

Gas Transmission – Maintenance and Construction QUALIFICATION EVALUATION FORMS

This document contains all the required forms and tools to properly qualify an employee in the given OQ task. The following instructions will guide you in how to complete this process.

This document contains the following documents:

Pages 1 and 2: Official DOT input forms. This document is to be completed by an approved OQ Evaluator for the given task. Field supervisors are not to sign and submit this document unless they are an approved evaluator.

Page 3 : This table contains the required training requirements for either initial or subsequent OQ Evaluation. It specifies the required formal training, OJT (via FTO's) and performance testing (JPM's) that must be completed prior to OQ Evaluation.

Pages 4 – end: These contain the actual Field Training Outlines necessary to complete any required OJT and Job Performance Measurements (JPM's) associated with this task.
These must be completed prior to OQ Evaluation.

To complete the **OQ Process** follow these steps:

1. Go to the T drive and find the desired OQ folder for the given OQ task
T:\TRAINING\OPERATOR QUALIFICATION\ New Initial and Subsequent Forms
2. Determine if the employee requires initial or subsequent evaluation.
3. See page 3 of the document which specifies the required training.
4. Schedule the employee to complete any required formal training.
5. Working with your district MP, schedule the employee to complete any required OJT or testing (see pages 4 to the end)
6. If formal training, Field Training Outlines and JPM's are complete, contact [REDACTED] to schedule an evaluation. The primary role of the Evaluator is to assess knowledge, skills and abilities. They are not there to provide training.
7. Upon completion of OQ Evaluation, page 1 of this document is sent to [REDACTED] for processing. Do not send in this form directly to HR Learning Services.
8. The original DOT Form (page 1) is forwarded to HRLS by [REDACTED]. This notification is then input into Training Server and will appear on the DOT Operator Qualification Report for the employee's district. Maintenance Planning is also notified so that PLM (report 70) can be updated with current information.

The employee can now be properly scheduled to perform OQ associated work.



QUALIFICATION EVALUATION

- Initial
- Subsequent

EMPLOYEE FULL NAME (PRINT)		Last four of SS#

Job Title _____ Area _____ Work Location _____

Subtask Name Rectifier Reads Subtask #: 03-03.00

SUBTASK OBJECTIVE: Using one or more of the below "Evaluation Methods", demonstrate the knowledge, skill and ability to perform this task following these qualification criteria:

	Qualified
1. Safety Requirements:	<input type="checkbox"/>
• Ability to identify and resolve abnormal operating condition(s)	
2. Access, understand and apply the following Company Standard(s):	<input type="checkbox"/>
• Gas Standards - O – 16, Page 5 of 24 section D & E	
3. Amperage Reading from Rectifier:	<input type="checkbox"/>
• Select correct instrument to obtain reading	
• Properly connect instrument to rectifier	
• Correctly read the rectifier amperage	
4. Voltage Reading from Rectifier:	<input type="checkbox"/>
• Select proper instrument to obtain reading	
• Properly connect instrument to rectifier	
• Correctly read the rectifier voltage	
5. Cathodic Protection Report:	<input type="checkbox"/>
• Enter rectifier amperage and voltage reading obtained on appropriate form	
• Enter initials and date in appropriate area on form	

EVALUTION METHODS (check all that apply)

- Observation On-The-Job Performance Observation by Simulation Oral Test
 Observation by On-The-Job Training Written Base Test OTHER - Field Performance Audit

Comments / Actions:

EVALUATOR'S NAME AND CORP ID	EVALUATOR'S SIGNATURE	DATE
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6/23/05 version

OM&C/FSD - Mail completed **original** Qualification Evaluation form(s) to [redacted] Room B101 @ 3301 Crow Canyon Rd, San Ramon, CA.

CGT - Mail completed **original** Qualification Evaluation form(s) to [redacted] @ 375 N. Wiget Lane, Walnut Creek, CA.

OM&C/FSD/CGT - Send copy to LGOQPC (Local Gas Operator Qualification Plan Coordinator).

