCD Policy and Procedure referenced in Section A of this document are not subject to Rule 331.

Rule D.3 allows a second closed valve in lieu of a plug, blind flange or cap on open-ended lines and on valves located at the end of lines. This second valve need not be immediately adjacent to the first valve. If District Inspectors find a second valve cracked open or a missing plug, they shall immediately test for a leak using an analyzer. If a Rule 331 leak is detected, the source shall initiate a Rule 331.E repair procedure. The Inspector shall issue a Rule 331.D.3 Notice of Violation. If no Rule 331 leak is detected, the source shall be requested verbally to initiate actions within one hour, in the presence of the Inspector, to close the valve or reinstall the plug.

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Failure to comply with the District Inspector's request shall constitute a Rule 331.D.3 Notice of Violation.

Rule 331.D.4 requires components or component parts which incur five (5) repair actions for major gas or liquid leaks within a continuous twelve (12) month period to be replaced with Best Available Control Technology (BACT). For components with several associated components or leak paths, Rule 331.D.4 is to be applied separately to each associated component for the purposes of BACT replacement. For example, a compressor with several associated components incurs five repair actions over 12 months on the same outlet flange. In this case, Rule 331.D.4 would be applied to the associated component (outlet flange) and not the entire compressor.

An APCD field inspection period for APCD Inspectors, as it pertains to Rule 331.F.2 Table 1, is defined as up to three consecutive eight hour daylight shifts (excluding weekends and holidays). The total number of components randomly inspected by APCD Inspectors during one APCD field inspection period will be the basis for applying the leak threshold percentages found in Table 1. APCD Inspectors may inspect sources as often as necessary to ensure compliance with Rule 331.

APCD inspectors shall calibrate any organic vapor analyzer in accordance with the manufacturer's instructions and EPA Method 21 prior to conducting any fugitive emissions inspection for the purpose of determining a source's compliance status with the allowable leak threshold requirements of Rule 331. The calibration information (i.e. calibration date and time, calibration gas concentration, instrument response, etc.) shall be documented on the Rule 331 inspection checklist documenting the inspection. Additionally, APCD inspectors shall perform quarterly calibration precision verifications in accordance with EPA Method 21 on all organic vapor analyzers used by the APCD for determining compliance with Rule 331. The organic vapor analyzer calibration precision verification shall be documented using the APCD EPA Method 21 Organic Vapor Analyzer Calibration Precision Verification Checklist form ENF 33.

APCD Inspectors shall utilize the following random inspection guidelines that avoid targeting of specific components while maximizing the number of components inspected:

- Prior to arrival at the source, each Inspector or Inspection Team shall determine whether the inspection goal will be a specific number of components or a specific length of time (up to three consecutive eight-hour daylight shifts). This determination may be made in consultation with the Enforcement Supervisor and take into account available staff resources, current case loads, date of the source's last inspection, and the source's prior compliance record. Inspectors should also consider the source's ability to provide the necessary staffing for the inspections and have a backup option in these cases.
- The Inspector shall inform the source that a random inspection of components shall be performed based on either a predetermined component number or a length of time. This may not apply to smaller facilities with only several hundred non-exempt components. Here, every component could be feasibly inspected by the Inspector, if deemed necessary in consultation with the Enforcement Supervisor.

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In this case, the source is to be informed that all components will be inspected and the following five items would not apply.

