



Asset Type: **Gas Transmission and Distribution**

Date Issued/Updated:

**August 2009**

Function: **Maintenance and Operations**

Page:

**1**

of

**21**

**Title: Gas Clearance Procedures for Facilities Operating Over 60 PSIG**

## Overview

This work procedure (WP) establishes a clearance process for Pacific Gas and Electric Company (Company) natural gas facilities operating over 60 pounds per square inch gauge (psig) and associated equipment to ensure that work is performed safely on pressurized gas, air, water, or energized electric systems.

This document covers the following topics:

1. Clearance Types – Page 2
2. Non-Clearance – Routine (NCR) Work – Page 4
3. Clearance Principles and Procedures – Page 5
4. Emergency Clearances – Page 8
5. Preparing a Clearance for Review – Page 8
6. Requirements for Submitting an Application for Gas Clearance Approval – Page 9
7. Requirements for Requesting a Clearance to Perform Maintenance – Page 10
8. Clearing Equipment – Page 10
9. Reporting On as a Secondary Clearance Holder – Page 11
10. Performing Work Under a Clearance – Page 11
11. Testing Cleared Equipment to be Operational – Page 12
12. Reporting Off – Page 14
13. Working in Major Stations – Page 15
14. Best Practices – Page 16

## Governing Document

Utility Standard S4100, “Gas Pipeline Maintenance and Construction Requirements” *[not yet issued]*

## Safety

Failure to follow these procedures to clear equipment or a pipeline properly could pose a risk to employee and public safety.

To ensure safety while performing this work, follow all applicable precautions and requirements described in this WP and the following safety programs:

- Utility Standard Practice (USP) 22, “Safety and Health Program”
- Code of Safe Practices

<b>Before You Start</b>	<p><b>Safety Personal Protective Equipment (PPE):</b> Employees conducting work under this procedure must use Company-approved PPE such as hard hats, ear protection, and flame-resistant (FR) traffic vests, as well as proper work attire (e.g., footwear, long-sleeved shirts, eye and face protection, and gloves), as required under the <i>Code of Safe Practices</i>.</p> <p><b>Employee Qualifications:</b> Employees who perform covered tasks must be properly trained and qualified under Operator Qualifications.</p> <p><b>Tools, Materials, and Equipment:</b> There are no special tools or equipment required to perform this procedure.</p>
<b>Training</b>	<p>Complete all required training to perform these procedures before conducting a clearance.</p> <p>Perform and document training on an annual basis. Retain training records at each employee's headquarters indefinitely.</p>
<b>Customer Satisfaction</b>	<p>Maintain service to Company customers whenever possible. Always notify customers in advance of planned service interruptions.</p>

## Gas Facilities Clearances

### 1. Clearance Types

There are two categories of clearances, "System Clearances" and "Non-system Clearances," described as follows:

#### A. System Clearances

- 1) System clearances affect gas flow, gas quality, or the ability to monitor the flow of gas.
- 2) All system clearances require authorization from Gas System Operations (GSO) personnel.
- 3) System clearances include the following examples:
  - Shutdowns of a line to tie-in an offset to clear a storm drain conflict.
  - Valve maintenance requiring the stroking of a valve. (Stroking a valve is the full operation of the valve from full open to full closed or full closed to full open.)
  - Supervisory Control and Data Acquisition (SCADA) equipment calibration.
  - Backbone or storage compressor maintenance.

**B. Non-System Clearances**

- 1) Non-system clearances do not affect gas flow, gas quality, or the ability to monitor the flow of gas.
- 2) All non-system clearances are authorized by the responsible maintenance group at the supervisor level or above. Non-system clearances are not authorized by GSO personnel.
- 3) Non-system clearances include the following examples:
  - Unplanned maintenance on a standby generator or auxiliary air compressor.
  - Bypassing the glycol filter on a dehydrator to change the filter element.
  - Maintenance on a gas supply rack.

**C. Clearance Subtypes**

Within each of the above Categories A and B, there are two distinctive clearance subtypes – “New Clearances” and “Standard Clearances,” described as follows:

**1) New Clearances**

New clearances are for one-time use or the initial submittal of a clearance that becomes a standard clearance. Examples of new clearances include the following tasks:

- Tying in a new pipeline.
- Welding on a pipeline with a maximum allowable operating pressure (MAOP) greater than 60 psig.
- Tapping and/or plugging a pipeline with an MAOP greater than 60 psig.

**2) Standard Clearances**

Standard clearances are routine and/or repetitive in nature. The maintenance group submitting the clearance keeps all standard clearances (system and non-system) on file to reference for future submittals. GSO keeps all system standard clearances on file to reference for future submittals. Examples of standard clearances include the following tasks:

- Annual maintenance to a regulator valve that must be isolated by valving before it can be operated.
- Greasing and stroking a valve. (Stroking a valve is the full operation of the valve from full open to full closed or full closed to full open.)
- Operating any MAOP separation valve.
- Internal regulator inspections (all internal inspections on regulators must have a clearance).
- Corrective maintenance that requires taking a regulator out of service.