Initial/Subsequent Evaluator Instructions

Subtask Name: Rectifier Reads Subtask#: 03-03.00

Evaluator must provide the following reference material(s):

- Abnormal Operating Condition (AOC) Job Aid
- Gas Standard

Note:

Using reference material(s) listed above, individuals must answer all questions correctly. If the individual cannot provide the correct answer(s) or demonstrate performance after two additional attempts, the Evaluator should refer to the Operator Qualification Basic Plan Manual, Section 1.3.3.3 for further instructions.

Knowledge

Criteria #	Requirement
1.	Review Annual Operator Qualification Job Aid and Abnormal Operating Conditions (AOC) with individual(s).
2.	Provide individual with Rectifier Reads Test.

Performance

3. – 5.	<p>Individual must perform checks as required on the Qualification Evaluation for each of these following method(s):</p> <ul style="list-style-type: none"> • Amperage Reading from Rectifier • Voltage Reading from Rectifier • Cathodic Protection Report <p style="text-align: center;">Note:</p> <p>Skill must be demonstrated through simulation or actual field performance. Individual must verbalize each action step (bulleted items in Steps 3-5).</p>
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GSMTS Operator Qualification Evaluation

<u>CORROSION CONTROL</u>	<u>Initial Qualification</u> ⁽¹⁾	<u>Initial Qualification</u> ⁽²⁾	<u>Subsequent Qualification</u> ⁽³⁾
<u>Task 03-03</u>			
<u>Rectifier Reads</u>			
<u>I. Recommended Training or Equivalent</u> 1. GSM&TS Corrosion Training or 2. GAS_0163 Learning Servcs	Must follow the Company/Union Program	Required	Optional
<u>II. Text and Reference Review</u>		Required: Text and References listed in Training Binder FTO that pertain to Vol. 2, TB 2-8.1, 2-8.4	Required: Review of Standard S4133 and applicable Job Aids
<u>III. On-The-Job Training</u> <u>Job Performance Measure JPM</u>		Hours per FTO guidelines	Hours in PLM ⁽⁴⁾
<u>IV. Training Binder Sections</u> <u>Job Performance Measure JPM</u>		Required: JPM Vol 2, TB 2-8.1, 2-8.4	Required: JPM Vol 2, TB 2-8.4
<u>V. Academic Requirements</u>		No further requirement (Testing completed with training)	Subsequent OQ Rectifier Reads Test
<u>VI. Documentation</u>		Original OQ form kept in WC; Original JPMs kept in District's training file.	

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Objective	Trainee Name: [Click here and enter name]
<p>The trainee will be able to correctly perform:</p> <ul style="list-style-type: none"> the tasks associated with corrosion cells and external corrosion. basic operations and maintenance procedures for pipeline cathodic protection systems. 	
OJT Instructions	OJT Hours Guideline: 228 hours
<p>OJT Process Steps</p> <ol style="list-style-type: none"> GMS reviews FTO requirements with SME. GMS determines Sub tasks & OJT hours. GMS schedules with WMS. SME and Trainee complete OJT hours. Completed –signed FTO is returned to GMS. GMS verifies completed FTO. GMS schedules JPM. 	
<p>Reviewer’s Role – A qualified reviewer (journey person or equivalent) will <u>guide</u> the trainee in completing the objectives for each sub task in this outline. Work with the trainee by discussing, explaining, or performing as necessary the concepts associated with each sub task.</p> <p>Trainee’s Role – Under direction of a qualified reviewer, the trainee will <u>review all text and reference material prior to performing the training sub tasks</u> described below to prepare for completing a Job Performance Measure.</p>	
<p>Text and References:</p> <ul style="list-style-type: none"> Gas Information Bulletin 176 – Casing Venting and Electrical Isolation Requirements Gas Standard and Specifications (GS&S): <ul style="list-style-type: none"> E-30 Selecting and Applying Coatings on Exposed Gas Piping E-35 Selecting and Applying Coatings for Buried Transmission Pipe O-10, 10.1, and 10.2 Electrolysis Test Stations O-11 Cathodic Protection Rectifiers O-71 Copper-Copper Sulfate Ref Electrodes O-72 Approved Multimeters PG&E Approved Schools and On-Site Training UO Standards: <ul style="list-style-type: none"> S4112 Physical Inspection of Pipelines S4126 Cathodic Protection S4133 Corrosion control of Gas Transmission Facilities S4711 Pipe Wrap Removal 	<p>Job Aids:</p> <ul style="list-style-type: none"> Air-to-Soil Transitions Calibrate a Copper-Copper Sulfate Reference Electrode Cathodic Protection Coating Inspection Corrosion Control Rectifier Troubleshooting Ground Resistance Tester How To Measure A Structure-To-Soil Potential With A DPM How To Prepare the DPM prior to use How To Replace The Batteries In the VC-1 Calibrator How To Replace The Battery In the Digital Potential Meter Model DPM How To Troubleshoot A Goodall Rectifier How To Troubleshoot A Universal Rectifier Spanning and Taking Pipe-to-Soil Readings
<p>Trainee Materials:</p> <ul style="list-style-type: none"> Maps (to locate an ETS) PPE Cad welder, volt-ohm meter, pipe-to-soil meter, half cell 	<p>Safety Requirements:</p> <ul style="list-style-type: none"> In performance of these tasks, be able to identify and resolve any abnormal operating conditions. Provide work protection.

