Overview	This work procedure establishes the criteria, requirements, and procedures for communicating events that occur within the Pacific Gas and Electric Company (Company) gas system. This document mandates that the online Event Reporting Engine (http://event) be used for event reporting, and describes departmental roles and responsibilities.
Governing Document	UO Standard S1465, "Event or Close Call/Near Miss Reporting." S1465 will be updated in 2008
Safety	This document promotes proper work procedures that help to ensure compliance with all Company safety standards, including Utility Standard Practice (USP) 22, "Safety and Health Program" and the *Code of Safe Practices*

Gas Event Reporting Procedures

1. General Information

Online Event Reporting Engine Reports

Gas Event Reporting Engine reports are prepared, edited, and communicated via a web-based relational database on the Company Intranet. Completing the online form documents the root causes of equipment failures, work procedure errors, and outages. This facilitates trending analyses and prevention of future events. It is important that each problem and root cause be identified as part of the event report investigation. Care should be taken to describe events accurately and succinctly and complete all appropriate sections of the form, allowing others to benefit from any lessons learned and help preclude recurrences.

Access the electronic event reporting form on the Company Intranet at: http://event/.

Reports created or that have a status change during the previous week are automatically emailed every Monday to all individuals on the Event Report Engine Users List.

2. When a Gas Event or Near Hit Report is Required

The minimum criteria for using the event reporting system are listed below:

A. Event

1) A work procedure error.
2) A major equipment failure or malfunction occurs.
3) Insufficient design that results in an outage to customers or impacts system reliability.
4) Natural forces that result in outage to customers, damage to equipment or impact system reliability.
5) Planned or unplanned outages impacting a large industrial customer or five or more residential/commercial customers.
6) A CPUC Reportable incident
7) All transmission and gas gathering facility leaks including dig-ins.
8) A reported DOT safety-related condition.

B. Near Hit

A near hit is an occurrence (action, inaction, or unanticipated situation) on the gas transmission or distribution system that could have, but **did not,** result in an outage to customers, damage to equipment, or impact system reliability.

Note: Third-party damage to gas distribution facilities **do not** require an event report if the event criteria are not triggered.

Third-party damage to gas transmission facilities **does** require an event report.

3. Evolution of the Event Report

A. Preliminary Report Status

This status refers to the initial report of an event that is required to be input to the Gas Event Report engine within 5 business days from the date of the event. The report status will remain as preliminary until the investigation is complete and the report is made final. At the preliminary stage, all related documentation, including physical evidence, damaged equipment, photographs, and supporting documents, etc., must be retained until the investigation is completed. A **preliminary** report is not necessary if a **final** event or near hit report can be prepared within the 5-business day time frame.

B. Final Report Status

This status refers to the final document following an investigation of an event or near hit that is required to be completed within 25 business days of the event. For CPUC reportable incidents,

the final report status is required to be completed within 10 business days. All appropriate sections of the form must be completed with accurate information, root cause, and an action plan. The director of the department responsible for completing the investigation must approve all extensions.

C. Final Revised Report Status

This report status is used when a significant change is made to a finalized event or near hit report.

Examples of a final revised report would be:

- A change in the responsible department.
- A change in the root cause category.
- New information that changes the outcome or details of the report.

4. Roles and Responsibilities

A. The responsible maintenance and construction department supervisor or manager must perform or delegate the following tasks:

- Create the **preliminary** report based on all available information within 5 business days following the event or near hit.
- Notify local impacted personnel that the preliminary report has been created. This includes the superintendent whom must review the preliminary report and approve the evolution of the report into **final** report status.

B. The responsible mangers or superintendents have the following responsibilities:

- Ensuring that each Gas Event or Near Hit report submitted by their employees is prepared in a timely, consistent, and quality manner.
- Reviewing and finalizing all completed event or near hit reports processed by their departments. A report is completed when its status is changed to **final**.
- Making the final decision when consensus on root cause cannot be gained for events that fall under their department's jurisdiction.
- Determining if a full investigation team is required and who will be the lead investigator. For the majority of incidents, the lead investigator will be the lead engineer. Other gas engineers, managers, superintendents, and directors can also request an investigation team to be assembled.
- Ensuring that action items are identified, completed, and documented in the report
- Following up on lessons learned, recommendations, and action plans to ensure that all issues discovered during the investigation process are addressed.

- Tracking the timely completion of all action items for which their department is responsible.

