Docket No. SA-534

Exhibit No. 2-AH

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

NTSB_027-002 AND NTSB_027-002S1
ALL PG&E OVER PRESSURES
OF ANY LINES AND DOCUMENTATION

(80 Pages)

PACIFIC GAS AND ELECTRIC COMPANY
San Bruno Gas Transmission Line Incident
Data Response

PG&E Data Request No.:	NTSB_027-002		
PG&E File Name:	San Bruno GT Line Incident_DR_NTSB_027-002		
Request Date:	September 30 2010	Requesting Party:	NTSB
Date Sent:	October 12, 2010	Requestor:	NTSB (Sunil Shori)

QUESTION 2

Please provide information on all events since January 1, 2008 in which PG&E exceeded its established MAOP on any portion of its distribution system, or the MOP or MAOP on any of its transmission systems. For each instance, where MAOP, MOP, or both were exceeded, please provide:

a) PG&E's identifier for the facility involved (i.e., valve number, regulating station, limiting station, etc.); and

b) A copy of PG&E's investigation, including root cause analysis, to determine the reason(s) for the failure.

ANSWER 2

Attached is a summary of all occurrences where the MAOP of a distribution system or MAOP/MOP of a transmission system was exceeded since January 1, 2008. Also attached are copies of PG&E investigation into each event.

Over Pressuring Events - 2008 to September 2010								
Location	***Date***	***Type***	***Reported to CPUC and DOT?***	***MAOP***	***Pressure Reached***	***Cause***	***Immediate Corrective Action***	***Long Term Corrective Action***
StanPac 3, East Bay Division	10/9/2008	Transmission	Y	250 psi	380 psi	Tap off transmission line was missed during uprate evaluation, resulting in pressure exceeding MAOP when SP3 was uprated.	Pressure reduced until pipe and valves were replaced, and tap line was hydro tested. Downstream pipeline system was leak surveyed.	MAOP re-established to 380 psig following thorough records review, installation of new facilities and subsequent hydro test. New MAOP and Uprate procedures written and implemented (completed 3/2010).
Mountain View DR B20 BAYSHORE E/ MOFFETT BLVD	11/20/2008	Distribution	N/A	80 psi	375 psi (unsure of exact value - this is worst case)	While performing lock-up on non-standard district regulator station, MAOP on 70' of piping between regulators was exceeded.	Lowered upstream regulator set-point to 64 psig.	Sensing lines have been installed to allow station to function as a single station. A capital project to reconstruct the regulator station is scheduled for construction in 4th quarter of 2010.
Sonoma DFM 1305-01	12/2/2008	Transmission	N/A	150 psi	200 psi	MAOP valve not completely closed after completing valve maintenance.	Closed MAOP valve. Downstream pipeline system was leak surveyed.	Conducted a tailboard to ensure proper operation of all valves. Reinforced need to review pressure charts with local supervision.
L-148 downstream of McMullen Ranch Station	12/15/2008	Transmission	N/A	408 psi	650 psi	Regulator and monitor failure due to slug of liquid causing the filter to collapse allowing the liquids into the regulator, monitor and ultimately plugging the pilot.	Shut in line, replaced pilot and regulator filters. Checked downstream regulator station filters for liquids (no liquids were found). Downstream pipeline system was leak surveyed.	Re-tube pilot regulator to minimize chances that liquids can reach the pilot regulator. Change the micron size of the filter to prevent collapse.
Milpitas DFM-0805-01	12/15/2008	Transmission	N/A	200 psi	275 psi	Large amounts of liquids were found in the pilot filters and regulator station filter preventing the regulators from controlling the downstream pressure. Oil was getting past the filter separators.	Closed remote operated valve 50 to isolate, but the valve didn't seat; a crew went to the station and closed valve, removed oil and replaced filters. Downstream pipeline system was leak surveyed.	Replace the Milpitas Terminal filter separators.
3rd & O Street, Sacramento	12/17/2008	Distribution	N/A	10.5" wc	14.5"wc	While installing a new fire valve for a district regulator station, a temporary 2" by-pass feeding a LP Regulator Station was inadvertently closed shutting off gas flow to the regulator station. The sudden increase in pressure when the valve reopened activated the station's regulator overpressure safety device and shut off gas flow downstream into the low pressure system.	Gas T&R found that the Fisher EZR Slam shut's over pressure trip activated, which limited downstream pressure to 14.5" wc. Integrity of downstream distribution system was assessed.	Reviewed valve operations and clearance procedure with crew.
MODESTO - DR L15 MELROSE & SCENIC DR	1/9/2009	Distribution	N/A	10.5" wc	13" wc	The set points at 3 regulator stations were adjusted from 9 in wc to 10 in wc for winter loading. The system exceeded the MAOP, the highest pressure was 13 in wc. Neither the slam-shut operated nor the system relief valves operated because they are set to operate at higher pressures. SCADA did not alarm.	T&R reset the pressure, water was cleared from the vent line.	Pressures were monitored daily for 1 week, SCADA was rebooted & checked daily, SCADA phone line needed repair/replacement, A&B inspections were performed on all 3 stations.
Ridgecrest DFM-6603-01	3/10/2009	Transmission	N/A	400 psi	430 psi	1998 uprate on DFM-6603-01 used distribution uprate process, which did not qualify the pipeline for 430 psig	uprate procedure was used, pressure in DFM 6603-01 was lowered to 400 psig and leak survey was performed.	All source documents for DFM 6603-01 were reviewed and GIS was updated. MAOP of DFM was left at 400 psig.
Santa Cruz Distribution line at Hwy 17	3/16/2009	Distribution	N/A	30 psi	42 psi	Operator opened an MAOP valve without authorization.	Closed valve. Downstream pipeline system was leak surveyed.	Disciplined employee and conducted tailboard with central coast employees regarding valve operations and the clearance process.
Sonoma DFM 1305-01	6/9/2009	Transmission	N/A	150 psi	187 psi	MAOP valve seat damaged and would not completely close.	Closed valve (so it completely sealed). Downstream pipeline system was leak surveyed.	Replaced Valve.