**Note:** Attachment 6, “Clearance Type and Subtype Matrix,” defines various possible combinations of clearance types and subtypes.

## 2. Non-Clearance – Routine (NCR) Work Process

The NCR work process applies to certain routine work that meets the established criteria for working without a formal clearance.

A. Follow this NCR work process instead of a formal clearance if the work meets all of the following criteria:

- The work is safe to perform without a clearance.
- The first line supervisor for the maintenance group performing the work concurs that the job can be accomplished using a work procedure written and authorized for the job and does not require a formal clearance for the work to be performed safely.
- The work does not affect gas flow, gas quality, or the ability to monitor the flow of gas.
- A single qualified clearance holder performs the work, with the option of one person assisting. There are never more than 2 people involved with the work.
- No more than 2 people from the local headquarters may perform the work.
- The work does not require more than three isolation points, and all isolation points must be in the line of sight of the individual(s) performing the work at all times.
- Individual(s) involved in the work may not leave the work area until the job is completed and the gas facilities are restored to normal operation.
- The work must not exceed 1 work day.
- The work must not impact the Company's ability to maintain service to customers.
- Work performed under this NCR work process must conform to all Company and industry regulations and policies concerning the isolation of equipment from energy sources.

B. When an employee/crew performs work under the NCR work process, notify Brentwood Gas Control (unmanned stations) or Operator on Shift (manned stations) before beginning work and when work is complete. When notifying Brentwood, identify the work as NCR work and provide the location and a description of the work to be performed. Using the Gas Logging System (GLS), Brentwood Gas Control (unmanned stations) or Operator on Shift (manned stations), forward this information to System Gas Control.

C. The NCR work process may provide the ability to streamline and simplify some routine work activities. At no time is the NCR work process intended to limit the first line supervisors and qualified clearance holder's responsibility to ensure the safety of employees and the public, as well as the safety and protection of the gas facilities.

D. All work performed under the NCR work process requires that a work procedure be written, authorized, and followed to plan, approve, and complete the work. The first line supervisor must authorize the written work procedure. At a minimum, the written work procedure must clearly identify the description of the work. The written work procedure may be for a

generic type of work and may reference relative rather than specific points; e.g., upstream and downstream valves instead of specific valve numbers.

- E. GSO personnel will not review and/or authorize the written work procedures implemented under the NCR work process.
- F. The following examples of work have been identified as work that could qualify under the NCR work process:
  - 1) Operating manual valves that are not MAOP and British thermal unit (Btu) separation valves and are not operated to the fully opened or fully closed position.
  - 2) Gas supply rack maintenance for incidental facilities; e.g., a shop heater.
  - 3) Gas gathering line Orifice plate inspections/replacements.
  - 4) Operational checks on regulators, including monthly monitor bump checks.
  - 5) Backup generator testing.
  - 6) Regulator inspection and maintenance on gas supply racks where one run can be taken out of service at a time.
  - 7) External inspections on district regulators (only external, all internal inspections on district regulators must have a clearance).

### **3. Clearance Principles and Procedures**

This clearance work procedure applies to all gas facilities and associated equipment operating over 60 psig. It is the responsibility of all personnel to follow this procedure.

Before starting work that requires a clearance, qualified persons must complete the following tasks:

- Obtain the clearance.
- Conduct a clearance tailboard with all individuals performing work under the clearance.
- Ensure that the equipment is properly cleared and safe to work on, and then “Report On.”

“Report Off” and remove all tag(s) when the work is complete.

Observe the following procedure points when conducting a clearance:

#### **A. Clearance Tagging**

- Tag all clearance points while the clearance is active.
- Do not operate Man-On-Line (MOL) tagged equipment.
- Clearance points in the field must match the Sequence of Operations on the Application for Gas Clearance form.
- Place MOL tags on all isolation points.

- Attach Caution tags (CTs) to valves, open vents, and drain valves identified in the Sequence of Operations that are not isolation points.
- Attach information tags to controls, switches, or equipment where it is desirable to pass on additional information regarding their use in system operations. Information tags may not be used as a substitute for MOL tags or CTs, but may be used in conjunction with those tags.

### **B. Sequence of Operations**

- Include all routing of gas flow in the Sequence of Operations.
- Review changes to the Sequence of Operations for an already authorized clearance. The responsible first line supervisor must authorize changes for all non-system clearances; GSO must authorize changes for all system clearances.