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Major Sub Tasks:

Vol 2 TB 2-8.1	Corrosion Cell Terminology	Vol 2 TB 2-8.7	Internal Corrosion/Monitor Atmospheric Corrosion/Monitor
Vol 2 TB 2-8.2	Pipe to Soil Reads	Vol 2 TB 2-8.8	Physical Inspect of Pipelines
Vol 2 TB 2-8.3	Rectifier Maintenance	Vol 2 TB 2-8.9	Electrical Isolation – Testing/ Inspecting
Vol 2 TB 2-8.4	Rectifier Reads and Basic Inspections	Vol 2 TB 2-8.10	Cathodic Protection System Maintenance
Vol 2 TB 2-8.5	Installation of Anodes		
Vol 2 TB 2-8.6	Transmission Pipe Coatings		

Sub Task Vol 2 TB 2-8.1 Corrosion Cell Terminology

Objective: The trainee will be able to correctly explain the terminology associated with corrosion cells and external corrosion.

Show and explain:

- the components of a corrosion cell.
- the relationship of the anode to the pipeline and the current path.
- the function of a rectifier in a cathodic protection system.
- the relationship between the millivolt reading on a pipe-to-soil meter and the amount of protection associated with the pipeline.
- the maximum allowable millivolt reading and why.

Hours Recommended	OJT Hours Received*	Trainee	Reviewer	Date
10 Hours	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			

Sub Task Vol 2 TB 2 – 8.4 Rectifier Reads and Basic Inspection

Objective: The trainee will be able to correctly perform basic rectifier reads and inspections.

Demonstrate and/or explain:

- how to find rectifiers using maps, etc.
- the various components of a rectifier.
- what instrument is used to take rectifier reads.
- how to clean and correctly adjust the rectifier.
- how to check AC power from pole top.
- how to check and/or replace AC fuse(s).
- how to check and/or replace internal DC fuse.
- how to correctly take rectifier reads.
- the correct interval frequency to be in compliance for rectifier reads.
- how to document and record data on PLM.

Hours Recommended	OJT Hours Received*	Trainee	Reviewer	Date
20 Hours	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			

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Supports OQ tasks: 03-02, 03-03, 03-04, 03-05, 03-06, 03-07, 03-08, 03-09, 03-10, 03-11

Operator Qualification – Job Performance Measure					
Trainee Name		Corp ID	SSN	Location	
Last	First	4 digits	Last 4 digits	Headquarters or District Name	

Directions: This form documents the Job Performance Measures of the named trainee. Upon completion, the results will be put into the Operator Qualification database. The Evaluator will:

- observe the tasks as they are performed or described and rate the results.
- stop a task if the participant’s actions will endanger life or equipment.

Safety Requirements:

- In performance of these tasks, be able to identify and resolve any abnormal operating conditions.
- Wear the appropriate clothing and use all personal safety equipment (PPE).
- Provide work protection.
- Code of Safe Practices Section 13.

Sub Task Vol 2 TB 2-8.1 Corrosion Cell Terminology

Task Element	Evaluation Method P = Perform S = Simulate D = Describe	Results S = Satisfactory U = Unsatisfactory NA = Not Applicable	Evaluator Initials Date
Objective: The student shall demonstrate knowledge in the terminology associated with corrosion cells and external corrosion.	Method P S D	Results S U NA	Initials Date

Standard: The participant can perform the following:

- Explain the components of a corrosion cell.
- Explain the relationship of the anode to the pipeline and the current path.
- Explain the function of a rectifier in a cathodic protection system.
- Explain the relationship between the millivolt reading on a pipe to soil meter and the amount of protection associated with the pipeline.
- Explain the maximum allowable millivolt reading and why?