Over Pressuring Events - 2008 to September 2010								
Location	***Date***	***Type***	***Reported to CPUC and DOT?***	***MAOP***	***Pressure Reached***	***Cause***	***Immediate Corrective Action***	***Long Term Corrective Action***
Watsonville DFM-1816	6/12/2009	Transmission	N/A	303	338	Bypass valve was opened incorrectly during a "B" district regulator station maintenance.	Closed valve. Downstream pipeline system was leak surveyed.	Mechanic's OQ was pulled and station equipment has been permanently tagged. Uprating lessons were incorporated into MAOP/Uprate Standard re-write (completed March, 2010).
DFM-7228-16 Yosemite Division	7/23/2009	Distribution	N/A	60 psi	175 psi	Service was connected directly to DFM.	Shut in line.	The meter set was rebuilt, a new service line was installed connected to an adjacent High Pressure Regulation (HPR) sets. Field verify nearby HPRs (see "3827 SantaFe" event below").
L-123 Roseville / Walerga	8/24/2009	Transmission	N/A	175 psi	230 psi	Valve being used for an isolation valve in an active clearance was operated by crew working on SCADA system, over pressurizing two DFM systems (0618-05, 0618-02 and DREG4093).	Shut in line. Downstream pipeline system was leak surveyed.	Enhanced clearance procedures.
3827 SantaFe	9/25/2009	Distribution	N/A	60	175	During a patrol of the 4" DFM that runs from Riverbank to Oakdale, personnel discovered 2 customer meter sets (service and branch) had transmission pressure (175 psig) feeding into the house regulators. The patrol was being performed to complete the action plan associated with Event Report #1481 (see "DFM 7228-1 Yosemite Division" event above) - to verify services in the area have adequate regulation.	The 2 services found were immediately shut-off and the meters removed. A new HPR was installed, along with a new branch service and both customers' service restored.	Expand the initial Patrol to entire DFM. Perform pressure verification at all services (approx. 205). Address any issues found related to pressure irregularities.
San Jose DFM-0807-01	11/13/2009	Transmission	N/A	200 psi	222 psi	The primary regulator run lost pressure control due to the introduction of pipeline liquids. Secondary regulation took over pressure control.	Shut in line, cleared liquids from regulators and filters. Downstream pipeline system was leak surveyed.	Installation of coalescing filter separators to remove liquids and mists from the liquids. (installation of filter separator was in progress at time of over pressure event. Filter separator was placed into operation on 11/30/2009).
Chico Regulator Station - DR C L09 4TH AND Salem St.	9/8/2010	Low Pressure	N/A	10.5 in WC	11 in WC	Rain storm filled regulator pit, allowing water to build up on the atmospheric side of the diaphragm on the Fisher regulator. The pilot vents are elevated to just under the pit lids, and the vaults are at sidewalk elevation. It appears that the water was up over the sidewalk level.	Removed water from diaphragm.	Run the vents up into the vault air ducts.

Pacific Gas and Electric Company®

Edward Chun
Supervising Engineer,
Gas Engineering
Gas Transmission and
Distribution

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San Francisco, CA 94105

415-972-5053
Internal: 222-5053
Fax: 415-973-0750
Internet: SYC1@pge.com

August 21, 2009

Mr. Sunil Shori
Utilities Safety and Reliability Branch
Consumer Protection and Safety Division
California Public Utilities Commission
505 Van Ness Ave.,
San Francisco, CA 94102-3298

Re: California Public Utilities Commission
Final Report of Safety-Related Condition Final Report
StanPac-3, Appian Way, Pinole, California – October 17, 2008

Dear Mr. Shori:

This letter is to inform you that the following corrective actions (noted in PG&E's February 3, 2009 letter, Attachment A) needed to close out the Safety-Related Condition for StanPac-3 Line DREG5645, MP 0.05 to 0.27, Appian Way, Pinole, California have been completed.

- Replaced 30 feet of existing 4-inch pipe at El Sobrante Regulator Station with new 4-inch API 5L Gr. B SMLS pipe (Attachment B):
- Installed new ANSI 300 valves, regulators and filters with a pressure rating of 720 psig at El Sobrante Regulator Station (Attachment C).
- Uprated 1161 feet of 4-inch pipeline from Sara Drive Station to El Sobrante Station to a new MAOP of 380 psig (Attachment D).

Sincerely,

/S/

Edward Chun
Supervising Engineer, Gas Engineering

Attachments:

Attachment A - PG&E February 3, 2009 Letter
Attachment B - Strength Test Pressure Report
Attachment C - District Regulator Station Data Sheet
Attachment D – Uprate Procedure

Pacific Gas and Electric Company®

Glen Carter
Senior Director, Gas Engineering
Gas Transmission and Distribution

375 N. Wiget Lane, Suite 170
Walnut Creek, CA 94598

February 3, 2009

Mr. Sunil Shori
Utilities Safety and Reliability Branch
Consumer Protection and Safety Division
California Public Utilities Commission
505 Van Ness Ave.
San Francisco, CA 94102-3298

Re: California Public Utilities Commission
StanPac-3 Safety Related Condition Report Data Request
December 2, 2008

Dear Mr. Shori:

This is an interim update to our original Notice of Safety Related Condition submitted on October 15, 2008 and the follow-up communication to you on December 10, 2008 (Attachment # 1).

In the December 10, 2008 response, PG&E committed to remove a section of the 4 inch pipe on Appian Way for further examination and have the results of the examination by the end of January. The examination was completed on January 8, 2009 and the test results received (Attachment # 2) are as follows:

As reflected in the laboratory certificate:

- The pipe wall was significantly thicker than listed in our database. Instead of 0.141 inches thick, the pipe tested was actually 0.213 inches.
- The tested specimen had a much higher yield stress than listed in our GIS file. GIS lists 24,000 psi yield stress while the laboratory results for this specimen were 40,900 psi.
- While this does provide extra confidence in the strength of the pipe, a single test is not enough to warrant changing our database.

However, based on the new yield stress data provided, PG&E will perform a new pressure test on the 4" line from Sarah Drive to El Sobrante Stations. This pressure test will establish a new MAOP of 380 psig. PG&E will install two new valves at the El Sobrante Regulator Station to support the new MAOP requirements.

Attachment A

Based on this decision, additional engineering work for this project will be completed by early February and new components installed and the pipe tested by April 30, 2009.

If you have any further questions please contact Larry Deniston at (925) 974-4313.

Sincerely,

/S/

Glen Carter
Sr. Director, Gas Engineering

cc: Larry Deniston, PG&E
John Clarke, PG&E

Attachment B

62-4921 (Rev. 2/04)
California Gas Transmission
(Use in Accordance with Gas Standard A-34 and GO 112-E)

Pacific Gas and Electric Company
Gas Pipeline Facilities Strength Test Pressure Report
(For Pipeline Facilities Designed to Operate over 100 PSIG)

Sheet 6 of 6

PART I - DESIGN DATA (TO BE PREPARED BY PROJECT ENGINEER)

Feeder Main Number, Line Number, or Station Name	Area	Division/District	Job Number	Date Job Authorized
DREG5645	2	Richmond	30684030	

Description of Job -- Include Reference Drawing Numbers, and Pipeline Mileposts
STRENGTH TEST PIPING BETWEEN SARAH DRIVE METER STATION AND EL SOBRANTE REG STATION FROM MP 0.05 – 0.27
INSTALL NEW PIPING AT SARAH DRIVE METER STATION AND EL SOBRANTE REG STATION

Location Class	Design Factor (F)	MAOP to be Established for this Piping by this Test	Future Design Pressure
3	0.5	380 PSIG	380 PSIG

