



System New Clearances for Gas Transmission Facilities

Procedure

TD-4441P-10, Rev. 0c
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Summary

This utility procedure provides instructions for preparing, writing, endorsing, approving, executing, and documenting system new clearances on Pacific Gas and Electric Company (PG&E or Company) natural gas transmission facilities.

LEVEL OF USE: Informational Use



Target Audience

All personnel who perform work, or provide support for work, on PG&E natural gas transmission systems and associated equipment, including but not limited to:

- Gas control center (GCC) personnel (gas transmission control center [GTCC] and gas distribution control center [GDCC])
- Maintenance and construction (M&C) personnel
- Gas pipeline operations and maintenance (GPO&M) personnel
- General construction (GC) personnel
- Pipeline field services personnel
- Gas system planning personnel
- Gas transmission engineering and design (GTE&D) personnel
- Facility integrity management program (FIMP) and technical services personnel
- Project management and major programs personnel



Safety

Follow safe work practices and use PG&E-approved personal protective equipment (PPE).

Death, personal injury, or equipment/property damage can result from unsafe system operation and can occur from improper preparation or execution of the clearance.

Potential hazards associated with executing system new clearances on gas transmission facilities include, but are not necessarily limited to, the following conditions and situations:

- Explosion or ignition of escaping gas
- Traffic hazards when working on facilities near vehicles or roadways
- Hazards associated with working in confined spaces



Before You Start

- Receive appropriate training as indicated in [Utility Standard TD-4441S, “Gas Clearances.”](#)



Operator Qualification (OQ) Requirements

There is no specific OQ for performing the steps in this procedure. However, tasks performed in executing a clearance may require OQs (e.g., turning valves or calibrating equipment).



Quality Control (QC) and Quality Assurance (QA)

QC verification points are used during field observations by the supervisor in the various lines of business that perform this work, and during QA assessments to evaluate conformance during annual randomized schedule which complies with state and federal regulations.



Tools and Equipment

Tools and equipment required to perform work in this procedure include, but are not necessarily limited to, the following:

- SAP work clearance management (WCM) software
- Tools as required for executing clearance work



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Section A. Planning and Writing

This section provides instructions for planning and writing a gas transmission system new clearance. The instructions in this section begin when the project owner determines whether a system new clearance is required and end when the clearance writer is ready to submit the work clearance document (WCD) for endorsement and approval.



NOTE!

Throughout this procedure, “work clearance document (WCD)” refers to the electronic document for the clearance that is created and maintained in SAP, and “Gas Clearance Document” refers to the hard copy printout from the WCD that is used by personnel in the field.

A1

Determining Clearance Necessity

1. The project owner determines whether a system new clearance is required.
 - A. Non-maintenance work on gas transmission systems that meets **any** of the following criteria requires a system new clearance:
 - The first-line supervisor for the group performing the work determines that a clearance is needed.
 - GTCC management determines that a clearance is needed.
 - The work affects gas pressure, flow, or quality.
 - The work involves activation or deactivation of facilities.
 - The work affects remote monitoring and control.
 - The work may impact ability to maintain service to customers.
 - B. Examples of work that require a system new clearance include, but are not necessarily limited to the following:
 - Main extension, replacement, deactivation, activation, and installation
 - Installation of fittings that affect gas flow or pressure when installed
 - SCADA activation or deactivation
 - Regulator station activation and deactivation
 - Valve activation and deactivation
 - Any welding on pressurized pipeline
 - C. [Utility Procedure TD-4441P-15, "Non-Clearance Routine \(NCR\) Transmission Work,"](#) identifies work that does not require a clearance.
2. If a system new clearance is required, the project owner informs the area first-line supervisor, who assigns a clearance writer.

A2 Completing the Pre-Clearance Form

The pre-clearance form collects information for the clearance writer to use in writing the WCD, including contingency/risk analysis information.

Clearances that affect electrical systems, valve controller systems, programmable logic controller (PLC) systems, or uninterruptible power supply (UPS) systems must undergo a risk analysis to mitigate any unintended impacts. All risk analyses must take into account the safety of the public and personnel as well as customer and operational requirements.

1. The project owner ensures that the pre-clearance form is filled out in SAP.
 - A. If the pre-clearance form is not available in SAP, use [Form TD-4441P-10-F01, "Pre-Clearance Form for Gas Transmission System New Clearances."](#)
 - B. See [Attachment 1, "Transmission Pre-Clearance Form Instructions,"](#) as needed for guidance on completing the form.
 - C. Update the pre-clearance form as needed until the WCD is submitted for approval.
2. **OPTIONAL:** The following actions are recommended for completing the form:
 - A. Identify key stakeholders and contributors.
 - B. Hold a 45-day pre-clearance meeting to gather information for form.
 - C. Assign sections of the pre-clearance form as needed for contributors to complete.
 - D. Finalize form at 30-day pre-clearance meeting.

