

# West Coast Gas

Incorporated

January 15, 2014

Banu Acimis  
Gas Safety and Reliability Branch  
Safety and Enforcement Division  
California Public Utilities Commission  
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Ms. Acimis:

We received the Gas Safety and Reliability Branch's Summary of Audit Findings on November 5, 2013. This 35 page report that was prepared by your 5 member team following your April 29-30 and May 1-2 2013 onsite inspection is extensive and addresses nearly all areas of West Coast Gas Company's Operation and Maintenance procedures.

Our response to the SED report is enclosed and represents our good faith effort to respond in a serious and factual way to the SED report. We have attached 9 separate files to this response. The first 8 are pdf files that provide support for our responses. The last file (word.doc) is the draft of WCG's revised O&M Plan; revised as of January 15, 2014. Additions and deletions are highlighted. Our response includes several references to changes we are proposing in the O&M Plan in response to you report.

Finally, we do not provide a direct, item by item response to SEC critique of WCG's Public Awareness Program, Operator Qualifications Program and Integrity Management Program because we agree with most if not all of the SED's criticisms and recommendations. In line with our required annual review of these three programs, we will be revising these programs in April, 2014 and will send the revised reports to you when completed. We have sent notices to our subcontractors that they will be required to submit proof of their qualifications to perform covered tasks and their before they perform covered tasks for WCG. We in the process of creating a web site that will, among other things, provide our customers with vital safety information on-line.

Again, we want to thank the SED staff for their work and guidance in aiding WCG to improve its overall O&M function.

Yours Truly

Ray Czahar, C.F.O.

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West Coast Gas Company  
Response to November 2013 Report

**I- Title 49, Code of Federal Regulations (CFR), §192.605 Procedural manual for operations, maintenance, and emergencies.**

(a) *General.* Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted. (Emphasis added)

SED reviewed WCG's Quality Management and Operating and Maintenance Program (O&M) and Emergency Plan and noted that WCG did not review and update its O&M and Emergency Plans once a year not exceeding 15 months in 2009, 2010, 2011, and 2012; therefore, WCG is in violation of CFR, §192.605 (a).

WCG must review and revise its plans in order to ensure that its plans are up-to-date and any changes to its policies and procedures are identified and incorporated into the plans in accordance with CFR, §192.605 (a). WCG must also keep related records to demonstrate that it has reviewed and updated its manuals of written procedures for conducting operations and maintenance activities and emergency response.

**Response:**

WCG has in fact reviewed and updated its Quality Management and Operating and Maintenance Program (O&M Plan) and Emergency Plan for each year noted in Staff report. WCG will provide the O&M Plans for the years 2009 through 2012 upon request. Apparently there was miscommunication between Staff and WCG employee as to the status of these reports.

**II- Title 49, CFR, §192.605 Procedural manual for operations, maintenance, and emergencies.**

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.

SED reviewed WCG's O&M Plan and determined the following deficiencies:

## 1. Leakage Surveys, Gas Leak Repair Reports, and Gas Leak Monitoring

- A- WCG explained to SED inspectors that WCG's contractor, Heath Consultants (Heath), performs gas leak surveys on an as needed bases. Part E of WCG's O&M Plan does not describe Heath's gas leak survey procedures and leak survey equipment used.

WCG must add the following details to its O&M Plan about the gas leaks surveys:

- Name of the contractor who performs the gas leak surveys
- Frequency of the surveys conducted by the contractor
- Contractor's leak detection equipment used for the surveys, gas leak grading criteria, and the forms that the contractor fills out for the surveys and leaks discovered.

### **Response:**

WCG has updated its O&M Manual to include a description of when Heath Consultants are used and the qualifications and equipment used in its leak survey of WCG's gas distribution systems.

As an example, the qualifications of Mr. Adams of Heath Consultants are attached as a pdf file: Adams\_Quals. Mr. Adams performed the 2010 leak survey and will perform the 2014 leak survey.

As part of leak survey recordkeeping, WCG will record the type of equipment used by Heath Consultants in conducting their leak survey of WCG's distribution system.

### **SED**

- B- SED found that WCG no longer utilizes Flame Ionization equipment (Flame Pack). Instead, WCG purchased and started using Detecto Pak-Infrared (DP-IR) equipment to conduct leak surveys. WCG must update related parts of its O&M Plan to reflect gas leak detection equipment changes.
- C- SED also noted that WCG must review and modify its Gas Leak Repair Reports (GLRR) to include the most up-to-date information such as leak detection equipment type (DP-IR) and remove some check boxes that are not applicable to WCG's operations such as Flame Pack leak detection equipment, transmission pipeline, and cast iron pipe information, etc. Similarly, WCG needs to add gas leak monitor information to its GLRRs to document that it monitors and records open leaks in its system properly and timely as required by its O&M Plan.
- D- SED noted that there were no calibration records of the equipment that WCG personnel used for operation and maintenance of its gas pipeline system.

SED determined that this is a repeat violation which the Consumer Safety and Protection

(CPSD), predecessor to SED, previously identified as a result of the audit it conducted in 2009. On June 10, 2009, CPSD's GO 112-E audit letter stated the following:

*"We noted that the following areas of WCG's O&M Plan need to be reviewed, revised and the frequency of the following maintenance activities needs to be updated:*

*B. All equipment used by WCG personnel are required to be maintained and properly calibrated according to the manufacturer's recommendations. WCG O&M Plan does not contain any section(s) for maintenance and calibration of equipment used by its personnel. Examples of equipments requiring maintenance and calibration are:*

- Flame Ionization Units,*
- Combustible Gas Indicators,*
- Underground pipe locating equipment,*
- Copper-copper sulfate half cells*
- Voltmeters.*

*WCG needs to include the frequency of maintenance and calibration service of all equipment used by the personnel in its O&M Plan and follow the instructions given by the manufacturers to perform periodic maintenance/calibration or send the equipment to the manufacturer."*

SED determined that WCG is in violation of CFR, §192.605 (b) for not complying the requirements of equipment calibration and record keeping.

WCG must include the frequency of maintenance and calibration of its equipment that its personnel use in its O&M Plan and follow the instructions given by the manufacturers to perform periodic maintenance and calibration by WCG or the manufacturer. WCG must also keep maintenance and calibration records accordingly.

### **Response:**

WCG replaced its flame ionization in 2011 with the state of the art DP-IR leak survey instrument (DP-IR) so as to minimize false alarming on other gases and the self-calibrating features eliminates the possibility of user error. In addition, the DP-IR The DP-IR functions by using an infrared optical gas detection system. This instrument is intended to replace the current surveying equipment using the traditional Flame Ionization with next generation technology utilizing a simple light beam, eliminating the need for expensive gas cylinders and refill systems. It is designed to be selective to detecting methane only, and will not false alarm on other hydrocarbon gases.

The DP-IR has built-in Self-test and Zero functions that will assure that the instrument is operating properly. Using the internal calibration cell, the operator can perform the self-test as part of a daily start up routine. While in operation, the DP-IR continuously monitors several parameters to ensure that the instrument is functioning properly. Should any of these parameters go outside of the operational limits, an audible alarm will sound and a Fault/Warning error message will be displayed. The Built-in Self-Test and Calibration function verifies operation and adjusts calibration for maximum sensitivity. Test gas cell integrated within the instrument.

