


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

COM 2035

APPROVED:


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Director of Compliance

DATE:

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TITLE:

RULE 1100 – EQUIPMENT BREAKDOWN

SUBJECT:

INSPECTION OF EQUIPMENT BREAKDOWNS

OBJECTIVE:

To establish policies and procedures for inspections of facilities subject to the requirements of District Rule 1100, and subsequent report writing.

PURPOSE:

Rule 1100 is designed to allow sources to temporarily operate equipment that is in non-compliance due to an unforeseeable occurrence, granting them relief from enforcement action. The rule defines a breakdown condition and the procedures to follow when one occurs, including administrative requirements for reporting the incident. This policy is meant to ensure that staff uniformly investigates breakdown occurrences, interprets the requirements of the rule, verifies that each situation qualifies as a valid breakdown, and writes consistent reports utilizing the Breakdown Application in PAS.

POLICY STATEMENT:

I. OVERVIEW

- A. The initial request for breakdown relief shall be recorded in PAS by the District clerical staff. The request must be made within 1 (one) hour of discovery of the breakdown, for both equipment and CEMS breakdowns, unless it is demonstrated that a longer reporting period was necessary, and approved by the Manager of Compliance. The District will not accept a breakdown relief request for a violation that was first discovered by a District inspector during a field visit.
- B. The clerical staff shall assign the breakdown to the facility's inspector, or if unavailable, the area inspector, or alternate inspector designated by a Supervisor. The inspector shall review the information to determine if a violation has taken place and if the incident warrants immediate investigation.

- C. The inspector will have two goals. The first goal is to inspect, if necessary, the affected equipment to verify that the incident meets the definition of a breakdown condition and to document any ongoing violations. The second goal is to verify that the affected equipment is back in compliance with District Rules and Permit Conditions within the time limits defined in the rule. The source should be informed of the emergency variance procedure if the problem may not be corrected within 24 hours (except for continuous monitoring equipment, for which the period shall be 96-hours).

II. BREAKDOWN CATEGORIES

A. Equipment Breakdowns Requiring Immediate Field Inspection

Incidents involving any of the following characteristics shall be inspected as a priority:

1. The release of significant excess emissions, or hazardous gases such as H₂S.
2. Hydrocarbon vapor venting from refinery tanks.
3. Flares or other units with ongoing visible emissions.
4. Any emissions that have resulted or may result in complaints from the public.
5. Any emissions that may affect sensitive groups such as schools and hospitals.
6. Any event that the inspector, after conducting a telephone interview with the facility contact, determines a field inspection is warranted.

B. Equipment Breakdowns Not Requiring Immediate Field Inspection

Immediate inspection of some breakdowns may not yield any significant information, as the cause of the breakdown has not yet been determined. In these cases, telephone the facility representative to gather as much information as possible concerning the event. The breakdown shall be investigated no later than 10 days from the breakdown notification, to verify that the unit is back in compliance. Examples of these types of breakdowns include, but are not limited to:

1. Events that are back in compliance either due to repair or shutdown of equipment by the time of district notification or the time of Inspector telephone contact.
2. Events that include the breakdown of internal parts that cannot be seen after repair.
3. Events that have resulted in an application for a short-term variance.

C. Equipment Breakdowns NOT Requiring Field Inspection

1. Events that entail the monitoring and recording of data that can be included in the 10-day follow-up report, which document the violation period and the return to compliance.
2. Flaring of waste gas whose volume and duration is monitored and recorded, except where odors or excess visible emissions are present.
3. Breakdown requests that will be rescinded by the facility in which no violation of permit conditions actually occurred.

Whenever you are unsure if an immediate inspection is warranted, check with your Supervisor.

D. CEMS Breakdowns

CEMS breakdowns may be investigated via the telephone, unless, during the interview, the inspector determines that a field inspection is needed. Such cases would include unusual or recurrent events.

III. FIELD INVESTIGATION

A. Preparation

1. Print and review the applicable facility permits. It may be helpful to bring along or have available electronically a blank breakdown notification form to ensure all necessary information is collected.
2. Take appropriate inspection and safety gear (i.e. TLV, portable gas analyzer, H2S monitor, SCBA, lanyards, hard hat, gloves, Nomex, etc.).