A3 Preparing the Work Clearance Document (WCD)

The clearance writer performs the steps in this section.

1. Complete all portions of the WCD, using the completed Pre-Clearance Form and the instructions in [Attachment 2, "Application for Gas Transmission System New Clearance Instructions."](#)
 - A. If the WCD is not available in SAP, use [Form TD-4441P-10-F02, "Application for Gas Transmission System New Clearances."](#)
 - B. Identify tags to be placed in the Sequence of Operations according to the instructions in [Utility Procedure TD-4441P-20, "Hazardous Energy Control \(Lockout/Tagout\) for Gas Clearances."](#)
 - C. If blowing down of gas is required, use [Utility Procedure TD-4441P-01, Attachment 5, "Natural Gas Release Notification Requirements,"](#) and [Form TD-4441P-01-F02, "Natural Gas Release Notification,"](#) as needed.
 - D. All fields in the WCD are required. If a field is not used, enter "NA" (not applicable).

Section A3.1 (continued)

- E. **OPTIONAL:** Operational steps may be copied from a completed clearance into a new clearance, but the new clearance must still follow the clearance writing and review process.
 - F. **OPTIONAL:** A preliminary or draft clearance, which is not necessarily a complete package, may be sent to endorsers and approved for input toward a final clearance package.
2. Review the draft clearance with key stakeholders (e.g., clearance supervisor, first-line supervisor, planning engineer, other endorsers).

Section B. Endorsement and Approval

This section provides instructions for submitting, endorsing, approving, and obtaining preliminary authorization for a gas transmission system new clearance. The instructions in this section begin when the clearance writer is ready to submit the WCD for endorsement and approval, and end when the clearance supervisor records preliminary authorization to proceed with the clearance.

B1

Submitting the WCD for Endorsement and Approval

1. If routing the WCD for endorsement and approval less than 10 business days before the anticipated start of the clearance work, the clearance writer completes the clearance break-in form in SAP.
 - A. **EXCEPTION:** If the clearance is an emergency clearance (per [Utility Procedure TD-4444P-02, "Gas Transmission Control Emergency Response"](#)), the clearance break-in form is not required.
 - B. This [gas control SharePoint site](#) has a tailboard with instructions for the break-in process and a break-in form to use if the form is not available in SAP.
 - C. If GTCC identifies more than five WCD endorsement/approval requests made less than 10 business days before the start of the clearance over 2 consecutive months, then the responsible superintendent performs the following tasks:
 - 1) Review the clearances with the local first-line supervisor to determine whether they were avoidable.
 - 2) Discuss the reasons for the occurrences with the manager of gas control to prevent recurrence.
2. The clearance writer attaches the following to the WCD:
 - A. Clearance sketch
 - B. Pre-clearance form (if not completed in SAP; see [TD-4441P-10-F01](#))
 - C. Clearance break-in form (if applicable and if not completed in SAP)

Section B1.2 (continued)

- D. Any visual representations needed (e.g., operating maps, drawings, electrical diagrams, piping and instrumentation diagrams, etc.). Visual representations attached to the WCD must be current and accurate because they are used for reviewing the WCD.
- E. Any of the following that are required for the work being performed:
 - o Customer tap list
 - o Testing procedure
 - o Functional checkout (FCO)
 - o General construction (GC) work procedure
- 3. The clearance writer routes the WCD and all attached documents for endorsement/approval per Table 1, "Clearance Endorsers."
 - A. If clearance includes tapping and/or welding operations, notify Transmission Planning (if Transmission Planning is not an endorser on clearance).
 - B. If clearance impacts pipeline assets, notify Pipeline Services (if Pipeline Services is not an endorser on clearance).

Table 1. Clearance Endorsers

DEPARTMENT	REQUIRED TO ENDORSE WHEN WORK AFFECTS
Gas Distribution Control Center (GDCC)	<ul style="list-style-type: none"> • Gas distribution (GD) flow, pressure, gas quality or the ability to monitor or remotely operate equipment • When district regulator is backfed. • Any activation or deactivation of GD facilities • Downrates from transmission to distribution
Transmission Planning	<ul style="list-style-type: none"> • Gas transmission (GT) system pressure or flow • GT system capacity • GT customers • Gas quality • Abnormal system routing • Storage capacity • Gas production • Interconnect facilities
Distribution Planning	<ul style="list-style-type: none"> • GD system hydraulics • GD system capacity • GD customers • GD gas quality • GD abnormal system routing
Gas Plant Engineering and Design	<ul style="list-style-type: none"> • Any pipeline or station clearance where gas plant engineering and design is the responsible project engineer.
Pipeline Services	<ul style="list-style-type: none"> • Any pipeline clearance where gas plant engineering and design is not the responsible project engineer.