### **C. Clearance Supervisor**

- There must be a clearly designated Clearance Supervisor for all clearances at all times. The Clearance Supervisor must remain responsible and available for the duration of the clearance. If the Clearance Supervisor becomes unavailable or expects to become unavailable, the Clearance Supervisor transfers his or her responsibilities to another qualified clearance holder who is thoroughly knowledgeable of the clearance in progress. Communicate this transfer of clearance responsibility through a tailboard with all employees working on the clearance and formally notify Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations). Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS and System Gas Control will update the Clearance SharePoint. If the Clearance Supervisor is unable to transfer the clearance, the only individuals who may transfer the Clearance Supervisor's duties are the Maintenance and Construction (M&C) Superintendents or someone in the line of progression above these individuals.
- In most cases, a single clearance is written to complete a job. If the clearance involves cross-jurisdictional boundaries, a single Clearance Supervisor is chosen and that appointed Clearance Supervisor incorporates steps provided by the other involved jurisdictional area(s) to create a single clearance. In rare cases, a request is made to allow for two concurrent clearances to be performed by separate Clearance Supervisors to support one job. The Gas Transmission Supervisor authorizes these requests on an exception-only basis.

### **D. Blown Gas**

- If the estimated gas volume released into the atmosphere is expected to exceed 250 thousand cubic feet (mcf), an evaluation to minimize the release of gas must be completed during the preparation of the Application for Gas Clearance. During the evaluation, take into account the safety of the public and employees, as well as customer and operational requirements. Also consider operational drafting to adjacent lower

pressure lines. Employ cross-compression upon the recommendation of Gas Engineering. The local area uses Gas Control and Planning as resources to optimize the released gas reduction strategy for the clearance work. If the evaluation determines that it is not practical to minimize the release of gas, provide an explanation in the Gas Volumes section of the Application for Gas Clearance form.

- The estimated released gas to atmosphere volume must be included in the Gas Volumes section when preparing the Application for Gas Clearance form. If the estimated released gas volume exceeds 250 mcf, the entire Gas Volumes section of the Application for Gas Clearance must be completed during and following the clearance. The Clearance Supervisor is responsible for obtaining and recording the actual drafting, cross-compression, and released gas volume information required in the Gas Volumes section and providing it to the Clearance Coordinator in System Gas Control. Steps in the Sequence of Operations must include remarks prompting the recording of the actual pressure information identified in the Gas Volumes section. Gas Engineering personnel support the Clearance Supervisor by providing the calculated drafting, cross-compression, and both the estimated and actual released gas volumes.

#### **E. Clearance Reporting**

- Each employee that “Reported On” a clearance must understand where all clearance points are located.
- The Clearance Supervisor formally “Reports On” and “Reports Off” the clearance through the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations). Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS; System Gas Control updates the Clearance SharePoint.
- In addition to formally “Reporting On” and “Reporting Off,” the Clearance Supervisor must report key communication steps, as identified by an asterisk (\*) in the Sequence of Operations, to the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) before proceeding to the next step. The following are examples of key communication steps:
  - Start of the draft.
  - Completion of the draft.
  - Start of cross-compression.
  - Completion of cross-compression.
  - Operation of any piece of equipment that affects the flow and/or pressure of gas or the ability of Gas Control personnel to monitor the flow and/or pressure of gas on SCADA.
  - Beginning and completion of in-service welding work.

The Clearance Supervisor must execute the following additional steps for a specific clearance:

- Fill in all steps in a system clearance with the time, date, and initials of the person completing the step and file the clearance as completed.
- For non-system clearances, only four steps require the time and date of the task: the Start, “Report On,” “Report Off,” and Completed steps. The person(s) completing the steps must initial all non-system clearance steps.
- Retain field copies of clearances for at least 1 year.

#### **4. Emergency Clearances**

An emergency situation in the field often requires immediate action to make the situation safe and may call for an emergency clearance. Gas Control personnel may authorize an emergency clearance with verbal notification and approval over the phone. Call in all field valve operations to make a situation safe without an authorized written clearance to Gas Control personnel before physically moving the valve, when possible. If, for safety reasons, valve operations must take place before notifying Gas Control personnel, notify Gas Control personnel as soon as possible.

Once the system is safe, no further work may proceed on the line until an Application for Gas Clearance is submitted and authorized.

#### **5. Preparing a Clearance for Review**

- A. The Clearance Supervisor or the supervisor’s designee prepares a written clearance for review and approval, using the most current revision of the “Application for Gas Clearance” form on the Clearance SharePoint site found at the following url address:  
<http://wssuo/gso/gc/Clearances/default.aspx>.
- B. To facilitate a thorough review of a new system clearance, GSO personnel (Brentwood Gas Control, System Gas Control, Brentwood Operations Supervisor, and the Gas Transmission Supervisor) must receive a complete clearance package at least 10 business days before starting the work. If a clearance is submitted less than 10 business days before the start of work, the first line supervisor must notify the responsible superintendent before having Gas Control perform the review.
- C. The complete clearance package contains the following components:
  - Application for Gas Clearance/face sheet.
  - Special instructions.
  - Sequence of Operations, if necessary.
  - Up-to-date and correct operating maps and diagrams – reference the appropriate operating map and diagram numbers, including the correct sheet and change number, on the Application for Gas Clearance face sheet.