B. Inspection

1. Ask for a detailed explanation of the process in which the breakdown occurred.
2. Attempt to determine if the equipment is in compliance at the time of your investigation, and how compliance was achieved. If the equipment is still in violation, ask the representative when they anticipate the return to compliance.
3. If the breakdown is expected to last more than 24 hours (96 hours for CEMS) the facility should be informed of their option to request an emergency variance prior to the expiration of the 24/96-hour limit, operate at a lower load (as long as emissions are not exceeded, or to shut down the equipment).
4. Determine if the equipment has a designated backup unit, and its operational status (i.e. secondary compressors or pumps).
5. Request that the failed equipment parts be identified and photographed; establish the “root cause” of the breakdown, if known at the time of inspection. If a company specifies that photographs are proprietary and confidential, please follow the appropriate administrative policies and procedures for the handling and securing of the photographs.
6. Identify the permit condition(s) or rule requirement that was violated.
7. Determine the start and end time of the equipment breakdown period.
8. Determine the start and end time of the violation period, which could differ from the breakdown period (i.e. as in the case of emission limits quantified by rolling averaging periods.)
9. Review the maintenance logs to determine if the equipment was properly maintained, and review the maintenance guidelines in place for the equipment. Request that the representative determine what the manufacturer recommends for routine maintenance. If the logs are not available, request that they be sent to you.
10. Request that the representative provide the manufacturer’s recommended replacement rate for the part, if applicable. Determine the date of the last replacement.
11. If the equipment is operating in a condition of violation after the 24/96-hour limit has been surpassed, and arrangements have not been made for variance application, an NOV shall be issued.
12. Conduct follow-up inspection(s) as necessary.

IV. WRITTEN REPORT REVIEW

A. 10-Day Written Report Review

1. Compare the time reported and breakdown discovery time to verify that the source had notified the District within one hour, and that the return to compliance period has met the requirements of the rule. Notifications that are up to 10 minutes late may be accepted to allow for differences in clock settings and FAX timestamps. A Supervisor must approve notifications that are more than 10 minutes late and only after the facility has demonstrated that a longer reporting period was necessary.
2. Verify the permit number(s) and the equipment involved in the breakdown has been identified.
3. Verify that the source has identified the **root cause** of the equipment failure. The burden of proof is on the facility to demonstrate that the definitions and criteria set forth in Rule 1100 have been met and that the event was:
 - a. An unforeseeable failure or malfunction of equipment,
 - b. Not the result of neglect or disregard of any air pollution control law, rule or regulation,
 - c. Not intentional or the result of negligence,
 - d. Not the result of improper maintenance,
 - e. Did not constitute a nuisance, and
 - f. Not a recurrent breakdown. Recurrent is defined as breakdown of a component that has had three breakdown events within the last three years. Breakdown relief may not be granted for recurrent incidents unless the specific cause can be differentiated from past occurrences. Tracking of recurrent breakdowns prevents the granting of relief for chronic problems. If questions arise, see your supervisor.

Sufficient information should be included in the report to verify that all of the above criteria have been met.

4. Review the measures taken to correct the equipment failure. This can often guide the reviewer in verifying if the source identified the correct root cause. Determine how the source will prevent the event from occurring in the future. Steps must be taken to avoid future occurrences or breakdown relief may not be granted.
5. Verify photos of the defective equipment have been attached, if applicable, plus any additional information necessary to establish the validity of the breakdown.
6. If the inspector has additional questions, the source representative shall be contacted for clarification of the information.
7. If information is lacking, or additional information is needed, a written request shall be made to the source, specifying that the needed data be submitted to the District within 10 days. Failure of the source to submit the data in a timely matter can result in the denial of the breakdown request.
8. Check PAS breakdown history to determine if the facility has reported the same breakdown previously.