WCG will include the above description in its O&M manual along with an attachment that includes the DP-IR User Manual. In addition, WCG will maintain a training log for the DP-IR showing the date and participates in the annual training-review leak detection course. WCG will maintain a log of any maintenance that the manufacturer requires.

As to the general requirement that WCG must keep a record of calibration for the equipment it uses – we agree with the SED.

## Appendix C DP-IR Leak Detector User Manual

The HEATH Detecto Pak-Infrared (DP-IR) is a highly advanced technology capable of detecting methane without false alarming on other gases. The DP-IR is the latest of a new generation of leak survey instruments from HEATH that will greatly improve the productivity and safety of a walking/mobile survey.

The DP-IR functions by using an infrared optical gas detection system. This instrument is intended to replace the current surveying equipment using the traditional Flame Ionization with next generation technology utilizing a simple light beam, eliminating the need for expensive gas cylinders and refill systems. It is designed to be selective to detecting methane only, and will not false alarm on other hydrocarbon gases.

The DP-IR operates under a variety of environmental conditions including cold or hot weather. Its rugged design will stand up to normal field use and operating conditions. The DP-IR has built-in Self-test and Zero functions that will assure that the instrument is operating properly. Using the internal calibration cell, the operator can perform the self-test as part of a daily start up routine. While in operation, the DP-IR continuously monitors several parameters to ensure that the instrument is functioning properly. Should any of these parameters go outside of the operational limits, an audible alarm will sound and a Fault/Warning error message will be displayed.

As to the calibration of the multi-meter used in testing the output of the rectifiers, WCG will test the meter against another meter to assure that the same reading is produced before the quarterly survey of the impressed current system is performed. This test will become a permanent part of WCG's maintenance records.

WCG will also maintain a permanent record for the calibration of any other equipment used in the maintenance and operation of its gas distribution system. WCG has added "**PART T**" **CALIBRATION OF EQUIPMENT** to its O&M manual.

### **SED**

SED determined that WCG's O&M Plan does not contain the following maintenance and normal operations procedures related to corrosion control:

1. Procedure that describes how WCG performs examination of buried pipeline when exposed for evidence of external corrosion as required by CFR, §192.459.

WCG must establish a procedure for the examination of exposed buried pipeline for

evidence of external corrosion. WCG must also include a procedure in its O&M Plan describing remedial measures required by CFR, §192.483 that are necessary to take such as applying external protective coating, cathodically protecting a segment of buried or submerged metallic pipe when replaced due to external corrosion.

2. Procedure that specifies the external corrosion control protective coating requirements as required under CFR, §192.461 which describes the protective coating specifications, inspection requirements prior to installation of buried pipe, and protection requirements from damage for buried pipe.

WCG must establish a procedure to describe the specification, inspection, and protection of protective coating requirements from damage resulting from conditions and supporting blocks that adversely affect buried pipe.

### **Response:**

The following was added to Part F of the O&M Manual:

Whenever WCG exposes buried steel pipe, WCG will record the condition of the pipe as to 1) external corrosion, condition of the wrap and if the wrap has been damaged, condition of exposed coating. In addition to the Patrolling requirements of 192.721, covered employees shall visit the site of any excavations near WCG's distribution pipe. Locates via the USA Underground system identifies the excavation location and date of excavation. Inform the excavator that if any gas pipeline is exposed, that WCG must be informed before the excavator can backfill, WCG must evaluate the condition of the pipe. If the exposed pipe is steel, WCG employee must assure that the integrity of the pipe, coating and pipe-wrap has not been compromised and no external corrosion has occurred. If so, WCG employee will repair coating and wrap and assure that the pipe is properly supported. The following was added to Part D of WCG's O&M Manual:

- Coating and wrapping of steel pipe – procedures;
  - 1 Coat bare steel pipe with Royston Spray Primer –“Roy Bond 747”.
  - 2 Apply Mastic with paint brush – “Royston Mastic R28.”
  - 3 Apply Royston “Green Line Tape” – pipe wrap.
  - 4 Spay pipe again with Roy Bond 747.
  - 5 Apply another coat of Mastic R28.

### **SED**

SED noted that WCG's O&M Plan does not clearly identify the applicable cathodic protection (CP) criteria it uses as required by CFR, §192.463(a), which states:

“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 of this part. If none of these criteria is applicable, the cathodic protection system must provide a level of cathodic protection at least equal to that provided by compliance with one or more of these criteria.”

WCG's Operation and Maintenance Manual states in part:

*“Periodic readings are taken to insure that these two CP systems are operating to meet the -  
0.85 requirements of 49 CFR § 192.457...”*

*“It must have a cathodic protection system designed to produce a cathodic potential of at least -0.85...”*

WCG must clearly define which applicable criteria contained in Appendix D of Part 192 it uses to specify the level of protection that it designs its CP system to achieve.

**Response:**

The following language will be added to the O&M manual:

Method and Criteria for Cathodic Protection and Determination of Measurements:

Appendix D 49 CFR Part 192.

A (1) A negative (cathodic) voltage of at least 0.85 volt, with reference to a saturated copper-copper sulfate half-cell. Determination of this voltage must be made with the protective current applied, and in accordance with sections II and IV of Appendix D of 49 CFR Part 192..

II. *Interpretation of voltage measurement.* Voltage (IR) drops other than those across the structure electrolyte boundary must be considered for valid interpretation of the voltage measurement in paragraphs A (1)... of the appendix.

IV. *Reference half cells.*

A. Negative (cathodic) voltage must be measured between the structure surface and a saturated copper-copper sulfate half-cell contacting the electrolyte.

As to the interpretation of voltage measurement; WCG had Corrpro conduct an IR drop test on the industrial area of Mather in 2009 when the new rectifier was installed. They concluded that the IR drop when all 5 rectifiers were turned off was within acceptable limits. Corrpro will conduct an IR drop test in the 1<sup>st</sup> quarter of 2014 at the industrial area when they install a new rectifier and WCG will again keep their results for our permanent records. In addition, WCG will conduct an IR drop test on the rectifier in the Mather housing area and at Castle once each year and have Corrpro interpret the results. The results will be kept as part of WCG permanent records. As an example, WCG performed the following test and relayed the results to Corrpro corrosion engineer for evaluation. Corrpro’s analysis follows;

Mr. Czahar

Mr. Williams has relayed the following pipe-to-soil potential data:

4267 Middlebury: -2.063 V On, -1.742 V Instant-Off

4329 Gorham: -0.900 V On, -0.753 V Instant-Off. -0.600 V Static

NACE SP0169-2007 - Section 6 sets forth criteria for cathodic protection.

The data obtained at 4267 Middlebury is cathodically protected per criterion 6.2.2.1.2: A negative polarized potential of at least 850 mV relative to a saturated copper: copper sulfate reference electrode.

The data obtained at 4329 Gorham is cathodically protected per criterion 6.2.2.1.3: A minimum of 100 mV if cathodic polarization between the structure surface and a stable reference electrode contacting the electrolyte.

