



*Pacific Gas and  
Electric Company*

**Glen Carter**  
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Gas Transmission and  
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July 6, 2010

Mr. George Carter  
Utilities Safety and Reliability Branch  
Consumers Protection and Safety Division  
California Public Utilities Commission  
505 Van Ness Avenue, 2<sup>nd</sup> Floor  
San Francisco, CA. 94102-3298

Re: State of California – Public Utilities Commission  
General Order 112-E Audit – PG&E's North Bay Division

Dear Mr. Carter:

The Utilities Safety and Reliability Branch (USRB) of the CPUC conducted a General Order 112-E inspection of PG&E's North Bay Division, from April 5 through 9, 2010. The documents attached provide a detailed response to each of the inspection findings listed in your April 23, 2010 letter.

If you have any questions concerning this report, please contact Larry Berg at (925) 974-4084.

Sincerely,

Glen Carter  
Senior Director, Gas Engineering

Attachments

cc: Raffy Stepanian, California Public Utilities Commission  
Ray Fugere, California Public Utilities Commission

**General Order 112-E Findings  
CPUC Inspection Report dated April 23, 2010  
North Bay Division**

**INSPECTION INFORMATION**

Inspection Dates	Finding	CPUC Contact	CPUC Phone #
April 5-9, 2010	AIR - 1	George Carter	(415) 703-1555

**INSPECTION FINDING**

CPUC Finding	<p><b>(A) PG&amp;E Internal Audit Findings</b></p> <p>Please provide updates on items that were still pending corrective actions as of the last day of the audit.</p>
Location(s):	

**PG&E RESPONSE**

<p>Please see the attached update (Attachment 1) of the Internal Review Summary for an update on the completed corrective actions. PG&amp;E will provide you with a final update when all corrective actions are complete.</p>
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**ATTACHMENTS**

Attachment #	Title or Subject
1	NB Division Internal Review Update

**ACTION REQUIRED**

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Communicate final corrective action update	12/31/2010		M&C – North Bay

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April 5-9, 2010	NOV -1	George Carter	(415) 703-1555