Section B1 (continued)

Table 1. Clearance Endorsers (continued)

DEPARTMENT	REQUIRED TO ENDORSE WHEN WORK AFFECTS
Station Services	<ul style="list-style-type: none"> Station assets where gas plant engineering and design is not the responsible project engineer.
Electrical Engineering	<ul style="list-style-type: none"> Electrical isolation of three phase live circuits Installation or use of temporary power
Controls Engineer	<ul style="list-style-type: none"> RTU, programmable logic controller (plc) work (adding, manipulating, removing) Installation, development, design, and modification of automated controls Deactivation of automated controls Functional check out
Local first-line supervisor	<ul style="list-style-type: none"> Must review and endorse ALL clearances
Secondary Local Endorser	<ul style="list-style-type: none"> Must review and endorse ALL clearances
Clearance Supervisor	<ul style="list-style-type: none"> Any clearance where clearance supervisor has been identified when clearance is submitted for review.

B2 Reviewing the Clearance

- Each identified endorser (per [Table 1](#)), reviews the clearance as described in Table 2, “Endorsement Responsibilities,” and endorses or rejects the WCD no more than 5 business days after receiving the endorsement request.
 - After all endorsers endorse the clearance, SAP automatically notifies the GTCC via email.

Table 2. Endorsement Responsibilities

DEPARTMENT	RESPONSIBLE FOR REVIEWING	SECTIONS REQUIRED TO REVIEW
GDCC	<ul style="list-style-type: none"> GD system impacts to pressure, flow, and gas quality GD customer impacts GD SCADA and remote capability impacts 	Entire WCD
Transmission Planning	<ul style="list-style-type: none"> GT system impacts to pressure, flow, and gas quality GT customer impacts GT SCADA changes GT gauge locations and pressures GT drafting strategies GT system operation and configuration GT minimum pressure requirements Blowdown calculations 	<ul style="list-style-type: none"> Header Section Special Instructions Gauge information SCADA information Sequence Of Operations

Section B2 (continued)

Table 2. Endorsement Responsibilities (continued)

DEPARTMENT	RESPONSIBLE FOR REVIEWING	SECTIONS REQUIRED TO REVIEW
Distribution Planning	<ul style="list-style-type: none"> • GD system impacts to pressure, flow, and gas quality • GD customer impacts • GD SCADA changes • GD gauge locations and pressures • GD drafting strategies • GD system routing • GD minimum pressure requirements 	<ul style="list-style-type: none"> • Header Section • Special Instructions • Gauge information • SCADA information • Sequence Of Operations
Gas Plant Engineering and Design (pipeline clearance) Pipeline Services	If endorser is not the pipeline services asset owner, consult with the asset owner when reviewing the following: <ul style="list-style-type: none"> • Pipeline MOP on affected lines • Conditional/Temporary reduced operating pressure (CROP/TROP) on affected lines • Proper purge and pack procedure • Maximum welding pressures • Maximum tapping pressures • Maximum plugging pressures • Impacts to power gas 	<ul style="list-style-type: none"> • Header Section • Reference Drawings • Special Instructions • Gauge information • Sequence of Operations (if required to review pack and purge procedure)
Gas Plant Engineering and Design (station clearance) Station Services	If endorser is not the station services asset owner, consult with the asset owner when reviewing the following: <ul style="list-style-type: none"> • Current MOP/MAOP inside station • Safe and proper functionality of station equipment • Safe and proper isolation of station equipment • Contingency plans that include operating station equipment • Impacts to power gas 	<ul style="list-style-type: none"> • Header Section • Reference Drawings • Special Instructions • Sequence of Operations
Electrical Engineering	<ul style="list-style-type: none"> • Safe and proper operation of electrical equipment • Safe and proper isolation of electrical equipment • Contingency plans that include operating electrical equipment • Contingency plans that include operating temporary power 	<ul style="list-style-type: none"> • Header Section • Reference Drawings • Special Instructions • Sequence Of Operations
Controls Engineer	<ul style="list-style-type: none"> • Safe and proper operation of automated equipment • Safe and proper isolation of automated equipment • Contingency plans that include operating automated equipment 	<ul style="list-style-type: none"> • Header Section • Reference Drawings • Special Instructions • Sequence of Operations

Section B2 (continued)

Table 2. Endorsement Responsibilities (continued)

DEPARTMENT	RESPONSIBLE FOR REVIEWING	SECTIONS REQUIRED TO REVIEW
Local first-line supervisor	<ul style="list-style-type: none"> • Safe operation and isolation of clearance • Logistics • Clearance completeness • Feasibility • Hazardous energy control (lockout/tagout) • Impacts to power gas 	Entire WCD
Secondary Local Endorser	<ul style="list-style-type: none"> • Safe operation and isolation of clearance • Logistics • Clearance completeness • Feasibility • Hazardous energy control (lockout/tagout) • Impacts to power gas 	Entire WCD
Clearance Supervisor	<ul style="list-style-type: none"> • Safe operation and isolation of clearance • Logistics • Clearance completeness • Feasibility • Hazardous energy control (lockout/tagout) • Impacts to power gas 	Entire WCD