Please do not hesitate to contact me with any comments or questions.

Best regards,

Jeff Knauer, PE  
Engineering Manager  
Corpro  
2799 Miller Street  
San Leandro, CA 94577

WCG has installed a laminated instruction card in each rectifier that each covered employee who tests the rectifier will read before conducting the test. Given the importance of the rectifier in our CP program, WCG has included two new Appendices to the O&M Manual. The first is Appendix D which is the National Association of Corrosion Engineer's (N.A.C.E) "Inspection and Maintenance of CP Rectifiers" manual. This manual will give our covered employees the background necessary to understand how the rectifier is integrated into our CP program. Since our rectifiers are manufactured by the Universal Company, we have included Appendix E, "Universal Rectifiers – User's Manual". Maintenance of the rectifiers will follow N.A.C.E and Universal's requirements.

## **SED**

On May 2, 2012, SED and WCG inspected the rectifier located in the Castle service area. The gauge on the rectifier, that indicates current flow, showed units of volts instead of amperes. SED observed WCG take a voltage reading of 15.4 mV across a 50 mV/60 amp shunt resistor and calculated an incorrect value of 30 amps for current output. The accurate calculation of the current output should have been 18.48 amps.

## **Response:**

This must have occurred in 2009 and not in 2012 since no SED personnel were at Castle.

**SED**

2. Part K of WCG O&M Plan states:

*“Checking atmospheric corrosion. Complete the appropriate WCG form when above ground piping is inspected for corrosion from atmospheric conditions or corrosive conditions than cannot be controlled by cathodic protection. Inspection all exposed piping every three years for atmospheric corrosion. (192.479, 192.481, 192.491)”*

SED noted that WCG’s O&M Plan does not contain any procedures that describe how to inspect aboveground pipeline for evidence of atmospheric corrosion as required by CFR, §192.481(b).

WCG must establish a procedure for inspecting aboveground pipeline by specifying details required by CFR, §192.481(b) such as giving particular attention to pipe at soil-to-air interfaces, under thermal insulation, under disbanded coatings, at pipe supports, in splash zones, at deck penetrations, and in spans over water.

Additionally, WCG’s O&M Plan states that the minimum inspection cycle is every 3 years; however, WCG must include the requirement of not exceeding 39 months in its O&M Plan for atmospheric corrosion evaluation interval as required by CFR, §192.481(a).

**Response:**

WCG has updated its O&M Plan to include the requirement of not exceeding 39 months in its O&M Plan for atmospheric corrosion evaluation interval as required by CFR, §192.481(a).

**SED**

WCG must also include a requirement to take necessary remedial actions to protect its pipeline against atmospheric corrosion at places where identified as a result of inspections as required by CFR, §192.479.

**Response:**

WCG does inspect all above ground pipe as well as all meter set assemblies every three years. Not only does WCG inspect above ground piping but each meter set assembly, regulation station and other above ground pipe is cleaned, primed and painted every three year. In addition, if, during the meter reading process, atmospheric corrosion is observed on meter set assemblies, it will be addressed in a short period of time and then recorded in WCG maintenance records. The SAD has reviewed WCG’s records. The following was added to WCG’s O&M Manual:

Every three years WCG will conduct an examination of every above ground pipe and meter set assembly. WCG will maintain records of its inspection and any remedial taken for a period of 5 years. In addition, WCG covered employees perform the monthly meter reading and they are instructed to look for atmospheric corrosion on the riser, meter set assemble and pipe that enters the structure. In performing inspections special attention

will be paid to soil-to-air interfaces, under thermal insulation, disbanded coating, pipe supports, areas when splashing is prevalent and pipes suspended over water.

In addition, when reading meters covered employees should observe unsafe conditions that may be present on or around meter set assemblies. Examples of unsafe conditions include storage of any material on the meter set assembly and metal trash cans stored next to the meter set assembly. The owner of the facility must be informed of the unsafe condition with a "Notice of Unsafe Conditions" which will include a notice that WCG cannot continue to supply gas to that facility unless the violation is corrected within 48 hours from the date of the notice.

## **SED**

3. WCG's O&M Plan does not specify a retention period for corrosion control records as required by CFR, §192.491(c) which states:

(b) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to CFR, §§ 192.465 (a) and (e) and 192.475(b) must be retained for as long as the pipeline remains in service.

WCG must specify the retention period for corrosion control records in its O&M Plan.

## **Response:**

WCG has added language to its O&M manual that states that external corrosion control records must be retained as long as the steel pipe remains in operation. For all other corrosion control records, the records must be retained for 5 years.

## **SED**

7. SED noted that WCG does not have any provisions for Internal Corrosion in its

O&M Plan. Title 49, CFR, §192.475 Internal corrosion control: General states:

(a) Corrosive gas may not be transported by pipeline, unless the corrosive effect of the gas on the pipeline has been investigated and steps have been taken to minimize internal corrosion.

(b) Whenever any pipe is removed from a pipeline for any reason, the internal surface must be inspected for evidence of corrosion. If internal corrosion is found—

(1) The adjacent pipe must be investigated to determine the extent of internal corrosion:

(2) Replacement must be made to the extent required by the applicable paragraphs of CFR, §§ 192.485, 192.487, or 192,489; and,

(3) Steps must be taken to minimize the internal

corrosion. WCG must do the following for Internal

Corrosion Control:

- A- Since WCG transports natural gas from Pacific Gas and Electric (PG&E), WCG must demonstrate that the natural gas that it transports to its distribution system is not corrosive. WCG must obtain gas quality characteristics from PG&E in order to demonstrate that PG&E's gas that WCG is transporting is not corrosive as required by CFR, §192.475 (a).

**Response:**

WCG has in the past and again has sent PG&E the following request for both an attestation on the corrosive quality of the gas delivered by PG&E and the amount of odorization contained in the gas delivered to Mather and Castle:



09 January 2014

Lane Puckett - Account Executive

Pacific Gas & Electric Company

E-mail: lkp1@pge.com

Dear Lane,

I need your assistance on an issue raised by the CPUC SED Branch regarding the quality of the PG&E gas delivered to WCG's Castle distribution system. The SED requires WCG to obtain a statement from PG&E that the natural gas is not corrosive. The SED Language is as follows:

*"Since WCG transports natural gas from Pacific Gas and Electric (PG&E), WCG must demonstrate that the natural gas that it transports to its distribution system is not corrosive. WCG must obtain gas quality characteristics from PG&E in order to demonstrate that PG&E's gas, that WCG is transporting is not corrosive as required by CFR, 192.475 (a)."*

At your earliest convenience, please provide a written statement attesting to the non-corrosive quality of the natural gas transported by PG&E to WCG's distribution system at Castle. In addition, provide a statement on the level of odorization contained in the natural gas delivered to WCG's distribution system at Castle.

Thank you for your attention to this matter and I look forward to hearing from you.