**INSPECTION FINDING**

CPUC Finding	<p><b>(1) § 192.463(a) External corrosion control: Cathodic protection.</b>  §192.463(a) requires:  <i>"Each cathodic protection system required by this subpart must provide a level of cathodic protection that complies with one or more of the applicable criteria contained in Appendix D."</i>  One of the criteria is the negative (cathodic) voltage of at least -0.85 Volt, pipe-to-soil potential (voltage) with reference to a saturated copper-copper sulfate half cell.</p> <p>During the record review audit it was found that several locations did not meet this criterion. Field checks found low pipe-to-soil potential readings.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Location</u></th> <th style="text-align: left;"><u>Record Information</u></th> <th style="text-align: left;"><u>Field Checks</u></th> <th style="text-align: left;"><u>Down Time</u></th> </tr> </thead> <tbody> <tr> <td colspan="4"><b>CP System No</b></td> </tr> <tr> <td colspan="4"><b>862-01</b></td> </tr> <tr> <td>555 Stone Dr.</td> <td>-718mV, 11/2/09</td> <td>-770mV, 4/7/10</td> <td>5 Mos.</td> </tr> <tr> <td>2 Tyler Ct.</td> <td>-725mV, 11/2/09</td> <td>-760mV, 4/7/10</td> <td>5 Mos.</td> </tr> <tr> <td colspan="4"><b>927-10</b></td> </tr> <tr> <td>16 Tarrant Ct.</td> <td>-671mV, 5/5/09</td> <td>-779mV, 3/5/10</td> <td>10 Mos.</td> </tr> <tr> <td colspan="4"><b>926-13</b></td> </tr> <tr> <td>Scenic Bay Rd.</td> <td>-696mV, 3/3/09</td> <td>-795mV, 4/9/10</td> <td>13 Mos.</td> </tr> <tr> <td colspan="4"><b>986-07</b></td> </tr> <tr> <td>SFD Blvd &amp; Hwy 101</td> <td>-540mV, 4/3/09</td> <td>-647mV, 2/1/10</td> <td>10 Mos.</td> </tr> <tr> <td colspan="4"><b>985-04</b></td> </tr> <tr> <td>388 Riveria Ct.</td> <td>-847mV, 11/5/09</td> <td>-853mV, 4/9/10</td> <td>5 Mos.</td> </tr> <tr> <td colspan="4"><b>986-03</b></td> </tr> <tr> <td>358 Karen Way</td> <td>-760mV, 9/4/09</td> <td>-740mV, 3/3/10</td> <td>5 Mos.</td> </tr> <tr> <td colspan="4"><b>985-26</b></td> </tr> <tr> <td>55 Amicita</td> <td>-540mV, 12/9/09</td> <td>-607mV, 4/9/10</td> <td>16 Mos.</td> </tr> </tbody> </table> <p>Although PG&amp;E has instituted a program; Gas Standard O-16, Corrosion Control of Gas Facilities which monitors and restores areas below adequate levels of protection; PG&amp;E needs to take action for resolution of cathodic protection problems. As can be seen the down time of 5 – 16 months is an extensive time frame to fix problems that have been identified. It should be noted that extensive time frame problems were previously identified in the PG&amp;E's Yosemite Division audit in July 2008 and the East Bay (Richmond) Division audit in October 2009.</p>			<u>Location</u>	<u>Record Information</u>	<u>Field Checks</u>	<u>Down Time</u>	<b>CP System No</b>				<b>862-01</b>				555 Stone Dr.	-718mV, 11/2/09	-770mV, 4/7/10	5 Mos.	2 Tyler Ct.	-725mV, 11/2/09	-760mV, 4/7/10	5 Mos.	<b>927-10</b>				16 Tarrant Ct.	-671mV, 5/5/09	-779mV, 3/5/10	10 Mos.	<b>926-13</b>				Scenic Bay Rd.	-696mV, 3/3/09	-795mV, 4/9/10	13 Mos.	<b>986-07</b>				SFD Blvd & Hwy 101	-540mV, 4/3/09	-647mV, 2/1/10	10 Mos.	<b>985-04</b>				388 Riveria Ct.	-847mV, 11/5/09	-853mV, 4/9/10	5 Mos.	<b>986-03</b>				358 Karen Way	-760mV, 9/4/09	-740mV, 3/3/10	5 Mos.	<b>985-26</b>				55 Amicita	-540mV, 12/9/09	-607mV, 4/9/10	16 Mos.
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**North Bay Division**

**PG&E RESPONSE**

PG&E respectfully disagrees that this finding is a violation with § 192.463(a). According to the PHMSA advisory, § 192.463(a) would not apply to this corrosion monitoring and remedial action situation as PG&E has a corrosion protection (CP) system and a regular CP monitoring program in place, and this would only constitute a violation of § 192.465(d) if it has been shown that corrective action was unreasonably delayed which we do not believe has been demonstrated.

With regard to CP monitoring and remedial action programs, § 192.465(d) states “*Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring.*” In defining what constitutes a failure to take prompt remedial action, the DOT Office of Pipeline Safety (now PHMSA) states:

Enforcement should be sought only when the investigator is convinced that corrective action was unreasonably delayed [and the] investigator must state why he determined the delay to be unreasonable.

OPS Operation and Enforcement Manual, Interpretation 192.465(d) 13, May 19, 1989.

As further guidance regarding a § 192.465(d) “unreasonable delay” violation, the OPS (PHMSA) interpretation suggests the following:

As a rule of thumb, the OPS would expect that, under normal conditions, the operator should have the evaluations and decisions made and action started within a few months, (proportionally less where required monitoring is less than a year or where deficiencies could result in an immediate hazard to the public), and correction completed by the time of the next scheduled monitoring. (*Ibid.*)

PG&E met this requirement. In all locations cited above, PG&E has taken remedial action to correct cathodic protection deficiencies within the 12-month monitoring period.