C. Responsible directors have the following responsibilities:

- If the manager(s) or superintendent(s) involved in the event or near hit cannot agree on root cause, the report will be elevated to the director level of the departments involved for resolution.
- Approving extensions within their jurisdictions for all event investigations that exceed 25 business days.

D. The Gas Transmission and Distribution (GT&D) Engineering director has the following responsibilities:

- The overall implementation of the requirements of this utility standard and final authority on its interpretation.
- Designating a lead to form the Event Reporting Review Team.

E. Lead investigators or their designees must perform the following tasks (for most incidents, the lead investigator is the lead gas engineer.):

- Form and lead an investigation team, if required, to gather all appropriate information for the event or near hit.
- Lead a formal critique in accordance with Utility Standard D-S0355/S4413, "CPUC and DOT Reportable Incidents, Curtailments and Conditions and Low Pressure System Problem Reporting."
- Ensure that a root cause analysis is performed and completed.
- Complete an accurate final report within 25 business days from the date of the occurrence. For CPUC reportable incidents, the final report must be completed with 10 business days.
- Ensure that all appropriate managerial agreement is gained on all final reports.
- Distribute the final report to the immediate supervisor responsible for the event or near hit, and the manager, superintendent, and director of any departments involved.
- Review the identified problems and lessons learned in the final report that may represent a general issue or systemwide concern beyond the scope of the original occurrence and share the information within their organization.

5. Determine When an Investigation Team / Incident Critique Is Required

The following is the criteria for when investigations will be required.

1) All CPUC Reportable Incidents.
2) Complex events as determined by the manager, superintendent or director. The Regulatory Support lead can also determine if an event requires an investigation.

Note: Most distribution events will not require an investigation team. If no investigation team is required, the superintendent or manager, after discussing the preliminary report information with the appropriate parties involved, must complete and finalize the report. Most transmission events will require an investigation team.

6. Investigation Process

The investigation and analysis should focus on the root and contributory causes of an identified problem and their implications. The lead investigator analyzes all of the collected data to determine the contributing factors and, ultimately, the root cause.

Root cause analysis includes the following tasks:

1. Preserving all evidence that may assist in determining the root cause, including all related documentation, physical evidence, photographs, damaged equipment, etc.
2. The reason that this event or near hit occurred now and not before.
3. Selecting samples of the failed facility or equipment for laboratory examination, when appropriate, to use in determining the causes of the failure and minimizing the possibility of recurrence. This may require initiating a material failure analysis by TLS. The scope of the analysis could be established by a number of applicable experts and departments, including but not limited to GT&D Engineering staff. If a laboratory report is issued, the report must be attached to a printed Gas Event Report and filed at the local division/district and with the Regulatory Support department within GT&D Engineering.
4. Examination of human behavior, major equipment failures, management practices, work procedures, or Company standards that influenced the problem(s).
5. Determination of what existing process or procedure that, if followed, might have prevented the problem.
6. Conduct an incident critique with all involved departments for all CPUC reportables and complex events as required in D-S0355/S4413. The following fields must be completed, at a minimum, as a part of the gas incident critique:
    a) Brief description (problem and situation)
    b) Detail of events and action taken
    c) Detailed description of root cause
    d) Action plan
    e) Additional comments (includes lessons learned)

7. For Material and Equipment Related Investigations

The technical support specialist or subject matter expert, as appropriate, ensures that all requirements of this standard are followed and appropriate supervisory agreement is gained before finalizing all reports.

8. Event Reporting Review Team

The director(s) of the GT&D Engineering should designate a lead to form the Event Reporting Review Team. The purpose of the Event Review Team meeting is to focus on identifying trends in the causes of outages and implementing corrective action to prevent their recurrence and shorten outage duration. It is recommended that the team meet on a quarterly basis. In part, the team ensures compliance with this standard. This team also provides system communication on trends, corrective actions, and lessons learned.

9. Retention of Reports

A database of event reports will be maintained online for a minimum of 6 years.

Definition of Terms

Action Plans: Action(s) to be taken by the supervisor and employees after the event to prevent or reduce the probability of a similar equipment or behavioral problem occurring in the future, and to correct an identified problem or other related problems that may exist. Includes timeline(s) to complete and date(s) the action(s) were implemented.

Contributing Cause: The events or conditions not directly responsible for the problem, but which led to the problem, complicated the situation, or made the consequences more severe than if only the root cause existed.