1. The starting area of the facility shall be selected by random draw in the presence of the source's staff.
  2. Once at the starting area, the source's staff is requested to pick a first component for inspection.
  3. A number from "2" through "10" is then randomly drawn and non-exempt components are counted off accordingly for random inspection. Components already tagged by the source as leaking and awaiting repair shall not be counted. The initial direction of the count shall be determined by the Inspector. The count is based on a "component" as defined by Rule 331 and a single component selected for random inspection may contain several associated components or leak paths such as a valve or compressor. All associated components or leak paths shall be inspected in this case, however this would still count as a single component towards the overall total inspected. Insulated components shall be monitored with the probe as close as possible to the component, without disturbing, destroying or dismantling the insulation.
  4. An Inspector may at any time inspect any component that visibly or audibly appears to be leaking.
  5. APCD Inspectors may inspect a random sampling (per methods above) of components exempted under Rule 331.B.2, B.3 or B.4 (when safe) and visually scan all heavy oil exempted systems for obvious liquid leaks during each APCD inspection period. However, 331.F.2 is not applicable to such components, therefore these totals would not apply to both the total inspected and the total found leaking as applied to Table 1 of Rule 331.F.2. Nevertheless, all leaks found from Rule 331.B.3 and B.4 exempt components are subject to repair actions in accordance with Rule 331.E commencing from the time of leak detection. Leaks from Rule 331.B.2 exempt components will void the exemption for the specific leaking component(s) until the source repairs the component(s) to leak-free status and verifies the component is leak-free by means of a re-inspection.
- The Inspector may inspect the integrity of isolation devices such as tamper-proof seals, line blinds or rupture discs which were the basis for deeming certain components non-applicable to Rule 331. If a breach is discovered in the integrity of isolation devices, such as tamper-proof seals broken or line blinds missing, the Inspector may proceed to inspect the idled components for leaks (as non-exempt components and now subject to the full provisions of Rule 331 including possible enforcement action).
  - Upon completing the inspection goal the Inspector(s) shall terminate the inspection and inform the source of the preliminary results.

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- As an alternate to the above random inspection guideline, a random inspection pattern, that accomplishes the inspection goal and is agreed to by both the source representative and the APCD inspector, may be used. The source representative shall indicate agreement with the alternate random inspection pattern by signing the signature block provided in the Rule 331 section of the APCD inspection checklist. The APCD inspector shall describe the random inspection pattern used on the APCD checklist.

Both major and minor components may have numerous associated components or leak paths in accordance with this Rule's definitions of "Component", "Compressor", "Pump", and "Valve". Regardless of the number of potential leak paths, these types of components count as only one component and are recorded on the I&M plan component inventory list as only one component, however all potential leak points must be inspected (if not exempted) as part of the I&M program. For example, if a flange, as part of a valve component, is found to be leaking, it must be recorded as a valve leak and not a flange leak to be consistent with Rule 331.C. Furthermore, if more than one leak point from such a component is leaking, the leak with the highest leak concentration becomes the recorded leak concentration in accordance with EPA Method 21. The date of discovery of the highest leak concentration becomes the recorded leak date for such a component. This leak concentration of record and leak date of record is to be used to determine whether the recorded leak is either major or minor and the repair deadline date. Except for leak concentrations exceeding 50,000 ppmv as noted below, any other simultaneous leak(s) on the component, regardless of leak concentration, must be repaired in accordance with the same schedule required of the leak concentration of record as detailed in Rule 331.E.

#### E. Requirements - Repair

The requirement to minimize all leaks (as defined by Rule 331.C) from components within one hour may be satisfied by either direct leak repair or by initiating a repair action within the first hour, such as issuing verifiable repair orders to a mechanic. The latter would be most applicable to components like compressors or pumps which may require specialized repair tools and expertise, beyond that of the source's I&M inspector. If the inspection involves soap screening with analyzer follow-up, the one hour requirement begins upon quantification of the leak with the analyzer. Quantification with an analyzer is required within the same working day as the soap screening. To prevent delays in achieving the inspection goal during APCD inspections, the requirement to minimize all leaks within one hour may be satisfied by the source representative through the issuance of repair orders to a mechanic or field personnel for any leak discovered by the APCD inspector.

A major gas leak requires complete and successful repair to below the minor gas leak threshold defined by Rule 331.C.17 within 5 calendar days as specified by Rule 331.E.1.c. Reducing the leak concentration to the minor leak category (thus beginning a new 14 calendar day repair deadline) will not satisfy the successful repair requirement of Rule 331.1.c. A minor gas leak requires complete and successful repair to below the minor gas leak threshold defined by Rule 331.C.17 within 14 calendar days as specified by Rule 331.E.1.c. Completely removing and purging or depressurizing a leaking component from hydrocarbon service within the applicable

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repair deadline and not returning it to service until repaired, such as utilizing a spare pump, will satisfy Rule 331.E repair requirements.