STATIC HEAD DUE TO ELEVATION DIFFERENCE (WHERE APPLICABLE)

Max. Elevation	290 Ft.	Static Head Calculation	
Min. Elevation	210 Ft.	For Water	0.433 X Elev. Diff. = PSIG
Elev. Diff.	80 Ft.	Other (Specify) - NITROGEN	0.021 X Elev. Diff. = 1.68 PSIG

Pipe Specification: Size O.D.	Size W.T.	API or ASTM Grade Long Seam (ERW, DSAW, Seamless, Etc.)	Footage to Be Tested	Pipe Spec. and Footage Verified In Field	% of SMYS: At MAOP	At Min. Test Press.	At Max. Test Press.	Pressure to Give 90% SMYS
4.500"	0.195"	UNKNOWN – ASSUME 24,000 PSI SMYS, LAP WELD SEAM	1161	1161	30.45	45.67	48.88	1124
4.500	0.237	API 5L GR. B SMLS	30	30	10.31	15.46	16.55	3318

Minimum Test Pressure @ Max. Elevation	570 PSIG	Test Fluid To Be Used NITROGEN	MINIMUM TEST DURATION - UNDER 30% SMYS (1 HR. MINIMUM) - 30% SMYS & OVER (8 HRS. MINIMUM) - PREINSTALLATION TEST (SEE ATTACHMENT 'A', GAS STD. A-34)	8 HOURS
Maximum Test Pressure @ Min. Elevation	610 PSIG			

Prepared By:	Date:	For Information or Changes, Call:	Api	Date:
CATHY CHANCE	6/23/09	583-4152	✓	6/24/09

PART II - TEST DATA (TO BE PREPARED BY PERSON SUPERVISING TEST AT TIME OF TEST)

Note: Minimum test pressure and duration are not to be changed without written approval.

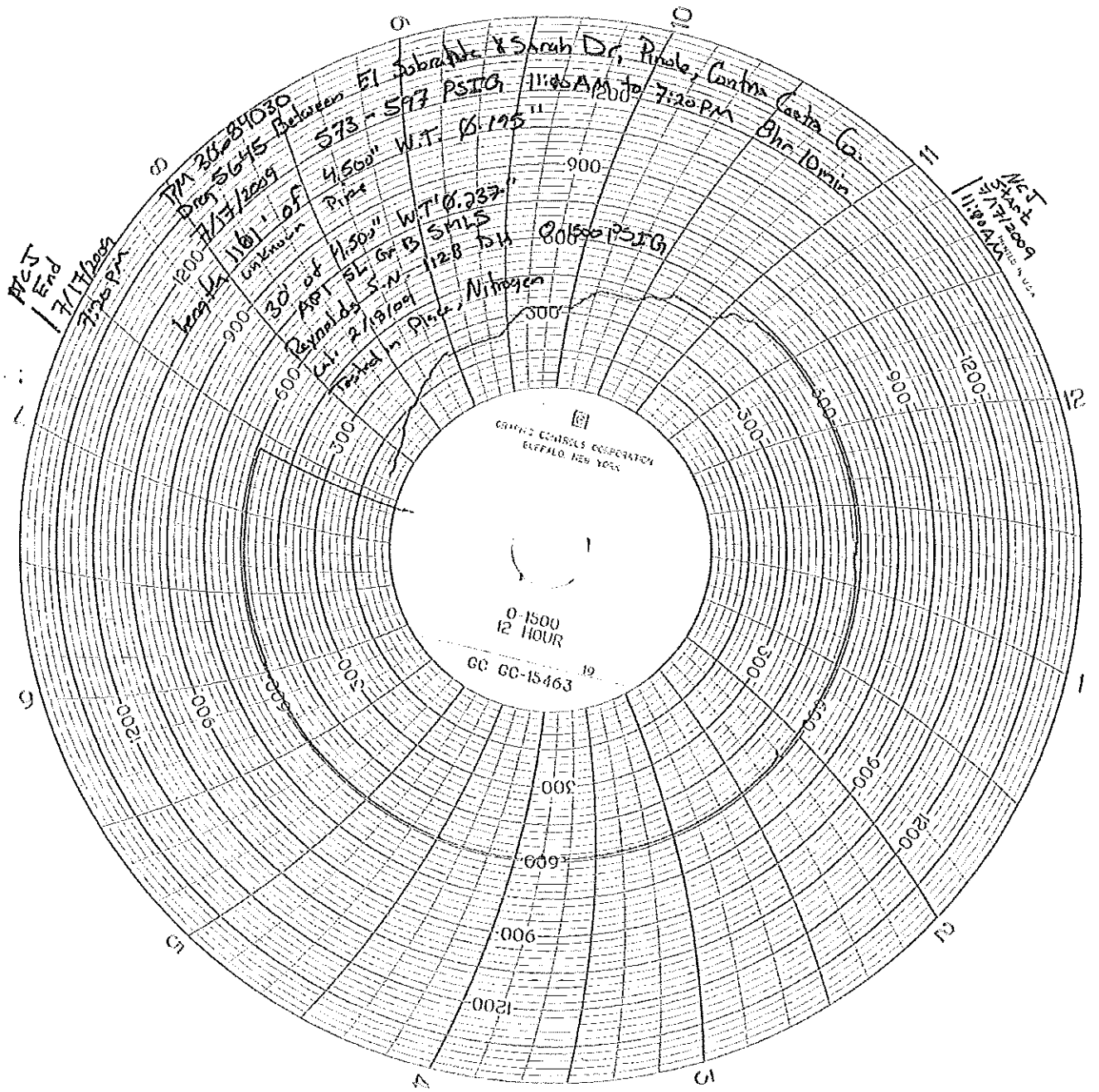
Time and Date Test Pressure Reached	11:10AM 7/17/2009	Elevation at Test Point	FT	Min. Required Test Press. At Test Point (1)	570 PSIG	Max. Allowable Test Press at Test Point (4)	610 PSIG
Time and Date Test Ended	7:20 PM 7/17/2009	Max. Elevation in Test Section	FT	Min. Indicated Test Pressure (2)	575 PSIG	Max. Indicated Test Pressure (5)	595 PSIG
Actual Duration of Test	8 hr 10 min	Min. Elevation in Test Section	FT	Min. Test Pressure at Max. Elevation (3)	573 PSIG	Max. Test Pressure at Min. Elevation (6)	597 PSIG

Test Fluid Used	Pipe Specification and Footage Verified (See Part I)		
Nitrogen			
Make, Range, and Serial No. of Pressure Recording Gauge	Date Last Calibrated	Make, Range, and Serial No. of Dead Weight Tester (See Note 7)	Date Last Calibrated
Reynolds, 0-1500 PSIG, 1128 DH	2/18/2009		N/A
Test Supervised By:	Date: 7/30/2009	Approved By:	Date: 8/18/09

PUT SCHEMATIC PIPING SKETCH ON BACKAT THIS SHEET
SHOW LOCATION OF FACILITY TESTED, MINIMUM AND MAXIMUM ELEVATION IN FEET, MILE POINTS, VALVE NUMBERS AND INCORPORATED AREAS. USE AN ADDITIONAL SHEET IF NECESSARY (SHOW REFERENCE NUMBERS ON FACE OF ALL DRAWINGS AND ATTACHMENTS). FOR STATION PIPING, FABRICATED UNITS AND SHORT SECTIONS OF PIPE, ALSO SHOW A DETAILED SKETCH OF EACH ASSEMBLY TESTED.