- Any other drawing used to prepare the clearance.
  - For clearances that involve piping changes or facility retirements, include a redlined operating diagram or map showing the before and after configuration.
- D. The initial submittal of a new system clearance requires 10 business days for authorization. All system standard clearances on file require advance notification to Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations).
- E. The following sequential standard steps are included at appropriate locations in the Sequence of Operations on every clearance:
- 1) Request a preliminary clearance (48 hours in advance of a job for new system clearances or as stated on a system standard clearance).
  - 2) Request final clearance (on the day of the job).
  - 3) Ensure that equipment is operational (before the clearance is complete).
  - 4) Report the clearance as complete.
  - 5) Fax a redline copy of station or piping changes to the Brentwood Gas Control Center at the completion of the job.
- F. A preliminary or draft clearance may be submitted to the Clearance Coordinator in Gas Control for input towards a final clearance package. The preliminary or draft package is not necessarily a complete package. Before submitting a final clearance package for authorization, the clearance preparer must obtain a review from the first line supervisor (if the first line supervisor is not the clearance preparer) and, as appropriate, operations engineering (if the transmission backbone is involved), local transmission planner, pipeline engineer, and/or station engineer.

## 6. Requirements for Submitting an Application for Gas Clearance Approval

- A. The clearance application must completely describe the work to be performed.
- B. All new clearances must have the start and end times, dates, and the Clearance Supervisor's name. All system standard clearances sent to GSO personnel for authorization must have "varies" on the clearance form (see Section 1.C.2, "Standard Clearances," on Page 3 for examples of standard clearances).
- C. Incorporate all outside agency and supporting division/district input and/or approval into the clearance before sending it to GSO personnel for authorization.
- D. The first line supervisor or the upgraded supervisor-in-charge must review and authorize all standard clearances.
- E. All system standard clearances on file require advance notification to Gas Control personnel. Submit new system clearances for authorization 10 business days before the start of work. The 10-day notification begins on the date the clearance is emailed to GSO personnel.
- F. GSO personnel authorize all system clearances.

- G. The first line supervisor reviews/authorizes all non-system clearances.
- H. GSO personnel request any required changes to system clearances via email to the originator of the clearance application. If the originator agrees with the changes, the originator makes the changes and resubmits the clearance for authorization from GSO personnel.
- I. GSO personnel electronically authorize (sign) and date the bottom of the application.
- J. The clearance originator prints and distributes a hard copy of the application, as necessary.
- K. Once a clearance is submitted for authorization, the first line supervisor and GSO personnel, in the case of system clearances, authorize changes.

### **7. Requirements for Requesting a Clearance to Perform Maintenance**

- A. Standard clearances must include the Clearance Supervisor's name and dates and times the work is to begin and end.
- B. Persons requesting the clearance must check the clearance points and ensure that they are adequate for the work to be performed safely.
- C. The Clearance Supervisor must request preliminary clearance for system clearances.
- D. The Clearance Supervisor must request "final" clearance on the day of the job (the first step of the Sequence of Operations) for system clearances.

### **8. Clearing Equipment**

- A. The Clearance Supervisor or the supervisor's designate ensures that the clearance points safely isolate the equipment for the work to be performed.
- B. The Clearance Supervisor clears equipment by placing field clearance points in the correct position and tagging them. The Clearance Supervisor may designate any qualified clearance holder to clear equipment.
- C. After the equipment is properly cleared and tagged, for system clearances, the Clearance Supervisor "Reports On" to Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations). The Clearance Supervisor is the first person to "Report On" and the last person to "Report Off" on any clearance.
- D. All secondary clearance holders must "Report On" and "Report Off" to the Clearance Supervisor. The Clearance Supervisor must notify the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) of any secondary clearance holders working under his or her clearance. Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS and System Gas Control will update the Clearance SharePoint.

## 9. Reporting On as a Secondary Clearance Holder

**Note:** An employee must not “Report On” or “Report Off” equipment for another employee, with the exception of the M&C Superintendent in the case of “Reporting Off.” See Section 12, “Reporting Off.” on Page 14 for additional information.

- A. The qualified clearance holder walks down the equipment, checking that clearance points are in the correct position, properly tagged, and cleared safely for the work, and then notifies the Clearance Supervisor that he or she is ready to “Report On” as a secondary clearance holder.
- B. Any qualified clearance holder has the option of placing secondary MOL tags on all clearance points.
- C. The qualified clearance holder communicates with the Clearance Supervisor, stating clearly that he or she is “Reporting On” (protocol) with the following information: name, clearance number, and equipment associated with the clearance. The Clearance Supervisor or designee must then notify the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations). Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS; System Gas Control updates the Clearance SharePoint with the name of the qualified individual who is “Reported On” as a secondary clearance holder.
- D. Work may begin once the “Report On” information is recorded at the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations). If the work is performed in a major station, the clearance log is updated, and the qualified clearance holder is officially “Reported On” and authorized to work on the cleared equipment.