Sincerely,

Ray Czahar,  
CFO

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westcgas@cof.com



09 January 2014

Keith Smith - Account Executive

Pacific Gas & Electric Company

E-mail: k2s5@pge.com

Dear Keith,

I need your assistance on an issue raised by the CPUC SED Branch regarding the quality of the PG&E gas delivered to WCG's Castle distribution system. The SED requires WCG to obtain a statement from PG&E that the natural gas is not corrosive. The SED Language is as follows:

*"Since WCG transports natural gas from Pacific Gas and Electric (PG&E), WCG must demonstrate that the natural gas that it transports to its distribution system is not corrosive. WCG must obtain gas quality characteristics from PG&E in order to demonstrate that PG&E's gas, that WCG is transporting is not corrosive as required by CFR, 192.475 (a)."*

At your earliest convenience, please provide a written statement attesting to the non-corrosive quality of the natural gas transported by PG&E to WCG's distribution system at Mather. In addition, provide a statement on the level of odorization contained in the natural gas delivered to WCG's distribution system at Mather.

Thank you for your attention to this matter and I look forward to hearing from you.

Sincerely,

Ray Czahar,  
CFO

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## SED

- B- WCG's O&M Plan must include an internal corrosion inspection procedure which it follows whenever it removes a section of pipeline for any reason. The internal corrosion inspection procedure should also include provisions for the inspection of adjacent pipe as per CFR, §192.475 (b)(1),(2), and (3) when internal corrosion is found.

### **Response:**

WCG maintains a separate binder on its evaluation of coupons taken from steel pipe removed from its natural gas system "Corrosion Pipe Coupons". The record includes date removed, pipe size, CP read at time of removal, evaluation of internal corrosion (if any), outside pipe and condition of coating and wrap at time of removal and exact location of pipe before removal. The coupons themselves are kept in the maintenance building for 5 years.

WCG will add the above language as a requirement to its O&M Plan.

### **Title 49, CFR, §192.13 What general requirements apply to pipelines regulated under this part?**

Section 192.13(c) requires that "Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part."

During the review of WCG's O&M Plan, SED identified the following deficiencies:

1. WCG, Part E, Leakage surveys states in part "If not repaired, the leak should be reevaluated during the next scheduled survey, or within 15 months of the date reported or discovered, whichever occurs first, until the leak is re-graded or no longer results in a reading."

SED found that WCG does not document findings when it monitors open Grade 2 and Grade 3 gas leaks.

### **Response:**

**WCG has changed the GLRR form to incorporate the rechecks on the open leaks and will record new data on that sheet.**

## SED

As required by its O&M Plan, WCG must document necessary information when performing rechecks of open leaks to be able to record essential data such as recheck date, gas concentration (% gas or % LEL), location, condition, migration etc. WCG must also determine if the previous grading has changed (upgraded or downgraded) or not changed and take necessary preventive and mitigation actions accordingly. Additionally, as mentioned under Item II.1.C, the GLRR forms should show the captured data recorded during field rechecks.

2. On May 2, 2013, SED and WCG conducted a field check of one repaired and several open leaks at locations in Castle (Atwater) and took gas leak concentration readings.

Since WCG did not document gas leak monitor data on the GLRRs for the open leaks during past field rechecks, SED determined that WCG could not demonstrate that it monitored any of the pending Grade 3 leaks given below during annual leak surveys following the discovery of the leaks.

A- WCG did not record any recheck information for the Grade 3 leak discovered on 4/21/10 by WCG at C Street, North corner of C Street and Aviation, in Castle. On 5/2/13, SED and WCG visited the site and observed that WCG dug up the underground leak but did not repair it. WCG recorded 429 parts per million (ppm) during the field check.

SED noted that WCG should have reevaluated this leak during the next scheduled surveys in 2011 and 2012 until the leak was re-graded, no longer resulted in reading, or repaired as per WCG's O&M Plan.

WCG must recheck all open leaks and record required information to take necessary remedial actions properly. Please inform us of the actions taken for this pending underground gas leak.

**Response:**

WCG, immediately prior to the SED Audit, was in the process of repairing this leak. WCG left repair site open for inspection by SED and completed the repair after SED team completed its work. WCG has changed the GLRR form to monitor all leaks. See attached as a pdf file: GLRR North Corner of C & Aviation.

**SED**

B- Similarly, WCG did not monitor or document any recheck information for the Grade 3 leak discovered on 4/22/10 by WCG at Heritage Dr. on south corner of Building 1340 in Castle. SED and WCG visited the site and observed that the underground leak was exposed.

WCG measured the gas concentration at 16,000 ppm gas in the air during the field check. WCG should have re-evaluated and documented findings about this leak during its next scheduled surveys in 2011 and 2012 until the leak was re-graded, no longer resulted in reading, or repaired as per WCG's O&M Plan. WCG must repair this gas leak and document the leak repair information properly.

**Response:**

WCG, immediately prior to the SED Audit, was in the process of repairing this leak. WCG left repair site open for inspection by SED and completed the repair after SED team completed its work. WCG has changed the GLRR form to monitor all leaks. See attached as a pdf file: GLRR 2C Heritage Drive (Bldg 1340)

**SED**

C- On 6/3/11, Heath discovered a main line gas leak in the amount of 60% gas in air and

classified it as a Grade 3 at Heritage Drive at A Street in Castle. WCG monitored the leak by potholing and found low gas readings but did not record any recheck information. SED and WCG confirmed the low gas concentrations during the field check on 5/2/13 at this location. When WCG conducts any follow up leak checks, it must document it. SED reviewed the Heath Leakage Control Report Field Survey form that it filled out and noted the following concerns:

1. If Heath chooses to use its own gas leak survey form, then WCG needs to make sure that all essential gas leak information such as date and time of survey, percent of gas in air, or percent LEL, or ppm, location of gas leak, leak classification, type of area and survey, equipment used, new leak or recheck information etc. is properly documented on the form.
2. If WCG is unclear about any of the findings reported by Heath, WCG must contact Heath and request more information about the leaks to be able to take the appropriate remedial action.
3. As mentioned under Item II.1.A WCG must include the leak grading criteria that Heath follows in its O&M Plan or require Heath to use the same gas leak criteria that WCG uses. The O&M Plan should define the leak grading criteria for hazardous and other type of leaks that WCG contractors use and describe the follow up actions with allowed time interval.

Heath recorded 60% gas in air at Heritage Drive at A Street in Castle and classified it as a Grade 3 leak. SED is concerned about the classification of this leak since it may conflict with WCG's leak grading criteria and may have been more severe. The leak may have been a Grade 2 based on WCG's grading criteria and required reevaluation every six months until cleared as per WCG O&M Plan. WCG must ensure that the contractors it hires to conduct leak surveys of its gas system classify all leaks discovered in a consistent manner so that WCG takes proper follow up action in a timely manner.

Therefore, WCG must either ensure that Heath uses the same leak grading criteria as WCG or add the criteria that its contractors use for grading leaks to its O&M Plan. WCG must also document leak recheck information and keep records.

### **Response:**

When Heath finds a positive CGI read, the percent of gas is noted in the remarks section of the form. (See attached). WCG will incorporate a fill in box for the percentage of gas on future forms and will have leak survey contractors use our forms for reporting.