CPUC Reportable: An event that is required to be reported to the CPUC under the following criteria:

- An incident that involves a release of gas and a death or personal injury necessitating in-patient hospitalization.
- An incident that involves a release of gas and estimated damage, including the cost of gas lost, to the Company or others' property, or both, of $50,000 or more.
- An incident which has either attracted public attention or has been given significant news media coverage, that is suspected to involve natural gas which occurs in the vicinity of Company facilities regardless of whether or not Company facilities are involved.

Event (System Impact): An unplanned occurrence, such as major equipment failure, operator/work procedure error, insufficient design, natural disaster or planned outage that resulted in an outage to customers, damage to major equipment, or impacts system reliability.

Event Report: One of two reports types within the event reporting system. This report type documents an "event".

Event Reporting System: The online recording system that documents and communicates events and near hits.

Incident Critique: A meeting with all involved departments to analyze the timeline of events. The meeting should also include discussion about the root cause, action items, and lessons learned as a result of the event.

IGIS: The Integrated Gas Information System database program for data collection on leakage history.

Initial Cause: The factor which triggered the event or near hit. It may or may not be the root cause of all problems identified by the event or near hit report. Refer to Section 6, "Investigation Process."

Lead Investigator: The individual within the gas department who has primary responsibility for gathering the data, performing interviews, and analyzing the information regarding the event or near hit, and is responsible for preparing the final event report. The lead investigator must have completed Company training class SAFE 1460, "Root Cause Analysis - Incident Investigation."

Major Equipment Failure: Describes when equipment did not perform its primary design function. It may or may not be catastrophic in nature, and includes, but is not limited to: mainline, service line, monitors, regulators, valves, compressors, filter, odorization, dehydration, compressor, SCADA, relief valve, locating tools, operator / controllers, and large customer meters.

Note: Unplanned operation of an overpressure protection device is normally associated with equipment failure.

Natural Forces: Acts caused by nature, including wash outs, landslides, seismic ground movements, subsidence, trees, or animals.

Near Hit (No System Impact): An action, inaction, work procedure error, or unanticipated situation that did **not** result in an outage to customers, damage to equipment, or impact system reliability.

Near Hit Report: One of two report types within the event reporting system. This report type documents a "near hit".

Outside Force: Acts caused by an outside entity. This includes vehicles, vandalism, fire and floods.

Planned Outage: An outage that has been planned and is required for operation purposes.

Root Cause: The underlying event or condition that, if corrected, would prevent or minimize the probability of recurrence of the problem (may or may not be the same as the initiating cause). Refer to the Section 6, "Investigation Process." for an example.

Secondary Cause: The additional factor or component that prolongs an outage where a primary/root cause has already been established. Refer to Section 6, "Investigation Process." for an example.

System Impact: Equipment damage, customer outages, reduction in system reliability, etc., that significantly affect the gas system.

Work Procedure Error: An action or inaction by a Company employee or contractor that causes an unexpected result when operating or performing a task on the gas system, whether or not there is a system impact. This includes all at-fault dig-ins and any unintended transmission valve closures.

- **Work Procedure Error Associated With an Event:** An error that results in an unplanned outage to customers, damage to equipment, or impact to system reliability.
- **Work Procedure Error Associated With a Near Hit**: An error that does ***not*** result in an unplanned outage to customers, damage to equipment, or impact to system reliability.

Recision

This work procedure cancels and supersedes Gas Bulletin 199, "CGT Incident Reporting Process."

Reference Documents

Gas Emergency Plan

GS Interim Standard 459.1-1, "Emergency Curtailment of Rule 21 Priority 1 Gas Customers"

Numbered Documents

A-34.1, "General Requirements Work Reportable to the California Public Utilities Commission"

A-34.2, "Design Standard Low, Semi-High, and High Pressure Uprating Procedure"

Root Cause Analysis (Workbook)

Safety, Health and Claims Procedures

SHC 101, "Property Damage or Injuries Involving Third Parties"

SHC 102, "Evidence Acquisition and Storage"

SHC 202, "Incident Notification, Investigation and Analysis Procedure"

SHC 208 "Near Hit"

Utility Standards

DS0355/S04413, "CPUC and DOT Reportable Incidents, Curtailments and Conditions and Low Pressure System Problem Reporting"

S2333, "Material Problem Reporting (MPR)"

S4118, "Piggable Pipelines Standard"

S4420, "Gas Transmission Clearance Procedure"

Attachments

Attachment 1, "Event or Near Hit Reporting Flowchart"

Attachment 2, "Gas Event Report Engine Form - Elements Explained"

Contact for More Information

[redacted]
Company phone [redacted]

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Approved by

Robert Fassett
Manager

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