NOTES:
(1) Add the static head due to elevation difference (between test point and maximum elevation) to "minimum test pressure at maximum elevation" from PART I.
(2) Use lowest pressure on test gauge at any time during test.
(3) Subtract static head due to elevation difference (between test point and maximum elevation) from minimum indicated test pressure.
(4) Subtract static head due to elevation difference (between test point and minimum elevation) from "maximum test pressure at minimum elevation" from PART I.
(5) Highest pressure on test gauge at any time during test.
(6) Add static head due to elevation difference (between test point and minimum elevation) to maximum indicated test pressure.
(7) A dead weight tester is only required when testing to a pressure which produces a stress level of 90% of SMYS or greater. However, if a dead weight tester is used on any test, enter the information in the space provided above.

DISTRIBUTION
JOB FILE (AT SPONSORING ORGANIZATION)
GSM&TS RESPONSIBLE DISTRICT SUPERINTENDENT
PROJECT MANAGER/PROJECT ENGINEER
TECHNICAL & CONSTRUCTION SERVICES - ASSIGNED JOBS ONLY
CAPITAL ACCOUNTING (FOREMAN'S COPY OF JOB)
RECORDS SECTION (WC), GMS&TS
REPORT FAILURES UNDER TEST TO GAS ENGINEERING & PLANNING


TM 28-84030
Dwg 5645 Between El Cobrable & Sarah Dr, Pinole, Contra Costa Co.
573 - 597 PSIG 11:00 AM to 7:20 PM 8hr 10min
4,500" W.T. 0.195"
30' of 4,500" W.T. 0.237"
API 5L Gr B SMLS
Reynolds S.W. 12.8 lb
Tested in Place, Nitrogen
MCJ End 7/17/2009 7:25 PM
MCJ Start 7/17/2009 11:00 AM
7/13/2009
1161' of
Pipe
0-1500
12 HOUR
GC GC-15463

STRENGTH TEST INFORMATION

1. JOB
2. LOCATION
3. DATE
4. TIME
5. LENGTH
6. PIPE SPEC.
7. RECORDING GAUGE
8. RANGE
9. DEAD WGT.
10. RANGE
11. TEST FLUID
12. SUPERVISED
13. APPROVED

DATE
DATE

STRENGTH TEST INFORMATION

1. JOB 30684030
2. LOCATION Sarah Dr., Pinole, Contra Costa County to ET Sobrante Reg Station
3. DATE 7/17/2009 PRESSURE 573-597 PSIG
4. TIME 11:00AM to 7:20 PM DURATION 8 hr 10 min
5. LENGTH 1161 SIZE 4.500" W.T. Ø.195"
6. PIPE SPEC. Unknown Assumed 24,000PSI Lap Weld Seam
7. RECORDING GAUGE Reynolds SER. 1128 DH
8. RANGE 0-1500 PSIG LAST CALIBRATED 2/18/2009
9. DEAD WGT. N/A SER. N/A
10. RANGE N/A LAST CALIBRATED N/A
11. TEST FLUID Nitrogen
12. SUPERVISED [signature] DATE 7/30/2009
13. APPROVED [signature] DATE 8/18/09
15. Length 30' Size 4.500" W.T. Ø.237"
16. Pipe Spec API 5L GrB SMLS

Attachment C

Pacific Gas and Electric Company
District Regulator Station Maintenance Record

626321 (01/01)
Gas Distribution

Date	Comments
5/1/07	Class A insp repaired leak on
MVJLCD	Left side monitor; ALL Equip in good
	working order.
5/14/08	A Repair, Pumped stations
5/16/08	"A" insp: Installed short arms on reg
KCJLCDFH	and Mon. Right side in lead. Pumped Pits
12/4/08	Clearance to make repairs on D.F.M. Pumped 4 Pits
	Removed monitor from left side to draft main.
	Returned all equipment back to normal
	All equipment working properly. Performed class
	A Inspection (Clearance EB-0308)
7-13-09	operated valve B-66 and Left in closed
FH, CD, KC	Position as per clearance EB-07-09, De water
	vaults in preparation to complete Rebuild.
7-18-09	Returned all Equip to normal operation
DR, HA	after complete Rebuild with Mooney Reg
KC, FH	Rebuild by Cornett Construction (Neil Jewett)

Pacific Gas and Electric Company

626321 (01/01)
Gas Distribution

District Regulator Station Maintenance Record

Gas FM Station No. J-03 Division EAST BAY Wall Map, Plat, Block B1-42

Location Appian & all vieur Stage 1

Associated FM No(s).

Run:	Right	Left					
Left, Middle, Right, Top, or Bottom (Looking Downstream)							
Employee Initial:	DB HB, KL FM						
Date:	7-18-09	7-18-09					

UO Standard S6351 Paragraph	Task Description	Result						
A1A	Fire Valve Accessible and Operated	y,n	Y	Y				
A1B,C	Vault Cover and Surroundings	g,p	G	G				
A1D	Gas Leak Test	(% LEL)	0%	0%				
A1F	Vault Inspection	g,p	G	G				
A1E	Ventilating System & Relief Stacks	g,p	G	G				
A1H	Locking Devices Present And Operational	y,n	Y	Y				
A2G	Station Valves Checked	y,n	Y	Y				
A1G	Piping Condition	g,p	G	G				

	As Found and As Left Settings		AF	AL	AF	AL	AF	AL	AF	AL	AF	AL	AF	AL
A2B	Filter Differential	PSI W.C.	0"		0"									
A2C	Regulator Pressure Setting	PSI W.C.	X	45	X	47								
	Secondary Pilot Setting (Regulator)*	PSI, W.C.	X	X	X	X								
A2E	Regulator Lockup	y,n	Y		Y									
	OPP Upstream or Downstream	U,D	U	U	U	U								
A2D	Monitor Control Pressure	PSI W.C.	X	52	X	52								
A2E	Monitor Lockup	y,n	Y		Y									
A2C	Working Monitor Pilot Pressure	PSI, W.C.	X	X	X	X								
A2D	Secondary Pilot Setting (Monitor)*	PSI, W.C.	X	X	X	X								
A2D2	Relief Cracking Pressure	PSI, W.C.	X	X	X	X								
A2D3	Automatic Shutoff Overpressure Setting	PSI, W.C.	X	X	X	X								
	Automatic Shutoff Underpressure Setting	PSI, W.C.	X	X	X	X								
A2F	Inspect and Clear Vent Lines	y,n	Y		Y									
A3B,C	Pressure Recorder- 2pt	2	2		2									
(OVER)	Was Any Corrective Maintenance Done?	y,n	Y		Y									
A2H	Return All Equipment, Valves and Locks to Normal Operation and Position	y,n	Y		Y									