**Note:** It is the Clearance Supervisor’s responsibility to confirm that the secondary clearance holder has been recorded as “Reporting On” the clearance.

## 10. Performing Work Under a Clearance

**Note:** If at any time an employee feels equipment being worked on is not properly cleared, work must stop and the Clearance Supervisor must be notified. **Do not perform work on equipment that is not properly cleared under any circumstances.**

- A. Before beginning work on cleared equipment, persons performing the work either “Report On” the clearance or report to a qualified clearance holder who is “Reported On.” Personnel not trained as qualified clearance holders must work under a qualified clearance holder.
- B. Clearance points may be changed on an active clearance at the discretion of the Clearance Supervisor or secondary clearance holder with review and approval from the first line supervisor on standard clearances. In the case of system clearances, GSO personnel must also authorize the changes.
  - 1) All clearance holders “Reported On” the clearance must concur with the proposed addition or deletion of clearance points.
  - 2) All secondary clearance holders that “Reported On” the clearance “Report Off.” Clearance points may be changed and then secondary clearance holders may report back on.

- 3) Note the clearance points that were changed on the Application for Gas Clearance and clearance log. If applicable, revise standard clearances changes and resubmit them for authorization as soon as practical.

C. Transfer a clearance from one person to another, as follows:

- 1) The person assuming the clearance walks down the clearance points and “Reports On” in the usual manner.
- 2) The party relinquishing the clearance “Reports Off.”

## **11. Testing Cleared Equipment to be Operational**

### **Notes:**

1. No work may be performed under a clearance in “Test” status.
2. Specific communications to Brentwood or System Gas Control are required only for system clearances.

A. Perform the following steps to conduct a test:

- 1) The Clearance Supervisor must notify Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations) that he or she would like to perform a test.
- 2) The Clearance Supervisor must notify Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations) that he or she would like to perform a test.
- 3) Operators at Brentwood or the manned stations notify System Gas Control when a clearance is placed in “Test” status.
- 4) System Gas Control personnel record the time and date of the test and change the status of the Master Clearance Board on the Clearance SharePoint site to reflect that the clearance is in “Test” status.
- 5) The Clearance Supervisor must replace MOL tags with CTs on all test points before proceeding with testing.
- 6) At major stations, a CT must be placed over the MOL tag on the Clearance Communications Board to indicate that the clearance is in “Test” status.
- 7) The Clearance Supervisor then conducts the test.
- 8) After the test is completed, the Clearance Supervisor notifies Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations) that the test is complete.
- 9) After the test is completed, the Clearance Supervisor notifies Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations) that the test is complete.
- 10) Operators at Brentwood or the manned stations notify System Gas Control when testing is complete. System Gas Control personnel then update the clearance status on the Master Clearance Board on the Clearance SharePoint site.

- 11) If the test is unsuccessful, the Clearance Supervisor must notify Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations) and communicate that the test was unsuccessful. The Clearance Supervisor and Gas Control determine whether the existing clearance can be resumed. If there is agreement that the existing clearance can be resumed, equipment is recleared and the original tags reinstalled. If the existing clearance cannot be resumed, then a new clearance must be written and submitted for approval.
- B. If there are secondary clearance holders working under the clearance, perform the following steps for the secondary clearance holders to “Report Off” on a test:
- 1) Secondary clearance holders inform the Clearance Supervisor that they want to test equipment.
  - 2) All secondary clearance holders “Report Off” to the Clearance Supervisor before any test is performed.
  - 3) After all secondary clearance holder(s) have “Reported Off,” the Clearance Supervisor notifies the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) that they are ready for the test and confirms that System Gas Control has recorded the clearance in “Test” status on the Master Clearance Board on the Clearance SharePoint site. If the work is in a major station, the Clearance Supervisor must also confirm that their Clearance Communications Board is updated.
  - 4) After all secondary clearance holder(s) have “Reported Off,” the Clearance Supervisor notifies the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) that they are ready for the test and confirms that System Gas Control has recorded the clearance in “Test” status on the Master Clearance Board on the Clearance SharePoint site. If the work is in a major station, the Clearance Supervisor must also confirm that their Clearance Communications Board is updated.
  - 5) At major stations with a Clearance Communications Board, a CT must be placed over the MOL tag to indicate that the clearance is in “Test” status.
  - 6) When a clearance is placed in “Test” status, operators at Brentwood and manned stations notify System Gas Control via the GLS.
  - 7) System Gas Control personnel record the time and date of the test and change the status of the Master Clearance Board on the Clearance SharePoint to reflect that the clearance is in “Test” status.
  - 8) The Clearance Supervisor must replace MOL tags with CTs on all test points before proceeding with testing.
  - 9) If the test is successful and no secondary clearance holders need to “Report On” the equipment again, the Clearance Supervisor may “Report Off” and make the equipment available.