2. If an endorser rejects the clearance, perform the following steps:
 - A. The endorser enters the reason for rejecting when prompted.
 - SAP automatically notifies the clearance writer of the rejection via email.
 - B. The clearance writer reviews the rejection comments, modifies the clearance as needed, and reroutes the WCD for endorsement/approval.
3. GTCC reviews the clearance and must approve or reject the WCD no more than 5 business days after the WCD is fully endorsed.
4. If GTCC rejects the clearance, perform the following steps:
 - A. GTCC enters the reason for rejecting when prompted.
 - SAP automatically notifies the clearance writer of the rejection via email.
 - B. The clearance writer reviews the rejection comments and modifies the clearance as needed.
 - C. If the reason GTCC rejects the clearance is an unsafe Sequence of Operations as written and endorsed, perform the following steps:
 - 1) GTCC reviews the issues found with the first-line supervisor and local superintendent.
 - 2) The first-line supervisor ensures the clearance is revised and verified as correct.
 - D. The clearance writer reroutes the WCD for endorsement/approval.

B3

Obtaining Preliminary Authorization

1. The clearance supervisor performs the following tasks:
 - A. Review the clearance to gain complete knowledge of the intended work and clearance.
 - B. Make notifications of the work being done per the Gas Clearance Document (i.e., call indicated parties in the specified time frames). GTCC personnel only notify the proper authorities if the clearance supervisor does not have the ability to do so.
2. The clearance supervisor calls GTCC personnel to request preliminary authorization approximately 48 hours before the start of clearance work and provides the following information to ensure document alignment:
 - WCD number
 - Revision number (of WCD)
 - Clearance supervisor's name, LAN ID, and mobile phone number
3. The gas transmission system operator on shift requests preliminary authorization from the transmission clearance coordinator on shift.
4. If preliminary authorization is granted, perform the following steps:
 - A. The transmission gas system operator on shift performs the following steps:
 - 1) Relay preliminary authorization approval to the clearance supervisor.
 - 2) Enter date and time in the WCD **AND** write date and time on the control room copy of the Gas Clearance Document.
 - B. The clearance supervisor notes the date and time on the Gas Clearance Document.
 - C. If more than 96 hours pass after preliminary authorization is granted without final authorization being granted, the preliminary authorization expires (repeat the steps in Section B3).
5. If preliminary authorization is **NOT** granted, the clearance writer resubmits the WCD (with a new date) via the clearance application process.

Section C. Preparing, Performing, and Completing Clearance Work

This section provides instructions for executing a gas transmission system new clearance. The instructions in this section begin when the clearance supervisor has preliminary authorization to proceed with the clearance, and end when the clearance is complete.

Throughout executing a system new clearance, perform the following steps whenever applicable:

1. **BEFORE** performing each communication step shown on the Gas Clearance Document (indicated with an asterisk [*]), the clearance supervisor calls the GTCC to receive permission to perform that operation.
2. The clearance supervisor performs the following:
 - A. For all non-communication steps in the Sequence of Operations, make the following changes in the “Completed By” and “Date/Time” columns as applicable:
 - Red-line steps that changed.
 - Strike through steps not performed.
 - B. Mark “N/A” or “NA” for any field or document not required for the clearance.
3. Personnel not trained as qualified clearance holders must work under the direct supervision of a qualified clearance holder when performing clearance work.
4. When hand-throttling valves for pressure control, monitor pressure with primary and backup gauges as described in [Job Aid TD-4441P-01-JA-01, “Gauging Pressure While Hand-Throttling Valves.”](#)

C1

Preparing to Perform Clearance Work

The clearance supervisor performs the steps in this section.

1. Print and distribute copies of the following to all personnel performing work under the clearance:
 - The approved Gas Clearance Document
 - Any visual representations needed (e.g., sketches, operating maps, drawings, electrical diagrams, piping and instrumentation diagrams, etc.)
2. Conduct a clearance tailboard with all field personnel performing work under the clearance. See the [Safety and Performance Fundamentals Handbook](#) for guidance on safety topics to discuss in addition to the specific work for the clearance.
3. Keep contact information for all personnel working under the clearance (e.g., names, LAN IDs, mobile phone numbers, etc.), and distribute this information as necessary.

C2

Obtaining Final Authorization

1. On the day clearance work begins, the clearance supervisor calls GTCC personnel to request final authorization to start clearance work and provides the following information to ensure document alignment:
 - WCD number
 - Revision number (of WCD)
 - Clearance supervisor's name, LAN ID, and mobile phone number
2. The gas transmission system operator on shift requests final authorization from the senior transmission coordinator on shift.
3. If final authorization is granted, perform the following steps:
 - A. The transmission gas system operator on shift relays final authorization approval to the clearance supervisor.
 - B. The transmission gas system operator on shift notes the date and time in the WCD **AND** on the control room copy of the Gas Clearance Document.
 - C. The clearance supervisor notes the date and time on the field copy of the Gas Clearance Document.
4. If final authorization is **NOT** granted, the clearance writer resubmits the WCD (with a new date) via the clearance application process.