A2B2	Station Filter - Internal	y,n	N		N									
B4A,B,C,D	Regulator	y,n	Y		Y									
B4A,B,C,D	Overpressure Protection Device	y,n	Y		Y									
B3B	Pressure Test Vent & Diaphragm (L.P.)	y,n	X	X	X	X								
B2A,B,C ,D,E	Regulator Pilot Control Loop (s)	y,n	Y		Y									
	OPP Pilot Control Loop (s)	y,n	Y		Y									
	Working Monitor Pilot	y,n	X	X	X	X								

MAOP, Station Drawings and Data Sheet Been Updated		y,n	Y		Y									

Enter yes, no; good, poor; pressure or % LEL; control loop includes filter, variable restrictor, and tubing; (line out all non-applicable boxes).
On back of this form show any corrective work done, other than inspection and testing:

1. Pressure setting changes and reason
2. Parts replacement and reason
3. Component replacement ("District Regulator Data Sheet" must be updated)
4. Leak repairs or equipment repair
5. Miscellaneous work such as pumping pits, touch-up painting, filter blowdown or cleanout, etc.
6. Valve flushed and/or greased

* Secondary Pilots used for special applications.

Pacific Gas and Electric Company

626271 (01/01)
Gas Distribution
Page 1 of 2

District Regulator Data Sheet

Division East Bay Gas FM No. R-J03 Associated FM No.(s)

Location Appian way @ N/O Allview Wall Map , Plat, Block 42B1

Job No. References TOH 488461 Stage

Installation Date Date of Last Major Alteration

Inlet Pressure: MAOP 380 PSIG Norm 370 PSIG Outlet Press: MAOP 50 PSIG Norm 47 PSIG Load Mcf/Hr.: Max Min.

Run- Left, Middle, Right, Top, or Bottom (Looking Downstream) :

		UPSTREAM DEVICES	DOWNSTREAM DEVICES	RELIEF VALVE	AUTOMATIC SHUTOFF
Manufacturer		MOONEY	MOONEY		
Serial Number		104758	104759		
Model		Flowgrid 4PO	Flowgrid 4"		
Size / Flange Type					
Inlet Pressure Rating		740 psig	740psig		
Outlet Pressure Rating					
Head (Diaphragm) Size					
Orifice Size or Core Capacity		100%	100%		
Valve Seat or Boot Material					
Main Spring Range					
Pilot	Manufacturer	MOONEY	MOONEY		
	Model	Sqd20	Sec 20		
	Spring Range	25-90PSIG	25-90psig		
	Orifice Size	.150	.150		
	Filter Type	30	30		
	Restrictor Type				
Other Equipment					

Line Filter

Size	GWP	Make	Model	Filter Element, Type
4"	740 PSIG	Filter Fab	F4-740F-04036	2022K5

Pressure Recording Device

Manufacturer	Serial No.	Model	Range(s)	Chart No. and Rotation

Station Valves

	Valve No	Size	Type	Manufacturer	Figure No.	Connection Type & Fig Rating	Max. Working Press.
Valve Inlet	V-1	4"	Gate	Kentest	1F7	F16D / ANSI 300	720 PSIG
Valve Outlet	V-2	4"	Ball	PBV	C6730750036 GVH	ANSI 300	740 PSIG
Valve							
Valve							
Valve							
Valve							
Outlet Fire Valve							
Inlet Fire Valve	Use Valve Maintenance Record Form FF11						

Enclosure

Above Ground ( ) Vault (X) Dimensions 4' x 6' x 6' Cu. Ft. 144' Type Construction Concrete Type Closure Steel Hatch

Pacific Gas and Electric Company

626271 (01/01)
Gas Distribution
Page 1 of 2

District Regulator Data Sheet

Division East Bay Gas FM No. R-J03 Associated FM No.(s)

Location Appian Way N/O Alliveur Wall Map, Plat, Block 42B1

Job No. References 6M 488461 Stage

Installation Date Date of Last Major Alteration

Inlet Pressure: MAOP 380 PSIG Norm 370 PSIG Outlet Press: MAOP 50 PSIG Norm 47 PSIG Load Mcf/Hr.: Max. Min.

Run - Left, Middle, Right, Top, or Bottom (Looking Downstream):

		UPSTREAM DEVICES	DOWNSTREAM DEVICES	RELIEF VALVE	AUTOMATIC SHUTOFF
Manufacturer		Hoovey	Hoovey		
Serial Number		104764	104762		
Model		Flowgrid	Flowgrid		
Size / Flange Type		4"	4"		
Inlet Pressure Rating		740 PSIG	740 PSIG		
Outlet Pressure Rating					
Head (Diaphragm) Size					
Orifice Size or Core Capacity		100%	100%		
Valve Seat or Boot Material					
Main Spring Range					
Pilot	Manufacturer	Hoovey	Hoovey		
	Model	20	20		
	Spring Range	25-90PSIG	25-90PSIG		
	Orifice Size	.150	.150		
	Filter Type	30	30		
	Restrictor Type	24	24		
Other Equipment					

Line Filter

Size	GWP	Make	Model	Filter Element, Type
4"	740 PSIG	Filter Bah	F4740F04038	2022K5

Pressure Recording Device

Manufacturer	Serial No.	Model	Range(s)	Chart No. and Rotation

Station Valves

	Valve No.	Size	Type	Manufacturer	Figure No.	Connection Type & Flg Rating	Max. Working Press.
Valve	V-3	4"	Gate	Kennedy	1F7	F160/ANSI 300	740 WOG
Valve	V-4	4"	Ball	PBV	6673075 2036	ANSI 300	740 WOG
Valve							
Valve							
Valve							
Valve							
Outlet Fire Valve							
Inlet Fire Valve	Use Valve Maintenance Record Form FF11						

Enclosure

Above Ground ( ) Vault (X) Dimensions 4' x 6' x 6' Cu. Ft. 144' Type Construction Concrete Type Closure Steel Hngd