WCG agrees with SED that WCG and Heath must use the same leak grading system. We contacted Heath and in fact they use the same GPRTC of the AGA grading criteria. The following was added to the O&M Plan:

WCG and Heath Consultants will use the following gas leak grading criteria:

Gas Piping and Technology Committee (GPRTC) of the American Gas Association standards for grading natural gas leaks

A *Grade 1 leak* is a leak that represents an existing or probable hazard to persons or property, and requires immediate repair or continuous action until the conditions are no longer hazardous. Examples of a Grade 1 leak are:

- Any leak which, in the judgment of operating personnel at the scene, is regarded as an immediate hazard.
- Escaping gas that has ignited.
- Any indication of gas which has migrated into or under a building, or into a tunnel.
- Any reading at the outside wall of a building, or where gas would likely migrate to an outside wall of a building.
- Any reading of 80% LEL, or greater, in a confined space.
- Any reading of 80% LEL, or greater in small substructures (other than gas associated substructures) from which gas would likely migrate to the outside wall of a building.
- Any leak that can be seen, heard, or felt, and which is in a location that may endanger the general public or property.

A *Grade 2 leak* is a leak that is recognized as being non-hazardous at the time of detection, but justifies scheduled repair based on probable future hazard. Examples of a Grade 2 Leak are:

- Leaks Requiring Action Ahead of Ground Freezing or Other Adverse Changes in Venting Conditions. Any leak which, under frozen or other adverse soil conditions, would likely migrate to the outside wall of a building.
- Leaks Requiring Action Within Six Months
- Any reading of 40% LEL, or greater, under a sidewalk in a wall-to-wall paved area that does not qualify as a Grade 1 leak.
- Any reading of 100% LEL, or greater, under a street in a wall-to-wall paved area that has significant gas migration and does not qualify as a Grade 1 leak.
- Any reading less than 80% LEL in small substructures (other than gas associated substructures) from which gas would likely migrate creating a probable future hazard.
- Any reading between 20% LEL and 80% LEL in a confined space.
- Any reading on a pipeline operating at 30 percent SMYS or greater, in a class 3 or 4 location which does not qualify as a Grade 1 leak.
- Any reading of 80% LEL, or greater, in gas associated sub-structures.
- Any leak which, in the judgment of operating personnel at the scene, is of sufficient magnitude to justify scheduled repair.

A *Grade 3 leak* is non-hazardous at the time of detection and can be reasonably expected to remain non-hazardous. Examples of a Grade 3 Leak are:

- Any reading of less than 80% LEL in small gas associated substructures.
- Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the out-side wall of a building.
- Any reading of less than 20% LEL in a confined space.

## **SED**

- D- On 4/7/09, WCG discovered a Grade 3 leak at Stratofortress Ave., Building # 712, Castle. WCG explained that it repaired the leak in 2011; however, SED did not find any repair or recheck records.

On May 2, 2013, SED and WCG visited the site and confirmed that WCG repaired the leak; however, WCG was still unable to provide gas leak repair records for the leak. SED noted that according to WCG's O&M Plan, WCG should have reevaluated the leak in 2010 before WCG repaired it in 2011 and maintained leak repair records of the repair.

WCG must record and maintain leak repair records that contain essential leak repair information such as date and type of repair, specifications of the new pipe installed, pressure, name of personnel who performed the repair, and other data such as post repair actions and field verifications if applicable such as pressure testing, supervisor recheck, etc.

**Response:**

WCG did repair the leak and has documentation. Please note that the confusion stems from F Street and Stratafortress Avenue being the same road. See attached as pdf files: 2D 2009 and 2D 2011.

**I- Title 49, CFR, §192.353 Customer meters and regulators: Location**

(a) Each meter and service regulator, whether inside or outside a building, must be installed in a readily accessible location and be protected from corrosion and other damage, including, if installed outside a building, vehicular damage that may be anticipated. However, the upstream regulator in a series may be buried.

On 5/2/13, during its field check, SED noted that the service riser located at 2345 Jetway in Castle requires protection from vehicular traffic. WCG must install protective barriers to protect the service riser at this location.

**Response:**

WCG installed a barricade at this location in June 2013.

**II- Title 49 CFR, §192.465 External corrosion control: Monitoring**

(c) Each operator shall take prompt remedial action to correct any deficiencies indicated by the monitoring.”

SED reviewed WCG corrosion control records and noted that WCG did not take prompt remedial action to correct deficiencies found as a result of external corrosion monitoring at Valve #39 in the Mather housing location as required by CFR, §192.465(d). Table 1 shows the pipe-to-soil (P/S) readings that WCG recorded in the field; however, WCG did not take prompt remedial action to correct the corrosion control deficiencies indicated by corrosion control monitoring; therefore, WCG is in violation of CFR, §192.465(d).

Table 1- Four consecutive low P/S readings

Date	03/29/2011	05/09/2011	07/25/2011	09/12/2011
P/S read	-804 mV	-800 mV	-819 mV	N/A

**Response:**

After several attempts to correct the issue, WCG determined that the low reading was due to a faulty rectifier. WCG immediately began the process of getting permits, ordered a new rectifier and getting it installed. The new rectifier became operational in the last quarter of 2011. The reading at this same location produced the following readings after the new rectifier was installed.

Date	12/09/2011	12/12/2011	01/24/2012	03/19/2012
P/S read	-899 mV	-975 mV	-984 mV	-.855

**III- Title 49 CFR, §192.479 Atmospheric corrosion control: General**

(a) Each operator must clean and coat each pipeline or portion of pipeline that is exposed to the atmosphere, except pipelines under paragraph (c) of this section.

On May 3, 2013, SED found atmospheric corrosion under disbonded coating on the riser at location #2804 in the Mather industrial service area.

WCG must take necessary remedial actions to protect its pipeline against atmospheric corrosion.

**Response:**

As to this specific riser, WCG removed disbonded coating from the riser, cleaned, primed and painted the riser. WCG approach is to Clean, Primer and Paint every single every meter set assembly and any other pipe that is subject to atmospheric corrosion at least once every three years. In addition, the O&M plan has been expanded to include the requirement that when a covered employee discovers atmospheric corrosion during the monthly meter readings, he will record the location and schedule the meter set assembly or piping for repair.

**I- Title 49, CFR, §192.491 Corrosion Control Records**

Section 192.491 (c) states: "Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist..."

In May 2009, the Utilities Safety and Reliability Branch (USRB) of CPSD conducted a GO 112-E audit of WCG's manuals of written procedures for conducting O&M activities and Emergency response. As a result of the audit, CPSD issued a letter to WCG which identified deficiencies requiring remedial actions. One of the violations

CPSD listed in its letter was that WCG did not document its Atmospheric Corrosion evaluations.

In its letter to WCG, CPSD stated the following:

*“WCG did not provide records, required to be maintained per Section 192.491(c) to show that it performs atmospheric corrosion evaluations per the requirements of Section 192.481(a).*

*This is a repeat violation which was previously identified by Mr. Shori as a result of USRB’s gas safety audit conducted in 2007. In a letter dated August 24, 2007, WCG explained that it would create a separate maintenance record in order to identify atmospheric corrosion problems and conduct quarterly inspections beginning in October 2007. Additionally, WCG O&M Plan indicates that there is an annual program for atmospheric evaluation. However, our audit in 2009 did not find any records related to atmospheric corrosion monitoring.”*

In its response dated July 22, 2009, WCG stated that:

*“WCG will complete this record for each residence and building at Mather and Castle where WCG pipe is exposed to the atmosphere. The examination and corrective actions will be completed by October 31, 2009 and once every 3 years thereafter and be made a part of the permanent records.”*

SED reviewed WCG atmospheric corrosion records and determined that WCG completed the initial atmospheric corrosion control monitoring survey in 2009; however, it did not properly document atmospheric corrosion control survey findings and remedial actions taken for the deficiencies identified in its system within 3 years, not exceeding 39 months after the initial survey.