C3

Performing Sequence of Operations Tagging List**WARNING!**

INJURY or DEATH to persons, or DAMAGE to property, can result from performing work on equipment that is not properly cleared and tagged.

1. The clearance supervisor ensures clearance work is performed in accordance with the following:
 - The Sequence of Operations Tagging List and Special Instructions on the Gas Clearance Document
 - The instructions provided in [Utility Procedure TD-4441P-20, "Hazardous Energy Control \(Lockout/Tagout\) for Gas Clearances"](#)

C4

"Reporting On"

1. The clearance supervisor verifies it is safe to perform work.
2. Before performing work, "Report On" according to the following instructions:
 - A. The clearance supervisor "Reports On" to GTCC personnel.
 - B. GTCC personnel record the "Report On" information in the WCD.
 - C. If the clearance is for work at a major station, the clearance supervisor updates the Clearance Communications Board to reflect the personnel "Reported On."
3. If the clearance is for work at a manned station, there must be at least one additional authorized person (other than the clearance supervisor) signed on to the clearance.

C5

Transferring Clearance Supervisor Authority

If the clearance supervisor needs to change at any time during the clearance work (e.g., due to injury, illness, or other unavailability), the instructions in this section apply.

1. The outgoing clearance supervisor performs the tasks below. (If the outgoing clearance supervisor is unable to perform these tasks, the local superintendent designates appropriate personnel to perform the tasks.)
 - A. Safely stop clearance work in progress (and other work if necessary).
 - B. Inform GTCC of the change.
 - C. Transfer the responsibilities for supervising the clearance to another clearance supervisor who is thoroughly knowledgeable about the clearance in progress.
2. Upon assuming responsibility for the clearance, the incoming clearance supervisor performs the following tasks:
 - A. Communicate the transfer of clearance responsibility through a tailboard with all personnel working on the clearance.
 - B. Verify that all isolation points, tags, and locks are in compliance with the Sequence of Operations tagging list and [TD-4441P-20](#).
 - C. Resume clearance work (and other work if previously stopped).
3. The transmission gas system operator on shift performs the following tasks:
 - A. Confirm the following with the new clearance supervisor:
 - Clearance number
 - Approval date on Gas Clearance Document
 - Clearance supervisor's contact information (name, LAN ID, etc.)
 - The next step being performed
 - B. Update the clearance supervisor information in the heading of the clearance.
 - C. Record the change of clearance supervisor (and the reason for the change) in SAP long text.

C6

Performing Clearance Work

**WARNING!**

DEATH or INJURY to persons, or DAMAGE to property, can result from operating an isolation point with a Man-on-Line (MOL) tag attached.

1. If at any time anyone working on the clearance believes that equipment being worked on is not properly cleared or that changes to the clearance are required, see Section C7.
2. Upon completion of the clearance work, the clearance supervisor ensures that all equipment involved in the clearance work has been tested and is operating properly before transferring the equipment to operations. (See [Job Aid TD-4441P-10-JA01, "Testing Cleared Equipment to be Operational,"](#) for additional information on conducting the tests.)

C7

Revising an Active Clearance

**NOTE!**

Major and minor revisions are defined in the [Definitions](#) section of this utility procedure.

1. “Major revisions” to an approved clearance must be rerouted through the endorsement/approval process in SAP.

Examples of “major revisions” include:
 - Adding an isolation point that affects hydraulics.
2. “Minor revisions” to an approved clearance need approval only from the senior transmission coordinator on shift.

Examples of “minor revisions” include:
 - Addition/Change of SCADA alarm changes
 - Resequencing steps in the Sequence of Operations as needed as long as it is deemed safe to proceed.
 - Additional isolation point for block and bleed purposes
 - Change in gauging pressures
3. If changes are required to an approved system new clearance in progress, and it is considered a **major** revision, the following steps must be taken:
 - A. Personnel working on the clearance must immediately stop any work in progress.
 - B. Clearance supervisor contacts GTCC and notifies them of pending revision.
 - C. The clearance supervisor or delegate submits the revised WCD in SAP. The revision comment section must state the impact of revision and who needs to re-endorse (per [Table 1](#)).
 - D. Identified endorsers and GTCC personnel review and endorse/approve (or reject) the changes as described in [Section B2](#).
 - E. GTCC reissues the revised Gas Clearance Document via email to the clearance supervisor and all other endorsers, stating revision number and reason for change.
 - F. Before resuming work, the clearance supervisor performs the following steps:
 - 1) Redistribute the revised Gas Clearance Document to all affected personnel.
 - 2) Conduct a clearance revision tailboard with all field personnel performing work under the clearance to discuss the approved major revision and revised Gas Clearance Document.