Please see Attachment 2 for the most current CP Maintenance Reports and CPA Follow-Up Action Plans for the seven Cathodic Protection Areas (CPAs) listed above. Three of the seven CPAs have been restored (927-10, Tarrant Court; 986-07, SFD Blvd; 986-03, Karen Way). Four CPAs are still down. 862-01, 926-13, and 985-04 continue to be troubleshot and plans to restore cathodic protection to these CPAs will be complete by July 15, 2010. The remaining CPA, 985-26, has a job order in progress to install a new rectifier and anode station. The completion of this work and the restoration of 985-26 are expected by August 15, 2010.

While all of the locations referenced above had remedial action implemented in less than 12 months, in some cases the first actions were not enough to clear the CP area. For example, CP area 926-13, Scenic Bay Road, was discovered down on July 30, 2009 and request to clear a contact was made. The contact was reported clear but when the reads were taken April 28, 2010 it was discovered to be still down but by a different contact. Another cycle of trouble shooting began again to locate the problem and the area continues to be worked

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until all problems are resolved and the system restored. This is the nature of CP maintenance. For example, there are times when there is more than one contact but the largest contact is “masking” the others and a process of testing-clearing-testing is required until the pipe-to-soil readings set forth in Appendix D of the regulations is restored. That said, however, PG&E is not satisfied with progress restoring CP areas and is taking steps to improve performance. In order to increase the visibility and focus on this topic from a centralized location, Gas Engineering has implemented an electronic tracking system using “corrective notifications” in the SAP Work Management system to enable supervisors and engineering process owners to continuously track CP areas that are down (i.e. have pipe-to-soil reads more positive than -850mV) from both the local office (as is currently done) and a centralized location at the Walnut Creek Corrosion Engineering Department. These regular reports, coupled with bi-monthly field checks, appropriate corrective action plans and on-going supervisor reviews, are produced and reviewed monthly by PG&E gas engineering management. By tracking these cases, PG&E management and/or the Corrosion Engineering Department will be able to take necessary steps to these issues are mitigated as promptly as possible in the future. This new tool is expected to be in place by August 2010.

Additionally, for some of the locations referenced above the local corrosion mechanic can now request the assistance of a corrosion specialist from PG&E’s Corrosion Engineering Department. This notification is an email sent to both the local office and the Corrosion Engineering Department after 24 hours of time have been charged to troubleshooting a single CP area. This enables the corrosion specialist to follow up with the local supervisor and corrosion mechanic when a corrosion mechanic might be having difficulty in locating the problem and offer assistance. The intent of this new procedure is that the specific “trouble” may be located and corrected more quickly by an additional level of expertise being provided. This function is currently in testing and, if it proved useful, will be in production later this year.

**ATTACHMENTS**

Attachment #	Title or Subject
2	CP Maintenance Reports & CPA Follow-Up Action Plans

**ACTION REQUIRED**

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Develop plans to restore CPA 862-01, 926-13, and 985-04	July 15, 2010		M&C- NB Gas T&R
Complete anode work and restore CPA 985-26	August 15, 2010		M&C- NB Gas T&R
Implement system-wide SAP WM tool for tracking CPA’s needing corrective work	August 1, 2010		Gas Engineering

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April 5-9, 2010	NOV-2	George Carter	(415) 703-1555

**INSPECTION FINDING**

CPUC Finding	<p><b>(2) § 192.739 Pressure limiting and regulating stations: Inspection and testing.</b>  §192.739(a) requires:  <i>"Each pressure limiting station, relief device(except rupture disc), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that..."</i></p> <p>During the record review audit the following records were missing data entry:  Regulating Station RA-10; Los Gamos &amp; Lucas Valley Rd, San Rafael  For the 6/30/09 inspection and tests, only one relief valve had data entry for the as found and as left condition but the regulating station is configured with two relief valves.</p> <p>Regulating Station RA 38; Redwood Rd N/O Rich St, Larkspur  For the 4/17/09 inspection and tests, there was no data entry for the right hand Monitor Control Pressure as found and as left condition of this dual regulating station.</p> <p>PG&amp;E needs to ensure that all data entries are completed at the same time of the regulating station is being inspected and tested. It is noted that the Gas Mechanic completed the data entries during the audit.</p>
Location(s):	