Gas leaks of non-critical components exceeding the 50,000 ppmv threshold of Rule 331.E.1.f must be repaired, as allowed by Rule 331.E.1.f, to either a leak-free, major leak, or minor leak category within 1 calendar day (2 calendar days at offshore facilities). Furthermore, if after repair to 50,000 ppmv or less, and if a new leak concentration of record (as defined above) is established as a major or minor leak category from any leak path on the component, the component must now be successfully repaired within the applicable deadline for the new leak concentration of record as required by Rule 331.E.c. or 331.1.E.d.

The APCD Engineering Staff shall be consulted regarding all Best Available Control Technology (BACT) determinations for components requiring replacement with BACT. In cases where a BACT repair or replacement is required, the source shall follow the APCD Best Available Control Technology Replacement Guidelines protocol document. The requirements of 331.E.1.b will not apply to a critical component which has been successfully repaired within the applicable 1, 2, 5 or 14 calendar day deadlines.

A source may request a variance from the APCD Hearing Board for relief from a repair requirement or deadline for a specific component(s). This would be on a case by case basis and the request may or may not be approved by the APCD Hearing Board.

#### F. Requirements - Inspection

For the purposes of enforcing Table 1 leak thresholds, the leak categories of "pump seals" and "compressor seals" shall be interpreted to mean pump and compressor leaks and includes leaks from all associated components or leak paths. This is consistent with the Rule's definition of these components. For example, a leak from a compressor cylinder cover shall be considered a compressor leak and included in the allowable Table 1 threshold of leaks listed under "compressor seals".

Rule 331.F.3 allows APCD approved "unsafe to monitor" components to be monitored when safe and supersedes Rule 331.F.4, F.5 and F.7. Components designated as "unsafe to monitor" are required to be inspected whenever these components are accessed for planned or unplanned maintenance or repair actions.

Rule 331.F.4 requires annual monitoring of threaded and flanged connections for connections not associated with a valve, pump or compressor. Threaded and flanged connections associated with valves, pumps or compressors, as defined by Rule 331.C.4, 331.C.26 and 331.C.33, do not qualify for Rule 331.F.4. A leak from a flange which is an associated component of a valve, for example, is to be classified as a valve leak for the purposes of Rule 331.F.2 Table 1.

Rule 331.F.5 requires quarterly inspections of PRDs and again within 3 calendar days after every pressure relief event. This does not apply to PRDs which discharge into a closed system.

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Rule 331.F.6 requires, at minimum, a single re-inspection within 30 days following leak repair to verify the success of the repair for all component leaks. The source shall re-inspect the component after repair to verify the repair was successful (re-inspect within the 1, 2, 5 or 14 calendar day repair deadline required by Rule.331.E). This single re-inspection will satisfy the Rule 331.F.6 re-inspection requirement for most repairs. However, certain types of repair, such as completely replacing leaking pump or compressor packing, may require up to 30 calendar days to fully and effectively stop the leak. The 30 day re-inspection requirement is provided to allow for these specific types of repairs. Facilities subject to New Source Performance Standards (NSPS) may be subject to more stringent re-inspection requirements.

Rule 331.F.7 requires each pump seal, compressor seal, or PRD to be inspected for leaks once during every eight-hour operating period, except for components at oil or gas production fields and pipeline transfer stations where inspection shall be daily by the operator. This does not apply to PRDs which discharge into a closed system, the outer seal on dual seal pumps, compressor seals totally enclosed and vented to a closed system, and equipment not in operation. Unmanned operating pipeline transfer stations handling liquid hydrocarbons shall be inspected when manned or once weekly, whichever is greater.