Section C7 (continued)

4. If changes are required to an approved system new clearance in progress, and it is considered a **minor** revision, the following steps are taken:
 - A. Personnel working on the clearance immediately stop any work in progress.
 - B. The clearance supervisor contacts the gas transmission clearance coordinator (or the senior gas transmission coordinator if the gas transmission clearance coordinator is not available) and requests a minor revision.
 - 1) Clearance supervisor reviews the requested changes with the GTCC and identifies the steps on the Gas Clearance Document.
 - 2) If clearance supervisor and senior gas transmission coordinator do not agree on minor revision, revision request is escalated to the area superintendent and the gas transmission clearance coordinator on call.
 - C. GTCC personnel perform the following tasks:
 - 1) Review the changes on the Gas Clearance Document with the clearance supervisor.
 - 2) Relay verbal approval to the clearance supervisor.
 - 3) Redline the changes on the control room Gas Clearance Document.
 - 4) Create an entry into the long text of WCD in SAP noting the revision number, date, and time of the minor revision.
 - D. Before resuming work, the clearance supervisor conducts clearance revision tailboard with all field personnel performing work under the clearance to discuss the approved minor revision and hard copy redlined changes.
 - E. Clearance supervisor or delegate makes the formal change of the minor revision in SAP within 24 hours of the approved minor revision (if clearance will not be completed within that 24 hour period).

C8**“Reporting Off”**

1. When the clearance work is complete, “Report Off” according to the following instructions:
 - A. The clearance supervisor verifies that the work is complete, equipment is ready to return to service, and all personnel are safe and clear.
 - B. The clearance supervisor “Reports Off” to GTCC personnel.
 - C. GTCC personnel record the “Report Off” information on the master clearance board in SAP.

C9 Performing Sequence of Operations Untagging List

1. The clearance supervisor ensures equipment is returned to operation in accordance with the following:
 - The Sequence of Operations Untagging List and Special Instructions on the Gas Clearance Document
 - The instructions provided in [Utility Procedure TD-4441P-20, "Hazardous Energy Control \(Lockout/Tagout\) for Gas Clearances"](#)

C10 Performing Clearance Complete Activities

1. The clearance supervisor notifies GTCC personnel that the clearance is complete.
2. GTCC personnel verify Sequence of Operations is complete and equipment is returned to operation.
3. GTCC personnel update the clearance status on the master clearance board in SAP.
4. If the clearance work is at a major station, the clearance supervisor removes the master clearance point MOL tag from the Clearance Communications Board.

Section D. Recordkeeping

This section provides instructions for keeping records related to a gas transmission system new clearance.

1. The clearance supervisor or delegate scans and uploads the following documents into the WCD no more than 5 business days after completing the clearance:
 - Completed, signed Gas Clearance Document
 - Redlined clearance sketch
 - Clearance roster (see [TD-4441P-20](#) for details)
2. GTCC personnel perform the following tasks in order to close the WCD:
 - A. Verify control room copy of the Gas Clearance Document is completed.
 - B. Scan the control room copy of the Gas Clearance Document and upload it to the WCD.
 - C. Check the WCD to ensure that the items listed in step D.1 above are attached.
 - D. Set WCD to "Closed" in SAP.
3. Retain records per the Record Retention Schedule.

END OF PROCEDURE



Definitions

30-Day Pre-Clearance Meeting: Meeting held 30 calendar days before the clearance start date to review the pre-clearance form, finalize clearance dates, and communicate any modifications to the existing plans. The pre-clearance form is typically finalized at this meeting.

45-Day Pre-Clearance Meeting: Meeting held 45 calendar days before the clearance start date to determine project scope and begin developing the pre-clearance form.

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 personnel.

Approver: The singular accountable party that consents to the proposed work clearance.

Authorized Personnel: Qualified personnel who execute gas clearances (i.e., personnel isolating energy by operating valves, squeezers, etc.) or who sign on with the clearance supervisor in order to perform work on the cleared equipment. See also the [Cal/OSHA definition of "Authorized employee or person."](#)

Clearance: Permission from gas control to perform work on a system, which may include operational changes or isolating energy sources.

Clearance Communications Board: A board for tracking clearances when the established and designated master clearance point for cleared equipment is in a major station. The board is located in the major station and displays a log for each ongoing clearance at the station.

Clearance Complete: When the system is returned to normal and notification is made to GTCC personnel.

Clearance Point: Any point in the clearance that (if operated) can affect the system and gets tagged with a Man-on-Line or Caution tag.

Clearance Supervisor: The employee who is responsible for and manages the clearance.

Clearance Writer: The person who enters relevant data for the execution of the clearance into the WCD.

Communication Step: A step in the clearance (identified by an asterisk [*] on the Gas Clearance Document and a check mark in the WCD) that requires a call to Gas Control personnel (e.g., preliminary authorization, final authorization, report on, beginning of work day, end of work day to report daily progress, report off, clearance work complete).