**PG&E RESPONSE**

<p>PG&amp;E agrees with this finding.</p> <p>The documentation of the 2009 maintenance of these two district regulator stations was not complete.</p> <p>Data Sheet for RA-10 did not indicate two relief valves. The 2009 documentation for station RA-10 had only one relief valve cracking pressure recorded. As noted above, the mechanic recorded a value for the second relief valve cracking pressure during this audit. The Data Sheet has been revised to include both relief valves. (See Attachment 3.)</p> <p>For RA-38, the "As Found" and "As Left" right run monitor control set point was not documented. As noted above, the mechanic who performed the maintenance at the station recorded the monitor settings during this audit based on his memory and field notes. (See Attachment 4.)</p> <p>To prevent recurrence, the documentation requirements specified in Work Procedure 4540-</p>
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01, *District Regulator Station Maintenance*”, including recording each relief valve test results and all monitor set points, were covered in May 13 & 17, 2010 tail board briefings with the North Bay Gas T&R Mechanics. (See Attachment 5.)

**ATTACHMENTS**

Attachment #	Title or Subject
3	RA-10 Data Sheet & Maintenance Record
4	RA-38 Maintenance Record
5	WP 4540-01 documentation requirements Tail board

**ACTION REQUIRED**

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Update RA-10 Data Sheet & document testing of both relief valves	April 6, 2010	April 6, 2010	M&C- NB Gas T&R
Document “As Found” & “As Left” monitor set points of RA-38 right reg run	April 14, 2010	April 14, 2010	M&C- NB Gas T&R
Conduct tailboard briefing on the documentation requirements of WP 4540-01	May 17, 2010	May 17, 2010	M&C- NB Gas T&R

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April 5-9, 2010	AOC-1	George Carter	(415) 703-1555

**INSPECTION FINDING**

CPUC Finding	<p><b>(3) Comments:</b></p> <p>During the record review audit the following drawing deficiencies were noted. The first and second items were corrected with drawing revisions by Mapping Personal during the audit. The third item requires additional work and remains an outstanding item.</p> <ul style="list-style-type: none"> <li>a) Regulating Station RA 8, Drawing REG 8 REV 3 need to show the relief valve isolation (valve number 6 added to the drawing).</li> <li>b) Regulating Station RA 20, Drawing 80025374 REV 2 need to show the by-pass valve as locked shut (valve number 3 symbol changed to locked shut).</li> <li>c) Regulating Station RA 15A &amp; 15B, Drawing 183804 CHANGE 1 need a Material Contents listing, presently the construction drawing was attached but the nomenclature does not match (being revised at the time of the audit).</li> </ul>
Location(s):	

**PG&E RESPONSE**

<p>PG&amp;E agrees with this concern.</p> <p>As noted above, District Regulator Station Diagrams for RA-8 and RA-20 have been revised to show current field conditions. (See Attachments 6 &amp; 7.)</p> <p>Diagrams for Regulator Stations RA-15A and 15B, have been created on May 19, 2010. The diagrams include a listing of the equipment within the stations. (See Attachment 8.)</p>
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**ATTACHMENTS**

Attachment #	Title or Subject
6	RA-8 Reg Station Diagram
7	RA-20 Reg Station Diagram
8	RA-15A & RA-15B Reg Station Diagrams

**ACTION REQUIRED**

Action To Be Taken	Due Date	Completion Date	Responsible Dept.
Revise Diagram to station RA-8 and RA-20	April 9, 2010	April 9, 2010	M&C – NB Gas T&R
Create Diagrams for regulator stations RA-15A & RA-15B	May 19, 2010	May 19, 2010	NB Gas Mapping

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