## **Response:**

**WCG provided SED with records that showed that WCG had completed remedial actions on over 80% of each and every MSA before October 2012 and within the 39 month period. The remaining MSAs were addressed in 2013.**

## **SED**

CPSD brought this violation to the attention of WCG twice in the past. As a result of 2013 gas pipeline safety audit, SED determined that WCG continues to not comply with CFR, §192.491(c).

WCG must conduct an atmospheric corrosion control survey of its pipeline system exposed to the atmosphere once every 3 years and maintain records showing survey date, findings, and remedial actions taken for any deficiencies identified.

Please provide a status report within 30 days of this letter and provide records to demonstrate that WCG completed the atmospheric corrosion control survey and documented findings properly. Please inform SED upon completion of all atmospheric corrosion related corrective actions.

**Response:**

WCG has made copies of the records and has attached them to this response as a pdf file: Atmos Corrosion Control

**IV- Title 49, CFR, §192. 615 Emergency plans.**

(a)Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:

(1)Receiving, identifying, and classifying notices of events which require immediate response by the operator.

(2)Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.

(3)Prompt and effective response to a notice of each type of emergency, including the following:

- (i) Gas detected inside or near a building
- (ii) Fire located near or directly involving a pipeline facility
- (iii) Explosion occurring near or directly involving a pipeline facility
- (iv) Natural disaster

(b)Each operator shall:

(1)Furnish its supervisors who are responsible for emergency action a copy of that portion of the latest edition of the emergency procedures established under paragraph (a) of this section as necessary for compliance with those procedures.

(2)Train the appropriate operating personnel to assure that they are knowledgeable of the emergency procedures and verify that the training is effective.

SED reviewed WCG Emergency Plan (EP) and identified the following deficiencies:

1. WCG EP does not have any procedures for prompt and effective response to a notice of a fire located near or directly involving a pipeline facility, explosion occurring near or directly involving a pipeline facility and natural disaster. SED noted this deficiency for both WCG pipeline systems located in Mather and Castle.

**Response:**

**WCG has included procedures for responding to “earthquakes and other major events to minimize damage” {CA Public Utilities Code § 961 (d)(8), in its CPUC approved Safety Plan.**

EMERGENCY	IMMEDIATE RESPONSE	CONTINUING RESPONSE
Fire or explosion in the gas system.	Identify affected area and close gas meter valves. Do not extinguish fire generating from open or broken pipes, flanges, etc. Evacuate at least 500 to 1,000 feet dependent on the size of the release. Repair and restore system post-emergency once cleared by fire department and inspected by regulatory authority.	Assist fire, police and emergency services as required. Monitor atmosphere for combustible concentrations. Eliminate sources of ignition.
Danger to segment of gas main system due to natural hazard of human caused events (earthquakes or terrorist actions).	Identify affected area and close gas meter valves.  Seek technical expertise as necessary to quantify hazards. Be prepared to close main interconnection with PG&E if the number of gas segments that are damaged cannot be controlled by closing Key Valves.	Co-ordinate with emergency service and other first responders.  Interact with customers as needed. Monitor as necessary, eliminate sources of ignition.

In case of a major event that results in the release of large amounts of gas into the atmosphere, WCG staff has the responsibility to immediately notify public safety officials of gas risks. Ordering evacuations and public protection is lawfully the responsibility of the public safety officials. In the absence of public safety officials, WCG staff shall take immediate actions to notify and protect the public from gas risks. This will include the establishment of Perimeter Zone(s) that will be set up around the affected area and include a Public Protection/Evacuation Zone - The Evacuation Zone is the larger area surrounding the Hazard Zone, in which a lesser degree of risk to emergency personnel exists, but from which all civilians will be removed. The limits of this zone will be enforced by the local responding police department when necessary. The area to be evacuated depends upon the nature and extent of the fire, explosion or leak.

The above has been incorporated into WCG O&M Manual.

## SED

SED determined that this is a repeat violation of CFR, §192.615 (a)(3) which was previously identified as a result of CPSD’s audit conducted in 2007.

On August 24, 2007, in its GO 112-E audit response letter to CPSD, WCG stated the following:

*“WCG will restructure its written and operating procedures for receiving, identifying and classifying notices of events which require immediate response. WCG will revise the form it uses to record the receipt of a notice of a gas emergency, as defined in §192.615.a.3, so as to document at a minimum the following:*

- a. Date and time the notice was received.
- b. Name(s) of WCG personnel assigned to respond to the office.
- c. Actions taken by WCG personnel responding to the notice including the time personnel arrived at the scene.
- d. The date and time the event was resolved.”

WCG must establish necessary written procedures for prompt and effective response to a notice of each type of emergency listed under CFR, §192.615 (a)(3) and follow its procedures in order to minimize the hazard resulting from a gas pipeline emergency.

WCG must also include a map of its gas pipeline system showing the location of the emergency shut-off valves in its EP for pipeline systems located in Mather and Castle.

**Response:**

WCG has had a “Gas Leak Report” form for many years. We believe the form contains all the information required by §192.16 a.3. Copies of recent Gas Leak Reports are attached as a pdf file: Gas Leak Reports.

As to system maps; WCG has several copies of systems maps in the maintenance office, in each work truck and in its emergency response vehicles. Each map contains the location of every valve in Mather and in Castle. Each covered employee is “expert” is identifying and located these valves since valve maintenance is a critical part of our preventive maintenance program.

**SED**

SED also found that WCG’s EP does not have any reference of the distribution system in Castle. The EP describes the emergency equipment, emergency condition, and how to respond to emergencies when gas is detected inside or near a building in Mather, but it has no mention of the Castle system.

**Response:**

The O&M Manual has been changed to include Castle in the description. The emergency response procedures for Castle are the same as for Mather.

**I. ABNORMAL, EMERGENCY NOTIFICATION LIST**

1. WCG OPERATING PERSONNEL:

<u>TITLE</u>	<u>PHONE</u>	<u>EQUIPMENT RESPONSIBILITY</u>
Operations Manager (Mark Williams)	916-826-7300	YES
Field Operations Supervisor (Brandon Roberts)	916-205-4038	YES
Field Technician (Lucas Tramontanas)	916-544-0485	YES
WCG Assigned Field Personnel	916-364-4102	YES

WCG has changed its O&M Manual to include outside contact numbers for Castle as follows:

In case of a gas emergency at Castle, Mark Williams will notify WCG’s part-time employee at Castle to immediately respond and begin transmitting information to WCG emergency response team as it is in route to Castle. Mark Williams will direct the emergency response.