If the test is successful, but personnel still need to perform subsequent work within the clearance points, secondary clearance holders again “Report On” to the Clearance Supervisor. Associated tags must be reinstalled. The Clearance Supervisor must then inform

Brentwood Gas Control or the Station Operator that clearance work must resume and, if the work is in a major station, confirm that the Clearance Communications Board and the SharePoint site have been updated.

- 10) When a clearance is taken out of test status, operators at Brentwood and manned stations notify System Gas Control via the GLS. System Gas Control personnel update the clearance status on the Master Clearance Board on the Clearance SharePoint site.
  - 11) If the test is unsuccessful, the Clearance Supervisor must notify Brentwood Gas Control (unmanned stations) or the Operator on shift (manned stations) and communicate that the test was unsuccessful. The Clearance Supervisor and Gas Control determine whether the existing clearance can be resumed. If there is agreement that the existing clearance can be resumed, equipment is recleared and the original tags reinstalled. If required, secondary clearance holders “Report On” to the Clearance Supervisor. If the existing clearance cannot be resumed, then a new clearance must be written and submitted for approval.
    - If the test is successful, but personnel still need to perform subsequent work within the clearance points, secondary clearance holders again “Report On” to the Clearance Supervisor. Associated tags must be reinstalled. The Clearance Supervisor must then inform Brentwood Gas Control or the Station Operator that clearance work must resume and, if the work is in a major station, confirm that the Clearance Communications Board and the SharePoint site have been updated.
- C. Communications to GSO for testing are as follows:
- Call to place the clearance in “Test” status.
  - Call to report “Test” complete.

## 12. Reporting Off

- A. Only the Clearance Supervisor who “Reported On” a clearance may “Report Off” that clearance, with one exception: If the Clearance Supervisor is unavailable, the M&C Superintendent may “Report Off” the clearance.
- B. After work is complete, secondary clearance holders “Report Off” to the Clearance Supervisor. If other personnel are working under a secondary clearance holder, the secondary clearance holder must ensure that all persons are clear before “Reporting Off.”

**Note:** If the Clearance Supervisor is not available, the secondary clearance holder notifies the first line supervisor and then logs in the clearance log (protocol) that he or she has “Reported Off.”
- C. The Clearance Supervisor may “Report Off” the clearance to Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations). Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS; System Gas Control updates the Clearance SharePoint.

- D. The Clearance Supervisor removes the tags from the field clearance points and makes the equipment available.
- E. For quality assurance (QA) purposes, retain the Application for Gas Clearance package (with signatures, times, and dates) for 90 days.

**Note:** If, due to injury, illness, or unavailability, it becomes impossible for a Clearance Supervisor to “Report Off,” the M&C Superintendent, after receiving all reasonable assurances that it is safe for employees and equipment, has the authority to “Report Off” for the clearance holder.

### 13. Working in Major Stations

- A. For the purposes of these clearance procedures, major stations are identified as follows: “backbone” compressor stations; storage facilities; and Brentwood, Milpitas, Irvington, and Antioch gas terminals.
- B. A Clearance Communications Board is established and maintained for all clearance work at major stations. If the established and designated master clearance point for cleared equipment is in a major station, use a Clearance Communications Board.

Locate the Clearance Communications Board in an area readily accessible to all personnel at the major station. The Clearance Supervisor’s Clearance Communications Board MOL tag is the first tag placed on the Clearance Communications Board and remains on the board for the duration of the clearance. Tags for secondary clearance holders who “Report On” a clearance are also located on the Clearance Communications Board. The Clearance Supervisor’s Clearance Communications Board MOL tag is not removed until all secondary clearance holders “Report Off,” their tags are removed, and the equipment is made available. All Clearance Communications Boards post a clearance log to quickly identify all ongoing clearances at the station.

- C. After ensuring that all clearance points safely isolate the equipment to be cleared in a major station, the Clearance Supervisor places a master clearance point MOL tag on the Clearance Communications Board.
- D. If a secondary clearance holder wishes to “Report On,” he or she must walk down the equipment, checking that the equipment is properly cleared and ready to work, and then notify the Clearance Supervisor. The Clearance Supervisor notifies the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) that there is a secondary clearance holder and places an MOL tag on the Clearance Communications Board.
- E. When testing equipment, the Clearance Supervisor places a CT over his or her MOL tag on the Clearance Communications Board at the same time that the Clearance Supervisor or the Clearance Supervisor’s designee changes the isolation points to CTs for testing.
- F. When working in a major station, the Clearance Supervisor removes the master clearance point MOL tag from the Clearance Communications Board after having “Reported Off” to Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations) and making the

equipment available. Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS; System Gas Control updates the Clearance SharePoint.

- G. A secondary clearance holder who is “Reported On” must “Report Off” before the Clearance Supervisor holder may “Report Off.”
- H. Maintain and keep a current log attached on all Clearance Communications Board in the major stations.

**Note:** Write down information requiring particular attention on the Clearance Communications Board, such as notes, cautions, etc. in **bold** with a hanging indent.