Endorser: The person (or persons) who review, provide feedback, support, and concur with the proposed work clearance.

Gas Clearance Document: The hard copy output of the WCD, which lists the Sequence of Operations and other instructions associated with the clearance. See [Attachment 3, "Sample Gas Clearance Document for Gas Transmission System New Clearance"](#) for an example.



Definitions (continued)

Gas Quality: Gas characteristics such as heating value, moisture content, odorant levels, temperature, etc.

Gas Transmission Control Center (GTCC): GTCC monitors and manages gas flow on transmission facilities, and includes the following personnel: manager, supervisor, clearance coordinator, senior clearance coordinator, operator, senior transmission coordinators, and transmission coordinator.

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

Major Revisions: Changes to a clearance that affect the system hydraulics of a clearance, add more than three additional isolation points in a valve location, significantly increase the volume of blowdown gas, or cross over District/Division boundary lines.

Major Stations: For the purposes of this clearance procedure, major stations are 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.

Minor Revisions: Changes to a clearance that **DO NOT** affect the system hydraulics of the clearance, add more than three additional isolation points in a valve location, significantly increase the volume of blowdown gas, or cross over District/Division boundary lines.

Non-Clearance Routine (NCR) Work: Work that is safe to perform without a formal clearance and meets the qualifying criteria listed in [TD-4441P-15](#).

Pre-Clearance Form: The form used to gather the information required for writing a clearance.

Project Owner: The person in overall charge of the planning and execution of the project requiring the clearance, regardless of actual job title. For example, the project owner can be a project management professional (PMP), a pipeline engineer, a first-line supervisor, etc.

Qualified Clearance Holder: Any personnel who is qualified to perform the clearance procedure and, in his or her supervisor's judgment, who has experience with the equipment to clear. The person must have knowledge of clearance points and the ability to ensure that the equipment is cleared safely.

Reporting Off: Official notification to gas control personnel (and the operator on shift for manned stations) and, if applicable, notification in 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 to gas control personnel (and the operator on shift for manned stations) and, if applicable, notification in the clearance log, indicating that cleared equipment is properly tagged, checked, and safe to work on and that the clearance supervisor is ready to begin work.

Secondary Local Endorser: The lead gas control technician, lead transmission mechanic, or other qualified clearance holder from the local headquarters.

Work Clearance Document (WCD): An electronic document in SAP associated with a specific Gas Clearance Document.



Implementation Responsibilities

GCC sent an email communicating upcoming clearance changes to all personnel who previously completed GAS-0401 ILT, “Gas Clearance Process Training,” GAS-0837 ILT, “TD-4441P-01: Writing/Endorsing/Approving,” or GAS-0838 ILT, “TD-4441P-01: Executing.” This email contained a tailboard that informed users of WCD changes coming in the September 21, 2015 SAP release in preparation for lockout/tagout (LOTO) and clearance alignment, and that further training would come during system wide roll-out of the new procedures.

Academy is creating interim training for the roll-out of LOTO and changes to the clearance process. Specific training is required for each role in the clearance and LOTO process. Personnel that already (prior to this publication) have roles in the process are required to complete the interim training course dedicated to only the changes in the process. This interim training will be conducted by the Academy from procedure publication through the procedure effective date (March 1, 2016) to ensure personnel understand the changes in their role prior to the effective date.

Academy is also creating a new curriculum based on the revised procedures. In early 2016 the long term training curriculum will be complete. New personnel impacted by the LOTO and clearance processes will be required to complete the new training courses. Until this new training curriculum is complete, new personnel will be required to complete the existing training and the interim training.

Codes and Standards will update [TD-4441S](#) with the new training course numbers and titles in early 2016.

Clearance writers will have opportunities to attend WebEx learning sessions provided by the GCC to receive further communication on how the clearance writing process is changing to include LOTO.

A Gas TDM Comms email will be sent out after the last of the TD-4441 series publishes to communicate that they are now all available in the Technical Information Library (TIL). Additional messaging will occur company-wide to drive awareness of gas LOTO and clearance alignment.



Governing Document

[Utility Standard TD-4441S, “Gas Clearances”](#)



Compliance Requirement/Regulatory Commitment

[California Code of Regulations \(CCR\) Title 8, Subchapter 7, General Industry Safety Orders, Section \(§\) 3314, “The Control of Hazardous Energy for the Cleaning, Repairing, Servicing, Setting-Up, and Adjusting Operations of Prime Movers, Machinery and Equipment, Including Lockout/Tagout”](#)

[Code of Federal Regulations \(CFR\) Title 49, Transportation, Part 192—Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards, §192.605, “Procedural manual for operations, maintenance, and emergencies”](#)

[CFR Title 49, Transportation, Part 192—Transportation of Natural and other Gas by Pipeline: Minimum Federal Safety Standards, §192.631 “Control room management”](#)