144

Attachment D

DREG5645 UPRATE PROCEDURE

ACTION	DATE / TIME	VERIFY: NAME & SIGNATURE	COMMENTS
Close V-1 and V-2 at Sarah Drive Meter Station.	7/26/09 / 0700	KEVIN CENTER	
Slowly increase outlet pressure of Franklin Canyon Station to SP-3 to 380 psig. Monitor pressure at San Pablo Station and Sarah Drive Meter Station.	7/26/09 / 0945	KEVIN CENTER	
Slowly open V-1 at Sarah Drive Meter Station. Close V-1 when pressure in DREG5645 is 283 psig. Monitor outlet pressure of El Sobrante Reg Station into the distribution system and adjust regs so it does not climb past 47 psig.	0905 / 7/31/09	KEVIN CENTER	
Perform leak survey on DREG5645 from Sarah Drive Meter Station to El Sobrante Reg Station.	0918 / 7/31/09	"	
Slowly open V-1 at Sarah Drive Meter Station. Close V-1 when pressure in DREG5645 is 315 psig. Monitor outlet pressure of El Sobrante Reg Station into the distribution system and adjust regs so it does not climb past 47 psig.	0918 7/31/09	"	
Perform leak survey on DREG5645 from Sarah Drive Meter Station to El Sobrante Reg Station.	0931 7/31/09	"	
Slowly open V-1 at Sarah Drive Meter Station. Close V-1 when pressure in DREG5645 is 348 psig. Monitor outlet pressure of El Sobrante Reg Station into the distribution system and adjust regs so it does not climb past 47 psig.	0932 7/31/09	"	
Perform leak survey on DREG5645 from Sarah Drive Meter Station to El Sobrante Reg Station.	0945 7/31/09	"	
Slowly open V-1 and V-2 fully at Sarah Drive Meter Station. Monitor outlet pressure of El Sobrante Reg Station into the distribution system and adjust regs so it does not climb past 47 psig.	0952 7/31/09	"	
Perform leak survey on DREG5645 from Sarah Drive Meter Station to El Sobrante Reg Station.	1009 7/31/09	"	
Between one and two weeks later, perform leak survey on DREG5645 from Sarah Drive Meter Station to El Sobrante Reg Station.	0900 8/14/09		

JOB NO. 30684030
STARTED 7/18/2009 7/13/2009
OPERATION 7/31/2009
COMPLETED 7/18/2009
FOREMAN Scott Macias
Nicholas C. Jordan

PSRS* 20343

DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY
7/13/09	ISSUE TO CONSTRUCTION	30684030	CMC			NPJ 6/23

REVISIONS

APPROVED BY NPJ

PM	30684030
SUPV	LXN
DSGN	CMC
DWN	CMC
CHKD	MAN
OK	
DATE	1/13/09
SCALES	NONE

REPLACE REGS - EL SOBRANTE STATION
REMOVE METERS FROM SARAH DR MTR STATION
RE-TEST PIPE FROM SARAH TO EL SOBRANTE
RICHMOND DISTRICT
PINOLE - CONTRA COSTA CO.
PACIFIC GAS AND ELECTRIC COMPANY
WALNUT CREEK , CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER — PETER JENEL — MECHANICAL — STATE OF CALIFORNIA
6/23/09

MICROFILM
BILL OF MATL
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. 3 OF 4 SHEETS
30684030

PIPE TO BE STRENGTH TESTED
DREG 5645

Gas Event or Close Call/Near Miss Report(ID=907)

Incident Date : 20 Nov 2008 16:00:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 20 Nov 2008 16:00:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected

Operating Area: Area3	**Division/District:** De Anza	**Department Responsible for Event:** - **Department Responsible for Event(If more than one):** -

Criteria

- ☐ **Cpuc Reportable**
- ☐ **Death or Injury Flag**
- ☐ **>50k Damage**
- ☐ **Media Coverage**
- ☐ **Service Interruption**
- ☐ **Planned Outage**
- ☐ **Insufficient Design**
- ☐ **Operator Work Procedure**
- ☐ **Equipment Material Failure**
- ☐ **Natural Disaster**
- ☐ **Transmission Leak**
- ☐ **DOT Safety Related Condition**
- ☑ **Near Hit**

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: MOUNTAIN VIEW - DR B20 BAYSHORE E/ MOFFETT BLVD

Pressure: - **Material:** -	**MAOP:** **NOP:** **MOP:**

Briefly Describe What Happened:
Distribution regulator station intermediate piping overpressure. The Moffett Field Housing distribution system was added to an existing single customer service fed by a regulator station which has an unusual and possibly inadequate design. The regulator station, which has been maintained as a district station both before and after the addition of the Moffett housing, was undergoing maintenance at the time of the incident. During maintenance the intermediate piping between the two pressure reducing regulators, installed in series, may have been overpressured. Further records analysis is necessary.

Details of What Happened:
The intermediate pipping may have been overpressured during maintenance for a few seconds.

Root Cause Category:

Operations - Design error

If work procedure, worker classification involved:	**If work procedure, action involved:**
-	-

Detailed Description of Root Cause (Why):
In 2006, a residential development of 316 units was built and fed off of an existing meter set that originally fed the Navy Wind Tunnel. The meter set should have been converted to a district regulator station but never was. It is unclear if there was a Gas Planning Review or if the need for the conversion was missed during that review. Although, the meter set was never converted to district regulator, T&R maintained it as such (B-Inspection done in Nov. 2008). The station is currently set a series regulator; the first stage cuts the pressure from 375 psig to 80 psig, and the second to 50 psig. There is no overpressure protection in either stage. The MAOP of a section of the intermediate pipping is also unclear. The as-builts do not provide MAOP documentation for this pipping. Furthermore, the existing operating diagram caused confusion during maintenance and the intermediate pipping may have been overpressured (unclear since there is no MAOP Documentation), as the employees noticed the pressure exceed 80 psig. The employees quickly restored the system to the operating pressure. Action Plan: T&R immediately changed station settings to 53 and 47 psig respectively in order to protect the system from overpressure. Gas Engineer in SJ created operating diagram to reflect actual facilities and equipment of the station. Gas Engineer in DA requested funds to add sensing lines and overpressure protection for meter set and convert to a district regulator station. As of 12/31/09, sensing lines have been installed, but are not hard-tubed. Gas Engineers in DA and SJ to meet 1/12/10 to address MAOP of a section of intermediate pipping. Likely recommendation is to pressure test intermediate pipping and document for MAOP records while feeding development with CNG/LNG. Gas Engineer in DA meet with Estimating and Service Planning Supervisors to discuss the importance of Gas Planning Reviews prior to the root cause investigation. Gas Engineer to meet with both supervisors whom could not attend the root cause investigation to review findings.

Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date: 12/11/2010	**Event Review Lead:** rmcv

Action Plan (who does what/when to preclude similar event):
Action Plan: T&R immediately changed station settings to 53 and 47 psig respectively in order to protect the system from overpressure. Gas Engineer in SJ created operating diagram to reflect actual facilities and equipment of the station. Gas Engineer in DA requested funds to add sensing lines and overpressure protection for meter set and convert to a district regulator station. As of 12/31/09, sensing lines have been installed, but are not hard-tubed. Gas Engineers in DA and SJ to meet 1/12/10 to address MAOP of a section of intermediate pipping. Likely recommendation is to pressure test intermediate pipping and document for MAOP records while feeding development with CNG/LNG. Gas Engineer in DA meet with Estimating and Service Planning Supervisors to discuss the importance of Gas Planning Reviews prior to the root cause investigation. Gas Engineer to meet with both supervisors whom could not attend the root cause investigation to review findings.