B. Breakdown Relief Decision

1. After review of the 10-day follow-up report and investigation notes, if applicable, one of the following decisions can be made:
 - a. Accept the breakdown and grant relief if the equipment failure meets the criteria set forth in Rule 1100. If the required written follow-up report was not submitted within the 10 days following the correction of the breakdown condition, issue an NOV for late reporting and violation of Rule 1100, section 7.0. A post-mark date can be used as date of receipt. This is the only scenario in which this type of NOV would be issued. If an NOV is issued for this the inspector should notify the facility that a second deviation must be submitted for a late report.
 - b. Deny the breakdown and issue an NOV for the violation. The NOV should quote the rule or permit condition that was violated.
 - c. Determine that no violation of permit/rule conditions exists. Some facilities may determine this themselves and may ask in writing that the breakdown request be rescinded.
 - d. Determine that the breakdown request has been withdrawn by the facility. This is only done when the source determines that it does not qualify for relief under Rule 1100. Issue an NOV for the violation.
2. If the decision whether or not to grant relief is unclear, consult with the Breakdown Coordinator, your Senior, or your Supervisor.
3. See Appendix A for specific examples of situations that may aid you in your decision.

C. CEMS

1. In addition to the items listed in section A, determine the CEMS violation in need of breakdown relief:
 - a. A failed analyzer calibration of the status “Out of Control” (OOC), which automatically invalidates all data back to the last successful calibration. The violation period would begin at the end of the last calibration, and end after the successful calibration following analyzer adjustments or repair.
 - b. A failure of the CEMS to accurately and continually monitor and record data. The violation period would begin at the time of failure to monitor or record, and end at the time monitoring resumed.
2. Determine if any excess emissions may have occurred as a result of a CEMS feedback system that relied on invalid data.
3. Review the CEMS data included in the report, to verify downtime.

V. REPORT WRITING

A. Breakdown Application in PAS

1. In PAS, select Breakdown Search. The Breakdown Search screen allows the search for breakdowns in several different ways. The Reviewer, Date Range, and Status fields all affect the search criteria.
 - a. Input the assigned breakdown number in the Breakdown # field to select a specific breakdown.
 - b. Input the facility ID number to search all breakdowns for a specific facility.
 - c. Input root cause word(s) into the Search field, along with a permit number to search for recurring events.
2. The Breakdown Detail screen holds the breakdown report information.
 - a. Tag the permit(s) involved.
 - b. Tag the conditions violated.
 - c. Select the equipment type by double-clicking the pull-down arrow adjacent to the tagged permit under “Type”. A pull down menu will appear – select the equipment type for which relief from enforcement action was requested.
 - d. Complete the Time and Date fields: Started, Discovered, Reported (time District notified of incident), and Returned to Compliance.
 - e. Record Excess Emission data if applicable.
 - f. Do not add additional information into Nature of Breakdown field.
 - g. Select the rule(s) in violation. The violation for which the facility is seeking relief from enforcement action shall be stated in the Violation Details field.
 - h. Enter breakdown report information via the Action Tabs. The “Reason For Breakdown” entry should be a short phrase, such as pump diaphragm failure, utility power failure, analyzer UV lamp failure, electrical breaker failed, etc.
 - i. Complete the Checklist.
 - j. Make your Recommendation. Select the reviewer who has been assigned to review your Breakdown Reports.

B. Breakdown Status Letter to Facility

The following form letters are available for use within the Breakdown Application.

1. Breakdown Acceptance letter. This can be modified to serve as an NOV cover letter in those cases where an NOV is issued for late report submission. Also, if this is the third incident with the same root cause, add a warning to the letter such as, “This is the third incident of failure of the (component). Previous incidents occurred on (list dates). Future breakdown requests of this type may be denied.”
2. Breakdown Denial Letter. This would accompany the NOV and serve as the NOV cover letter. If the NOV is to be issued at a later time as part of an NOV encompassing multiple Title V deviations, modify the letter to indicate this fact.
3. Breakdown No Violation Letter. This is used in those cases where it is determined that no violation of permit conditions or rule requirements exists.

4. Breakdown Request Withdrawal Letter. This would accompany the NOV for the reported violation, acknowledging the fact that the source withdrew their request for relief.