Supplemental References

- [Form TD-4441P-01-F02, "Natural Gas Release Notification"](#)
- [Gas control SharePoint site](#)
- [Job Aid TD-4441P-01-JA-01, "Gauging Pressure While Hand-Throttling Valves"](#)
- [Safety and Performance Fundamentals Handbook](#)
- [Utility Procedure TD-4441P-01, Attachment 5, "Natural Gas Release Notification Requirements"](#)
- [Utility Procedure TD-4441P-15, "Non-Clearance Routine \(NCR\) Transmission Work"](#)
- [Utility Procedure TD-4441P-20, "Hazardous Energy Control \(Lockout/Tagout\) for Gas Clearances"](#)
- [Utility Procedure TD-4444P-02, "Gas Transmission Control Emergency Response"](#)



Attachments

- [Attachment 1, "Transmission Pre-Clearance Form Instructions"](#)
- [Attachment 2, "Application for Gas Transmission System New Clearance Instructions"](#)
- [Attachment 3, "Sample Gas Clearance Document for Gas Transmission System New Clearance"](#)

Attachments 4–9 each repeat the instructions from this procedure that apply to a particular clearance job role. These quick reference cards serve as convenient references only, and are not substitutes for fully understanding this procedure.

- [Attachment 4, "Transmission Clearance Coordinator Quick Reference Card for Gas Transmission System New Clearances"](#)
- [Attachment 5, "Senior Transmission Coordinator Quick Reference Card for Gas Transmission System New Clearances"](#)
- [Attachment 6, "Gas Transmission System Operator Quick Reference Card for Gas Transmission System New Clearances"](#)
- [Attachment 7, Clearance Supervisor Quick Reference Card for Gas Transmission System New Clearances"](#)
- [Attachment 8, "Endorser and Approver Quick Reference Card for Gas Transmission System New Clearances"](#)
- [Attachment 9, "Clearance Writer Quick Reference Card for Gas Transmission System New Clearances"](#)
- [Form TD-4441P-10-F01, "Pre-Clearance Form for Gas Transmission System New Clearances"](#)
- [Form TD-4441P-10-F02, "Application for Gas Transmission System New Clearances"](#)
- [Job Aid TD-4441P-10-JA01, "Testing Cleared Equipment to be Operational"](#)



Document Feedback

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Revision Notes

Revision 0c:

- Added Steps C.2.A and C.2.B, directing the clearance supervisor to red-line non-communication Sequence of Operations steps that changed, strike through steps not performed, and mark N/A or NA for fields or documents not required for the clearance.
- Updated the clearance supervisor's quick reference card (Attachment 7) to include the changes described above.

Revision 0b: (Publication Date: 08/16/2017 Effective Date: 08/16/2017)

- Table 2: Added "Impacts to power gas" to the "Responsible for Reviewing" lists for Pipeline Services, Station Services, Local First-Line Supervisor, Secondary Local Endorser, and Clearance Supervisor.
- Attachment 8: Replicated the Table 2 changes to Table 2 of the attachment.

Revision 0a:

TD-4441P-01-F01: Added LAN ID to name fields on form.

Revision 0 (Publication Date: 11/04/2015; Effective Date: 03/01/2016):

This is a new utility procedure that (along with TD-4441P-11, "System Maintenance Clearances for Gas Transmission Facilities" and TD-4441P-15, "Non-Clearance Routine (NCR) Transmission Work") supersedes Utility Procedure TD-4100P-10, "Gas Clearance Procedures for Facilities Operating Over 60 psig," Rev. 2, issued 03/26/2014. This procedure was written to maximize alignment with Utility Procedure TD-4441P-01, "System New Clearances for Gas Distribution Facilities."

This procedure contains information from TD-4100P-10 specific to system new clearances. Major revisions from TD-4100P-10 include the following:

- Incorporated Utility Bulletin TD-4100P-B007, "Secondary Local Approval and Unsafe Sequence of Operations Approved at the Local Level for Gas Transmission Clearance Procedures."
- Added references to Utility Procedure TD-4441P-20, "Hazardous Energy Control (Lockout/Tagout) for Gas Clearances," where appropriate.
- Changed references from "clearance application" or "Application for Gas Clearance" (or the like) to "Work Clearance Document (WCD)," and changed references from "hard copy of the Application for Gas Clearance" (or the like) to "Gas Clearance Document."

Revision Notes (continued)

- Removed references to facilities operating above/below 60 psig as a dividing line between transmission and distribution.
- Added quick reference cards for clearance job roles (Attachment 4 through Attachment 9). Each of these attachments repeats the instructions from the procedure that apply to that attachment's job role.
- Added Pre-Clearance Form (TD-4441P-10-F01) and instructions for completing the form (Attachment 1).
- Replaced "approvers" with "endorsers" throughout the procedure (GTCC is the only "approver").
- Added process for revising an active clearance.
- Changed "10 business days" time frame to allot 5 business days for endorsers to endorse, and 5 business days for GTCC to approve.