Action Plan Status: -	**Estimated/Actual Completion Date:**

Who Should follow up on Action Item(s)?: Other - see comments above

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:
-

Prepared By/Lan ID: XXXX
Last Updated By/LAN ID: KLBp

Help

SONOMA DFM (1305-01) OVERPRESSURE – 12/2/2008

BACKGROUND:

DFM 1305-01 begins (MP 0.00) at the Schellville Regulator Station, South of the City of Sonoma, and runs North along Broadway (Highway 12), then West along MacArthur Street to MLV 3.79 (closed – MAOP separation valve) near the intersection of 5th Street West and MacArthur Street. This section of pipeline is all 6" diameter and operates at 150 psig (7.89 % SMYS). In 2005, the section of this DFM beyond MLV-3.79 was uprated to 200 psig, and MLV-3.79 (and V-2 at the same location) was then closed and became the MAOP separation point.

This fall, work was being done in Santa Rosa (Monroe Station) that required that the 200 psig portion of the DFM to be operated at 150 psig while that work was being done. During the time that the pressure was reduced from 200 psig to 150 psig, MLV-3.79 was operated several times to facilitate work being done at a nearby regulator station (5th Street West & MacArthur Regulator Station). Apparently, MLV-3.79 was not fully closed the last time it was operated. There was not a step in the clearance procedure to confirm that MLV-3.79 and V-2 were returned to the fully closed position. Nor was there a step in the clearance procedure to verify that pressure from the 200 psig system was not leaking into the 150 psig system after the pressure was increased to 200 psig. Looking back, both of these steps would be advisable in a clearance procedure like this one. The pressure was retuned to 200 psig on 10/29/08.

Pressure recording charts that are collected monthly (on the 1st of the month) are located at Schellville Regulator Station and at a distribution regulator station located at MLV-3.79. Though those pressure recording charts show pressures well above 150 psig (as high as 190 psig, corresponding to 9.99% SMY), this situation was not noticed.

The 150 psig portion of DFM 1305-01 and the Schellville Regulator Station (Operating Diagram 081514) is covered on Operating Map 3803553, Sheet 1.

SITUATION:

On 12/2/08, as part of work being performed on an HPR by a division construction crew, within the 150 psig section of DFM 1305-01, the crew installed a gauge to verify pressure and noticed that it was well above 150 psig. That crew notified Division Gas T&R, who dispatched a crew to investigate. When the Gas T&R crew checked MLV-3.79 (Kerotest EV-11, multi-turn, gate valve), they discovered that it was not completely closed. When the Gas T&R crew closed MLV-3.79 (also on 12/2/08), the pressure immediately began to return to below 150 psig. Not further action was required to correct the situation.

ACTIONS TAKEN:

No one was injured as a result of this incident and no facilities were damaged. The incident does not meet the CPUC incident reportable criteria nor is it a reportable Safety Related Condition per DCS/GTS Standard 4413. This safety-related condition does NOT need to be reported because the condition was eliminated prior to the 5-working day deadline from the day of discovery. I should have also requested that an incident critique and an Event Report entry be made for this safety-related condition.

On 12/3/08, the Gas Transmission Pipeline Engineer and the Gas T&R Supervisor completed a tailboard (roster attached) with the Gas T&R personnel (one was missing – covered when he returned on 12/4/08), regarding the different types and configurations on valves that could be encountered in the field, how each of them operate, and unique operating characteristics of some types of valves, so that Gas T&R personnel can ensure proper operation of all valves in the field. Also, covered was the pressure recording chart issue (more to follow), to ensure that each chart is properly reviewed for anomalies. During the tailboard, it was proposed to install remote pressure recording equipment on this section of pipeline, to ensure that any future pressure variation (beyond high and low limits) would be immediately known to the Gas T&R Supervisor and to the Gas Transmission Planning Engineer.

On 12/3/08 and 12/4/08, a leak survey was performed on the entire section of DFM 1305-01 that exceeded MAOP. There were no leaks found on the DFM itself, other than at MLV-1.92 (known leak that is planned for repair). Several leaks were found at HPR locations (none are Grade 1). The leak surveyors are in the process of comparing the records for existing leaks to the results of this survey. _____.

UO Standard S-0456 is titled “Recording Pressures in Distribution Systems”, but many of the procedures would apply to the recording charts for this DFM. There appears to be no current standard for gas transmission pressure recorder charts. Some distribution charts now go to the Gas Distribution Planning Engineer. Currently the transmission charts do not go to the Gas Transmission Planning Engineer; however this process will be reviewed.

The following is a summary of the actions that will be taken to ensure that pressure recording charts will be properly reviewed in the future (more to follow):

Our process for charts now includes:

(stamped) station name, (hand written) date on and off along with times, M&C mechanic initials, Supervisor initials and gas distribution engineer initials. We also include reason (if known) for abnormal pressure record at each location on chart.

Our corrective action for charts effective immediately is:

We are having 2 stamps made that will be ready for pick up by the end of next week. One will say the **station name, inlet MAOP and outlet MAOP**. The second stamp will say: **Date on: Date off:** and 3 spaces for **Reviewed by: Date:** These will be on all of our charts as of January 1, 2009.

CONCLUSIONS:

An event critique meeting will be held on 12/10/08.

The root cause of the event was that MLV-3.79 was not fully closed when operated last, resulting in gas leaking from the 200 psig system to the 150 psig system. A factor that contributed to the delayed discovery of the overpressure situation was the inadequate review of pressure recorder charts for the 150 psig system. The pressure recorder charts for the MLV-3.79 location need to be carefully examined to ensure that the chart for the 150 psig system and the chart for the 200 psig system are clearly identified. The chart for Schellville Station should have been a clear indicator of the problem, since there is only one pressure system (150 psig) at that location, thus there is no other chart to confuse it with.

Gas Event or Close Call/Near Miss Report(ID=942)

Incident Date : 15 Dec 2008 08:12:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 15 Dec 2008 08:12:00:000	
Report Status: Final Report	**Report Type:** Event - Customers Affected

Operating Area: Area5	**Division/District:** Stockton	**Department Responsible for Event:** - **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☐ **Operator Work Procedure**	☑ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: LT-148

Pressure: TP **Material:** Steel	**MAOP:** 408 **NOP:** 395 **MOP:** 408

Briefly Describe What Happened:
The McMullin Ranch Station, located at South Airport Way and E Ave D Rd in San Joaquin County, is fed from L-108 (MP 8.79) and supplies L-148 into Modesto. This critical station was rebuilt in 2003, at the same time L-108 was upgraded. The station regulates from 720 MOP down to 408 MAOP, normally operating at 395 psig. The station consists of parallel 6” pilot operated Mooney regulators and monitors, with upstream filtration. The station is operated and maintained by Stockton Division T&R.