#### 14. Best Practices

- A. Prepare clearances and submit them early for review and authorization. Submit new system clearances at least 10 business days before the clearance is needed. If a clearance is required before the clearance date is identified, submit a new clearance as a “pending clearance” and mark the date “TBD” for “to be determined.” The clearance authorization is contingent upon system conditions at the time the work is performed.
- B. Clearance Supervisors should remain on site for the duration of the clearance. In the event of a multiple day clearance, with work continuing 24 hours a day, the Clearance Supervisor, per Section 3, “Clearance Principles and Procedures,” on Page 5, must remain available for the duration of the clearance, even if off site. A Clearance Supervisor who becomes unavailable for any period of time must transfer responsibilities and designate a new Clearance Supervisor in accordance with Section 3, “Clearance Principles and Procedures,” on Page 5. If at any time the Clearance Supervisor is replaced by someone else, formally notify Brentwood Gas Control (unmanned stations) or the Operator on Shift (manned stations). Brentwood Gas Control or the Operator on Shift must then notify System Gas Control of the change using the GLS; System Gas Control updates the Clearance SharePoint.

#### Definition of Terms

**Active clearance:** A clearance is considered **active** from the time the Clearance Supervisor requests final authorization until the Clearance Supervisor reports the clearance complete to Gas Control.

**Caution tag (CT):** Used to mark equipment such as switches, valves, breakers, etc., which if operated may endanger equipment or jeopardize systems operations. Must not be operated or changed except upon specific instruction from the station or individual on the tag. Do not use this tag in place of MOL tags where employees are working on lines or equipment. When part of a clearance, use CTs on valves, open vents, and drain valves identified in the Sequence of Operations that are not isolation points. Use CTs on open, closed, or throttled valves. If not used in conjunction with a clearance, note CT equipment on a station status board.



**Clearance:** Isolate and tag all energy sources to secure an area between specified points so work can be performed safely.

**Clearance Communications Board:** If the established and designated master clearance point for cleared equipment is in a major station, use a Clearance Communications Board. The Clearance Communications Board is located in an area readily accessible to all personnel at the major station. The Clearance Supervisor's Clearance Communications Board MOL tag is the first tag placed on the Clearance Communications Board and remains on the board for the duration of the clearance. Tags for secondary clearance holders "Reported-On" a clearance are also located on the Clearance Communications Board. The Clearance Supervisor's Clearance Communications Board MOL tag is not removed until all secondary clearance holders have "Reported Off" and their tags are removed. All Clearance Communications Boards post a clearance log to quickly identify all ongoing clearances at the station.

**Clearance complete:** When the system is returned to normal and notification is made to Gas Control personnel.

**Clearance points:** The operating mechanism of all switches, breakers, valves, etc. that control power, gas, vapor, or liquid to the cleared equipment. The Clearance Supervisor places MOL tags or CTs on clearance points. A clearance point that separates a source of energy from the work is called an isolation point.

**Clearance Supervisor:** The Clearance Supervisor is responsible for and manages the clearance. Clearance Supervisors must be qualified to perform the clearance procedure and equipment they "Report On," be knowledgeable of clearance points, and have the ability to ensure that equipment is cleared safely. The Clearance Supervisor is the first person to "Report On" and the last person to "Report Off" for any clearance. The Clearance Supervisor is responsible for all clearance logs, Clearance Communications Board documentation, and tagging.

**Note:** A Clearance Supervisor may be any qualified journeyman level employee or an exempt supervisor, including but not limited to an M&C mechanic, first line supervisor, operator mechanic, transmission mechanic, gas control technician, or gas transmission technician.

**Clearance tailboard:** The clearance tailboard is a meeting held at the beginning of work, when significant changes occur in the clearance, or as needed with all individuals who will work on the clearance. At a minimum, the clearance tailboard addresses safety concerns, objectives of the clearance, work assignments, and communication methods used during the clearance.

**Designated person:** Qualified clearance holder who, in the Clearance Supervisor's judgment, is knowledgeable and experienced with the equipment to which the clearance applies. As directed by the Clearance Supervisor, designated persons clear equipment, place MOL and CTs on clearance points, and prepare grounding documents.

**Gas Control:** Includes Brentwood Gas Control and System Gas Control.

**Gas System Operations (GSO):** Brentwood Gas Control, System Gas Control, and all of the manned stations.

**Information tag (IT):** Information tags are attached to controls, switches, or equipment where it is desirable to pass on additional information regarding their use in systems operations. Information tags are not used as a substitute for MOL tags or CTs, but may be used in conjunction with those tags.

**Isolation point:** A clearance point that separates a source of energy from the work.

**Major stations:** For the purposes of these clearance procedures, major stations are identified as backbone compressor stations (Tionesta, Burney, Gerber, Delevan, Bethany, Kettleman, Hinkley, and Topock); storage facilities (McDonald Island, Los Medanos, and Pleasant Creek); and Brentwood, Milpitas, Irvington, and Antioch terminals.