C. Breakdown Report Finalization

A copy of the Breakdown Report shall be printed and attached to the facility's 10-Day follow-up report along with any other pertinent information. Clip the Breakdown Status letter to the packet. Forward the entire packet to the appropriate reviewer.

The final reviewer shall either select "Recommendation Accepted" in the breakdown application, or "Return to Inspector" for further consideration, if needed. If the final reviewer determines that a breakdown should be accepted when the Inspector recommended "Denial", or that a breakdown should be denied when the Inspector recommended "Acceptance", the recommendation can be overruled by selecting "Recommendation Rejected". The program will automatically accept or deny the breakdown accordingly, and the breakdown will be finalized.

When the breakdown is finalized, the final reviewer shall sign and mail the Breakdown Status letter, if applicable. The printed Breakdown Report can be replaced with a finalized copy, or the status of "Open" can be crossed out, and the final status written in. The final official status is recorded in PAS. File the breakdown report packet.

APPENDIX

A. Breakdown Examples

APPENDIX A – BREAKDOWN EXAMPLES

Deny Relief for, but not limited to, the following:

1. Normal wear-and-tear of parts, which is considered foreseeable.
2. Process upsets not first caused by equipment failure.
3. Power supplies inadvertently unplugged.
4. Unit turned off for maintenance.
5. Negligence caused by third party contracted to perform work for the source, such as a backhoe operator hitting a gas or power lines.
6. Any equipment shutdown or malfunction stemming from operator error.
7. Lack of routine maintenance of equipment.
8. Failure to replace parts according to the manufacturer's recommended lifespan.
9. Failed batteries where the batteries can be easily changed as part of a preventative maintenance schedule.
10. Dirty components for which periodic cleaning is recommended maintenance.
11. Corrosion, especially of parts that come in contact with known corrosive materials, unless the source has installed corrosion protection equipment and has a strong preventative maintenance program for corrosion.
12. Empty calibration gas cylinders or valves left closed, resulting in a failed calibration and loss of monitoring time.
13. Automatic shutdowns as part of an Instrument Protection System, that are due to unrealistic shutdown set points. If correction of the problem was only to change the set point, the breakdown should be denied.
14. A software error, where the corrective action consists of re-programming, suggests that the unit had operated as it was designed, deeming its failure foreseeable.
15. Incidents where the source makes no attempts to identify the root cause.

Grant relief for, but not limited to, the following (track recurrence):

1. Computer software “freezing” corrected by re-booting.
2. Premature part failures.
3. Incidents in which the source has made extensive attempts to identify the cause of the breakdown, but cannot find the root cause.
4. Manufacturer programming errors or “glitches” that were unknown to the facility until the time of malfunction, and that can be corrected by the vendor.
5. Catastrophic failures of parts for which there is no required maintenance.
6. Power failures caused by birds in facility-owned or controlled power lines and power equipment shall be tracked within each facility ID number. More than 3 bird-related breakdowns in 3 years per facility ID shall be considered recurrent and shall not be granted breakdown relief except if the facility demonstrates to the District’s satisfaction that they have taken adequate measures to prevent recurrence. Such measures may include:
 - A. Installation of raptor crossbars and insulation on all transformers, junctions, and re-closures, or,
 - B. Installation of insulation, bird netting, or other protective measures at transformers, junctions, relay stations, air switches, and re-closures, coupled with frequent line inspections and removal or relocation of nests (nest removal may only be required on a seasonal basis) if inspection and nest removal is documented by the facility (records made available upon request). The equipment installations may be in process at the time of the breakdown, or,
 - C. Other measures that are demonstrated as effective at minimizing bird incidents, if implemented throughout the facility and if the incident occurs at a protected location.

Grant relief regardless of recurrence

1. Utility power outages.
2. Telephone or data line outages due to communication company (i.e. AT&T) or District communication failures (i.e. District polling equipment) failures.

No Violation designation:

1. Breakdown or equipment failures that do not lead to a violation of permit conditions or rule requirements.
2. Breakdowns reported only for the exceedance of a visible emissions limit, which was not documented by District personnel or CEMS.