Operator Qualification – Job Performance Measure					
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Supports OQ tasks: 03-02, 03-03, 03-04, 03-05, 03-06, 03-07, 03-08, 03-09, 03-10, 03-11

Trainee Name		Corp ID	SSN	Location
Last	First	4 digits	Last 4 digits	Headquarters or District Name

Directions: This form documents the Job Performance Measures of the named trainee. Upon completion, the results will be put into the Operator Qualification database. The Evaluator will:

- observe the tasks as they are performed or described and rate the results.
- stop a task if the participant's actions will endanger life or equipment.

Safety Requirements:

- In performance of these tasks, be able to identify and resolve any abnormal operating conditions.
- Wear the appropriate clothing and use all personal safety equipment (PPE).
- Provide work protection.
- Code of Safe Practices Section 13.

Sub Task Vol 2 TB 2-8.4 Rectifier Reads and Basic Inspection

Task Element	Evaluation Method P = Perform S = Simulate D = Describe	Results S = Satisfactory U = Unsatisfactory NA = Not Applicable	Evaluator Initials Date
Perform basic rectifier reads and inspections.	Method P S D	Results S U NA	Initials Date

Standard: The trainee can correctly:

- explain how to find rectifiers using maps, etc.
- explain the various components of a rectifier.
- explain what instrument is used to take rectifier reads.
- explain how to clean and correctly adjust the rectifier.
- demonstrate how to check ac power from pole top.
- demonstrate how to check and/or replace AC and/or DC fuses.
- demonstrate how to correctly take rectifier reads.
- explain the correct interval frequency to be in compliance for rectifier reads.
- explain how to document and record data on PLM.

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Link to UO Standard S4133:

<http://www.wedm3/cgi-bin/doccontent.dll?LibraryName=dmspg01^dmsedm01&SystemType=2&LogonId=f45b323a86d40dc5dd8db6d5af529850&DocId=003741662&Page=1>

Job Aids:

Job Aid Vol 2 TB2-8a How To Troubleshoot A Goodall Rectifier

Job Aid Vol 2 TB2-8b How To Troubleshoot A Universal Rectifier

Job Aid Vol 2 TB2-8c How To Replace The Battery In the Digital Potential Meter Model DPM

Job Aid Vol 2 TB2-8d How To Prepare the Digital Potential Meter Prior to Use

Job Aid Vol 2 TB2-8e How To Measure A Structure To Soil Potential With A DPM

Job Aid Vol 2 TB2-8f Ground Resistance Tester

Job Aid Vol 2 TB2-8g How To Replace The Batteries In the VC-1 Calibrator

Job Aid Vol 2 TB2-8h Cathodic Protection

Job Aid Vol 2 TB2-8i Corrosion Control Rectifier Troubleshooting

Job Aid Vol 2 TB2-8j Spanning and Taking Pipe to Soil Readings

Job Aid Vol 2 TB2-8k Calibrate a Copper-Copper Sulfate Reference Electrode

Job Aid Vol 2 TB2-8L Coating Inspection

Job Aid Vol 2 TB2-8M Air to Soil Transitions

See Volume 3 TB1 for other supporting job aids for this module.

Job Aid Vol 3 TB 1.12a How to Use a Multimeter

Job Aid Vol 3 TB 1.12b How to Take DC Voltage Measurements

Job Aid Vol 3 TB 1.12c How to Take AC Voltage Measurements

Job Aid Vol 3 TB 1.12d How to Take DC Amperage Measurements

Job Aid Vol 3 TB 1.12e How to Take Resistance Measurements

Job Aid Vol 3 TB 1.12f How to Take a Conductivity Test

Job Aid Vol 3 TB 1.12g Spanning and Taking Pipe to Soil Readings

Job Aid Vol 3 TB 1.12h How to Troubleshoot An AC Switchbox

Link to Job Aids: http://www.wint02/gsm/training/job_aids.htm

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