## 2. OTHERS TO NOTIFY

<u>AGENCY</u>	<u>LOCATION</u>	<u>PHONE NO.</u>
Mather		
Rancho Cordova Sheriff	Rancho Cordova (Emergency)	911
Rancho Cordova Sheriff	Non-Emergency	916-445-5711
Fire Department	Rancho Cordova (Emergency)	911
Fire Department	Non-Emergency	916-566-4000
Castle		
Merced County Sheriff	Merced County Sheriff (Emergency)	911
Merced County Sheriff	Non-Emergency	209-385-7444
Fire Department	Castle Fire Station (Emergency)	911
Fire Department	Non-Emergency	209-385-7345

Note the Castle fire station is located on Castle at 3405 Hartstand Avenue.

In case of a gas emergency at Castle, Mark Williams will notify WCG's part-time employee at Castle to immediately respond and begin transmitting information to WCG emergency response team as it is in route to Castle. Mark Williams will direct the emergency response.

WCG has 1,350 occupied customer premises at Mather and only 42 occupied customer premises at Castle. The probability of a gas emergency at Mather is probably 33 times greater when compared to Castle. WCG's covered personnel live within 20 to 30 minutes of Mather and 45 minutes of Castle. During business hours, WCG response time at Mather is 5 to 10 minutes and no more only a few minutes to get our part-time employee on scene at Castle. After business hours, our response time at Mather is approximately 40 to one-hour and while the part-time employee will be on site within 15 minutes at Castle, the emergency response team will be on site within one-hour.

In 2013 WCG received 22 Gas Leak Reports (calls reporting possible gas leaks) at Mather and one at Castle. Of the 22 Gas Leak Reports at Mather, 18 were during work hours and 4 after hours. The "during working hour calls" were responded to within nine minutes and the after hour calls were responded to within 24 minutes. The single report from Castle was handled over the phone when the reporting party could not confirm that gas odor was present.

### **SED**

On August 24, 2007, in its GO 112-E audit response letter to CPSD, WCG stated the following:

*"WCG has hired a part-time individual, who resides near Castle and could be on scene within a few minutes. This individual has years of experience as a facilities maintenance technician at Castle. The sole responsibility of this part-time employee will be to respond to notices of a gas emergency as defined in 192.615.a.3. WCG is in the process of training this individual in emergency response procedures and the equipment used to mitigate a gas emergency. This employee will be deployed at Castle no later than October 1, 2007."*

SED determined that this is a repeat violation of CFR, §192.615 (a) which was previously identified as a result of CPSD's audit conducted in 2007.

WCG must do the following:

- Include prompt and effective emergency response procedures to any emergency situations in its pipeline system in Castle.
- Identify individuals who are in charge of emergency response action for its pipeline system in Castle in its EP.

2. SED also determined that WCG does not have any training program for its emergency response personnel to assure that they are knowledgeable of the emergency response procedures. SED determined that this is a repeat violation of CFR, §192.615 (b)(2), which was previously identified as a result of CPSD's audit conducted in 2009.

Additionally, WCG's EP listed Evan Rahilly as the emergency contact in Castle in the Emergency Notification List. However, WCG did not train Mr. Rahilly to assure that he is knowledgeable of the emergency procedures.

On June 10, 2009, CPSD's GO 112-E audit letter stated the following:

*"There was no written Emergency Exercises available for the years 2007 and 2008. Participation of WCG employees in such exercises is essential in order to ensure that employees are properly trained to respond to emergencies in an effective and timely manner."*

*This is a repeat violation which was previously identified by Mr. Carter as a result of USRB's gas safety audit conducted in 2005. In its response on February 26, 2006, WCG stated the following: "WCG will schedule, conduct and critique an annual Emergency Response drill for each covered employee in March and September of 2006..."*

*WCG needs to conduct Emergency Exercise drills as frequently as necessary but at least once every year. Please advise us on this item and explain how frequently WCG will conduct Emergency Exercise drills."*

On July 22, 2009, in its response to CPSD, WCG stated the following:

*"WCG will conduct its 2009 Emergency Exercise in August 2009. It will prepare a written record of the emergency exercise. WCG will conduct an annual Emergency Exercise thereafter."*

Additionally, SED determined that WCG has not evaluated the effectiveness of its table top Emergency exercise that is required annually.

WCG must provide training to all emergency personnel (both part-time and full time) who are responsible for responding emergencies as to the requirements of the emergency plan and WCG must also verify the effectiveness of its training as required by CFR, §192.615 (b)(2). Training should include emergency response procedures, how to recognize and react to emergencies in both pipeline systems located in Mather and Castle.

Please provide a status report within 30 days of this letter regarding the actions WCG will take to correct its EP related deficiencies identified under Item IX and please also

inform SED upon completion of all EP related corrective actions.

Response:

The part-time position at Castle was an attempt to increase the margin of safety at Castle. The part-time employee was trained on two covered tasks – to turn off a lock-cock at a meter and to locate and shut-off valves at Castle. His other responsibility would be to be an on-site source of information as WCG’s emergency response team was en-route to Castle. This part-time employee would perform no other covered tasks.

However, WCG will include this part-time employee in training on Emergency Responses and document this training.

WCG conducted and recorded EP exercisers with covered employees as follows:

Mather:	Castle:
2009	
2010	2010
2011	2011
2012	2012
2013	2013
Scheduled 2014*	Scheduled 2014*

\* WCG is in the process of scheduling a 2014 EP exercise will include personal from the Merced Sheriff Department and the Hartstand firehouse at Castle and the Sacramento County Sheriff and the local fire department in June or July 2014.

**V- Title 49, CFR, §192.625 Odorization of gas.**

(f) To assure the proper concentration of odorant in accordance with this section, each operator must conduct periodic sampling of combustible gases using an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable. Operators of master meter systems may comply with this requirement by —

- (1) Receiving written verification from their gas source that the gas has the proper concentration of odorant; and
- (2) Conducting periodic “sniff” tests at the extremities of the system to confirm that the gas contains odorant.

Part J, Measuring the Odorization of Gas of WCG’s O&M Plan states in part:

*“This part of the Utilities O&M Plan details the procedure used to measure the odorization of gas at the Natural Gas distribution system. At the present time, odorizing equipment is not available within the Natural Gas distribution system; however, the following procedure is set forth for the information and guidance of WCG distribution system personnel...”*

*“WCG will conduct periodic “sniff tests” to insure that odorization levels are adequate. To conduct “sniff tests” WCG personnel, at various locations will smell the gas at an open valve or gas oven burner...”*

CFR, §192.625 (f) requires gas operators to conduct periodic testing of combustible gases using an instrument to determine that the percentage of gas in air at which the odor becomes readily detectable. As detailed in the code, only operators of master meter systems are not required to use an instrument to comply with this code section.

SED reviewed quarterly odorization test records and confirmed that WCG has been using sniff testing without an instrument. Since WCG gas pipeline system is not a master meter system, WCG is not exempt from the requirement of using an instrument to conduct odorization testing; therefore, WCG cannot conduct periodic “sniff” tests at the extremities of the system to confirm that the gas contains odorant without an instrument.

In order to comply with CFR, §192.625 (f), WCG must use an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable.