#### G. Recordkeeping and Reporting

Rule 331.G.1.a requires all major and critical components to be physically identified in the field. If a District Inspector finds an identification tag missing or deteriorated to the point that the Inspector will be unable to readily locate the component in the future, the source shall be requested verbally to initiate actions within one hour, in the presence of the Inspector, to re-affix the missing tag or enhance the component marking. Failure to comply with the District Inspector's request shall constitute a Rule 331.G.1.a Notice of Violation.

Rule 331.G.1.c requires a list of equipment and components. The listing may not be sufficient for other purposes beyond Rule 331, such as determining emission liability for permitting. APCD Staff determines the specific component listing requirements for permitting purposes.

Rule 331.G.3 requires leaking components to be affixed with highly visible, weatherproof tags. These tags are to remain on the repaired component for at least one calendar quarter. The owner/operator's copy of the diagrams described by Rule 331.G.1.b must be updated to reflect the leaking component within 30 calendar days of initial leak detection and be maintained at the facility with the other recordkeeping documents required by Rule 331.G.4. Rule 331.G.5 requires sources to maintain records at the facility for two years. "At the facility" or "on-site" may be an owner/operator's office building which may or may not be located directly on the facility site.

Rule 331.G.4.b and G.4.c require recording of emission leak concentrations of components which have leaked. Leaks which have been quantified with an analyzer are to be expressed in terms of ppmv. Observed liquid leaks (during Rule 331.F.7 daily inspections, for example) are to be expressed in terms of "a visible mist", "drops per minute" or "a steady stream." Note that all

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non-exempt components require scheduled monitoring in accordance with the test method described in Rule 331.H.1. This requires use of an analyzer or soap screening with later quantification using an analyzer. Visual monitoring alone does not satisfy the scheduled monitoring requirements of Rule 331.F.1 through F.6.

The owner/operator must abide by all Rule 331 inspection requirements including the reporting and recordkeeping requirements of Rule 331.G.3 and 331.G.4 for all scheduled self-inspections. For non-routine unscheduled self-inspections of individual components, Rule 331.G.3 and 331.G.4 shall apply to those components found leaking.

APCD Inspectors shall review the source's onsite logs including a determination of whether Rule 331.D.4 or E.1.b is applicable to any specific components (requiring a replacement with Best Available Control Technology).

Sources with existing I&M Plans reflecting the requirements of the APCD Fugitive Hydrocarbon Inspection and Maintenance Protocol (dated Jan. 20, 1988) and approved by the APCD prior to the adoption of Rule 331, must maintain the original recordkeeping and reporting requirements of the existing Plan. These recordkeeping and reporting requirements must be at least as stringent as those of Rule 331. Furthermore, if such a source has a permit condition specifically referencing the previous I&M plan, the source must abide by the more stringent requirements of both Rule 331 and the previous I&M plan, until such time that the source's permit is modified.

Components approved for exemption under Rule 331.B (exempt from scheduled monitoring) shall be identified in accordance with Section B.3 of this Policy.

## H. Test Methods

If the alternative screening procedure (soap screening) referenced in EPA Reference Method 21 (40 CFR 60, Appendix A) is used and bubbles are observed, Rule 331.H.1 requires that the instrument guideline specified in Method 21 shall be used within the same working day to determine if a Rule 331 leak exists. If an instrument is unavailable within the same working day (midnight to midnight), the source may record the leak as a worst case 50,000 ppmv leak and comply with the requirements Rule 331.E.1.f.

## I. Compliance Schedule

Rule 331.I requires an updated I&M plan to be submitted to APCD for review and approval within one calendar quarter whenever there is a change in the component list or diagrams. In this case, a change to the diagrams does not include the historical recording of components which have leaked as required by Rule 331.G.3 for the on-site diagrams.

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If an APCD Inspector discovers a change in the component list or diagrams, the Inspector shall request the source, in writing, to submit an updated I&M Plan within one calendar quarter from the date of written notification.

See Forms: ENF-33 (11/20/99)

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