**Man-On-Line (MOL) tag:** Placed on isolation points to ensure that work can be performed safely between isolation points. MOL tags are placed on switches, breakers, gates, valves, etc. to isolate equipment from all sources of energy. Do not operate any isolation point with a MOL tag attached until all work is completed and all "Reported On" persons have "Reported Off." Do not use MOL tags on open vents, drains, or any valve, switch, or control operated under the clearance. **Only use MOL tags on isolation points associated with a clearance or at major stations on the Clearance Communications Board.**

**New clearance:** A clearance which does not exist on file and requires the preparation of a new Application for Gas Clearance. A new clearance must go through the approval/authorization process and may become a standard clearance.

**New non-system clearance:** A clearance submitted for the first time that does **not** affect gas flow, gas quality, or the ability to monitor the flow of gas. New non-system clearances may become non-system standard clearances if the work is routine and/or repetitive in nature. New non-system clearances are authorized by the responsible maintenance group at the supervisor level or above; they are not authorized by GSO.

**New system clearance:** A clearance submitted for the first time that affects gas flow, gas quality, or the ability to monitor the flow of gas. New system clearances may become system standard clearances if the work is routine and/or repetitive in nature. All new system clearances require authorization from GSO.

**Non-Clearance – Routine (NCR) work:** Work that is safe to perform without a formal clearance. This is limited work identified in Section 2, “Non-Clearance – Routine (NCR) Work Process,” on Page 4 of this procedure. Only work that meets the listed criteria may be performed as NCR work.

**Non-system standard clearance:** A clearance that is routine and/or repetitive in nature and does **not** affect gas flow, gas quality, or the ability to monitor the flow of gas. The maintenance group submitting the clearance keeps non-system standard clearances on file to reference for future submittals. This type of clearance does **not** require authorization by GSO.

**Protocol:** Official notification indicating the intention to “Report On” equipment to perform work or “Report Off” equipment after work is completed. State to the Clearance Supervisor and/or log the following information:

- Your full name
- Clearance number
- Equipment associated with the clearance

**Qualified clearance holder:** An employee who is qualified to perform the clearance procedure and, in his or her supervisor’s judgment, has experience with the equipment to clear. The employee must have knowledge of clearance points and the ability to ensure that the equipment is cleared safely.

**“Reporting Off”:** Official notification to the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) and, if applicable, the clearance log indicating that work is complete on cleared equipment. Equipment may not be made available until all personnel “Reported On” have “Reported Off.”

**“Reporting On”:** Official notification that cleared equipment is properly tagged, checked, and safe to work on. Qualified clearance holders may not begin work until they or the person they are working under are “Reported On” to the Brentwood Gas Control Center (unmanned stations) or the Operator on Shift (manned stations) and, if applicable, the clearance log. All secondary clearance holders must “Report On” to the Clearance Supervisor.

**Secondary clearance holder:** Any person “Reporting On” after the Clearance Supervisor is a secondary clearance holder. Secondary clearance holders must be qualified to perform work in compliance with this WP and work on equipment they “Report On.” Knowledge of clearance points and the ability to ensure that equipment is cleared safely is mandatory.

**Standard clearance:** A clearance for work that is routine or repetitive with an Application for Gas Clearance on file. The first line supervisor must review and authorize standard clearances.

**System clearance:** A new or standard clearance that affects gas flow, gas quality, or the ability to monitor the flow of gas. All system clearances require authorization from GSO personnel.

**System standard clearance:** A clearance that is routine and/or repetitive in nature and may affect gas flow, gas quality, or the ability to monitor the flow of gas. The maintenance personnel submitting the clearance and GSO personnel both keep system standard clearances on file to reference for future submittals. This type of clearance requires authorization by GSO.

**System flow:** Gas flow on pipelines operating over 60 psig outside station fence lines.

**Recision**

This WP supersedes WP4100-10, “Gas Transmission Clearance Procedure for Facilities Operating Over 60 PSIG,” issued March 2009.

**Attachments**

Attachment 1, “Control Room Clearance Procedure”

Attachment 2, “Gas Clearance Quality Assurance Process”

Attachment 3, “Gas System Operations Gas Clearance Leadership Committee Members”

Attachment 4, “Application for Gas Clearance” (Form F4100-10-4)

Attachment 5, “Gas Clearance Quality Assurance Process – Quarterly List” (Form F4100-10-5)

Attachment 6, “Clearance Type and Subtype Matrix”

**Contact for More Information**

[Redacted]  
Company phone: [Redacted]

**Date Issued**

August 2009

**Approved by**

[Redacted]  
Manager

**Utility Work Procedure WP4100-10**

**Title: Gas Clearance Procedures for Facilities Operating Over  
60 PSIG**

Page: 21 of 21

**Revision History**

<b>Chg No.</b>	<b>Date</b>	<b>Description</b>	<b>By (LAN ID)</b>
00	February 2009	This is a new work procedure.	
01	March 2009	Revisions made to original work procedure.	
02	August 2009	Revisions made to original work procedure.	