WCG must update its O&M Plan to include the new instrument and specify the frequency of the odorization checks in the O&M Plan. WCG must also calibrate the instrument as per manufacturer’s instructions and keep the calibration records. WCG must also provide training for its personnel to use the instrument for odorant testing.

Response:

WCG has, in the past relied on the PHMSA’s “Guidance Manual for Operators of Small Natural Gas Systems” to determine the appropriate method to conduct an odor test. The June 2002 version of this DOT, Research and Special Programs Administration, Office of Pipeline Safety manual states that “Operators of master meter or small gas systems should periodically verify the odor level with the gas company or have a consultant run an order test .....

WCG periodically sends a letter to PG&E requesting that it verify that the odorant levels of the gas supplied to WCG at both Mather and Castle meet the requirements of §192.625. In addition, WCG conducts quarterly gas sniff tests at the extremities of the gas distribution systems. If WCG were to purchase an expensive gas odorometer and allocate limited resources to training and maintaining the odorometer, the only benefit would be to confirm that PG&E meets the requirement of §192.625.

In addition, it makes sense that gas utilities that odorize their gas should be required to use an instrument capable of determining the percentage of gas in air at which the odor becomes readily detectable. As to the recommendation by SED that WCG state the frequency of the odorization check in the O&M Plan, WCG has updated the O&M plan to include this element.

**III- Title 49, CFR, §192.739 Pressure limiting and regulating stations: Inspection and testing.**

(a) Each pressure limiting station, relief device (except rupture discs), 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 it is

- (1) In good mechanical condition;
- (2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;
- (3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of CFR, §192.201(a); and
- (4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

WCG records showed that it conducted the last pressure limiting and regulator station inspection and testing of its Housing-Capehart Regulation Station on 3/6/09. SED noted that WCG checks and verifies the main line and by-pass line pressures on a monthly basis. However, WCG failed to perform annual maintenance of its Housing-Capehart Regulation Station in 2010, 2011, and 2012; therefore, WCG is in violation of CFR, §192.739 (a).

WCG must inspect and test its regulator station at intervals not exceeding 15 months, but at least once each calendar year to ensure that it is in good mechanical condition, properly installed and protected, has adequate capacity and reliability and also confirm that the regulator and monitor are set to control or relieve at the correct pressures. Please provide records demonstrating that WCG performed these activities in 2013 in its response to SED.

Response:

WCG performed required inspections and tests and the records demonstrating that WCG performed these activities in 2013 are attached to this response. Attached is a pdf file: Cape Reg Station Maint.

OPERATIONS AND MAINTENANCE PLAN AND EMERGENCY PLAN

OBSERVATIONS AND CONCERNS

I- Title 49, CFR, §192.463 External corrosion control: Cathodic protection.

(a) 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 of this part. If none of these criteria is applicable, the cathodic protection system must provide a level of cathodic protection at least equal to that provided by compliance with one or more of these criteria.

On May 3, 2013, SED and WCG took several P/S readings on WCG gas pipeline system at the locations shown in Table 2. SED noted that the P/S readings did not meet the minimum 0.85 volts criteria; therefore, WCG did not have its gas pipeline system at these locations adequately protected against external corrosion.

WCG must take prompt remedial action in order to correct the CP deficiencies at the locations in Table 2. Please provide SED with a status report upon completion of the external corrosion related corrective actions.

Table 2- P/S field readings

Mather Industrial Area	
<i>Location</i>	<i>P/S Read (mV)</i>
2804	-535
2844	-520
4844	-419
7052	-464
Valve #36	-777
Mather Housing Area	
Valve #39	-821

Response:

WCG conducted an investigation of the cathodic protection (CP) impressed current cathodic protection systems installed on the natural gas distribution systems in the Industrial Area of Mather Field on June 19, 2013. The purpose of the investigation was to assess whether there are electrical discontinuities within the natural gas distribution system affecting the performance of the cathodic protection system. Structure-to-soil potential measurements were obtained at various locations throughout the distribution system. Additional investigations included an assessment of rectifier operational parameters and testing of insulating unions, if installed, at building connections. Data obtained as a part of this survey has been attached to this document.

Testing Procedure:

- Structure-to-Electrolyte Potential Measurements -The "On" and "Instant Off" measurements were obtained using a calibrated high impedance voltmeter. This was done by connecting a lead between a calibrated portable saturated copper-copper sulfate (Cu/CuSO<sub>4</sub>) reference electrode and the negative terminal of the voltmeter. The positive connection necessary to complete the measuring circuit was made by directly contacting the structure under test. These readings were recorded with the cathodic protection system operating ("On") and with the current instantaneously interrupted ("Instant Off").
- Rectifier Assessment — Rectifier voltage and current output levels were read from the rectifier gauges and compared against readings obtained with a digital multi-meter. The current outputs of individual anodes were measured at the associated anode junction box to assess

whether the anodes were functional.

- Electrical Continuity Assessment — Structure-to-electrolyte potentials were measured at various locations within the distribution system while the rectifier for the zone of influence was cycled on and off. The data was analyzed to assess electrical continuity of the piping between the rectifier and the measurement location.
- Electrical Isolation Assessment - Isolating unions were assessed using an RF-IT isolation checker and structure-to-electrolyte potentials were measured on either side of the union.

### **Findings and Remedial Actions:**

- The gas distribution piping was determined to be electrically continuous at all locations investigated. No discontinuities were identified.
- Dielectric unions, where installed, were found to provide effective electrical isolation.
- Locations were identified where the gas distribution piping is not isolated at building penetrations. This may represent a significant drain of DC current from the cathodic protection system. Locations without electrical isolation were identified at Building 2804, Building 2824 and Building 2822. These locations were fitted with new Dielectric unions.
- The rectifier located near the intersection of Lower Placerville Road and Armstrong Avenue was found operating at a very high voltage output with a low DC current output. This indicates a high system circuit resistance. This may be due to the anodes nearing consumption and/or is a result of the sub-par performance of the distributed anode bed design in the project site soils. WCG decided that a new rectifier should be installed at the intersection of Lower Placerville Road and Armstrong Avenue. WCG immediately ordered a new rectifier from Corrpro and it will be installed no later than the end of January 2014. After installation and testing, a determination will be made on the efficacy of rebuilding the ground bed.
- The ground beds were watered.

**Results:**

WCG took CP measurement in June and the reading improved at buildings 2804 and 2844. The latest readings were -802 at building 2804 and -.806 at building 2844. We are certain that when the two new rectifiers are installed in January 2014 the reading will equal or exceed the minimum -.850. The readings at buildings 4844 and 7052 did not improve but we expect them to rise to the minimum by the end of January 2014 as the new rectifiers become operational. Valve #36 is a P.E. value and reading was taken from a tracer wire. This is not a WCG test site. One possible cause of the low reading is that the tracer wire is not bonded to a steel pipe. However, we will test this site once the new rectifiers are installed.

As to valve #39 in the housing area of Mather, we performed a pipe to soil test of the adjacent residence and the reading was -.864. We also tested valve #40 and the reading was -.866. We will continue to monitor value #39 to see if there are any further changes in the readings.