Details of What Happened:
On December 15, 2008 at 8:12 am, gas control notified Gas T&R of a possible SCADA system failure. SCADA indicated that the pressure at the outlet of the McMullin Ranch Station had spiked to 650 psig. Upon further investigation, it was noted that SCADA at Morgan and Whitmore, in Ceres, also indicated a spike in pressure. An M&C Mechanic was immediately dispatched to the station to investigate. Upon arrival, the pressure was confirmed to be 650 psig and the station was immediately shut in at 8:45

am. The pipeline pressure drafted down and fell below 408 psig at 9:40 am at which time the standby run took over control while the failed run could be repaired. Station operations were restored to normal operations by 1:30. On December 15, 2008, Stockton T&R checked a station upstream of McMullin Ranch for liquids (MP-5.70). There was minimal flow through the station and no liquids present. Yosemite T&R checked all of the stations in Yosemite Division that are tapped off of L-148. All stations were operating properly and no liquids were present. On December 16, 2008, Stockton T&R checked other stations off of L-108. The primary at the DSS Asphalt Plant (MP-1.36), and a drip (MP-12.28) just north of the Ripon Modesto Station were checked. No liquids were present. McMullin Ranch Station (MP 8.79) was also rechecked. About 2 tablespoons of liquid was removed from the filter. On December 17, 2008, Stockton Division completed a special leak survey over all pipelines that were over-pressurized within Stockton Division. Yosemite Division performed a special leak survey over all pipelines that were over-pressurized from December 18th to December 21st. In total, approximately 46 miles of pipeline were leak surveyed. No Leaks were discovered.

Root Cause Category:
Operations - Gas quality

If work procedure, worker classification involved:	**If work procedure, action involved:**
-	-

Detailed Description of Root Cause (Why):
The over-pressurization was caused by pipeline liquids (in this case a sludge-like substance which was later determined to be mostly Glycol). The liquid filled the station filter, causing the filter element to completely collapse, allowing the liquid to flow through the Regulator and Monitor. Once the liquid passed the main station filter, it was drawn into the pilot supply lines for the regulator and monitor. This caused the pilot filters to become completely plugged. Without supply to the pilot, it cannot provide loading gas to the main regulator (and monitor), causing it to fail fully open, which in turn caused L-148 to experience full L-108 pressure (~650 psig). There was no damage to the regulator diaphragms. The regulator and monitor are identical redundant regulators, designed to ensure that a failure of one regulator will not fail the system. However, the liquids created a failure mechanism that simultaneously failed both regulator and monitor. On 12/9/08, the BTU zone boundary on L-108 was shifted north, from MP 22.31 to MP 36.10. This shifted the gas load of the greater City of Stockton onto the southern L-108 system. This, coupled with increased loads due to cold weather, and the TID power plant coming on line, significantly increased gas velocities in L-108. Increased velocities likely picked up liquids that collected in the pipeline over the past few years. In 1997 there was a washout of L-108 at Red Bridge Slough back, about a mile upstream of the L-148 tap (bet MP 7.72 & 7.95). This segment of pipeline is in a very low spot with respect to the rest of the pipeline. It is possible that liquid collected in this low spot over the years. With the significant velocity increase, a slug of this liquid may have moved downstream and ultimately into the McMullin station.

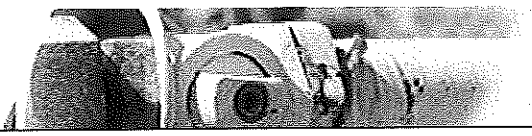
Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):
Action Item 1 to be completed by 3/1/09 (local): Modify the pilot stem guide as specified in Mooney Technical Note 725-021-01 July 8, 1997 (Found in Mooney catalogues). Under certain operating conditions where high viscosity oils may be present, the pilot stem guide may act as a hydraulic dampening device and prevent the immediate pilot stem response to pressure changes within the sense chamber of the pilot. The liquid may become trapped between the bottom of the guide and the closing cap bore, preventing the system from moving. This modification improves the pilot regulator performance in the presence of liquids.) (Lead: Roger Morshead, T&R Supervisor, Stockton Division) – Completed on 1/20/09. Action Item 2 to be completed by 3/1/09 (local): Install a 40 micron pilot filter element (Mooney part #301-005-02). The standard Mooney filter element is rated for 10 microns, the Fisher filter is rated for 20 microns. The 40 micron filter elements are designed for liquids service, so by utilizing these elements there is a reduced risk of liquids failures. (Lead: Roger Morshead, T&R Supervisor, Stockton Division) – Completed on 2/10/09. Action Item 3 to be completed by 3/1/09 (local): Re-tube pilot supply line for the working run of regulator station so that the pilot supply gas is provided from the standby run (swap the pilot supply lines from one run to the other). In the event of a main filter failure, this will insure that the pilot supply gas comes from a clean source, in this case, downstream of the standby run main filter. The demand through this filter will be negligible, and therefore the risk of it collapsing is significantly reduced. If the working

run filter fails, the pilot supply will be isolated from contaminants that may damage or prevent the pilot from operating correctly. Pressure will continue to be controlled through the regulator/monitor. (Lead: Roger Morshead, T&R Supervisor, Stockton Division) – Completed on 2/10/09. Action Item 4, ongoing, (local): Periodically check station for liquids. A mechanic drives by this station weekly on a sample run. Each week, the mechanic will stop at this reg station and check for liquids in the filter by blowing the drip in the filter. (Lead: Roger Morshead, T&R Supervisor, Stockton Division) – Ongoing.	
Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 2/10/2009
Who Should follow up on Action Item(s)?: Supervisor	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -	
Prepared By/Lan ID: XXXX **Last Updated By/LAN ID:** JDHd	

Help

Pacific Gas and Electric Company



Event Reporting

Gas Event or Close Call/Near Miss Report(ID=940)

Incident Date : 15 Dec 2008 10:28:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 15 Dec 2008 09:23:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected
Operating Area: Area3 **Division/District:** San Jose	**Department Responsible for Event:** - **Department Responsible for Event(If more than one):** -

Criteria

☐ Cpuc Reportable	☐ Death or Injury Flag	☐ >50k Damage	☐ Media Coverage
☐ Service Interruption	☐ Planned Outage	☐ Insufficient Design	
☐ Operator Work Procedure	☑ Equipment Material Failure	☐ Natural Disaster	
☐ Transmission Leak	☑ DOT Safety Related Condition	☐ Near Hit	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Principal Facility Affected: DFM-0805-01

Pressure: TP **Material:** Steel **MAOP:** 200 **NOP:** 190 **MOP:** 200

Briefly Describe What Happened:
At approximately 0923 on 12/15/08 Brentwood Gas Control received a "High Alarm" on the SJDFM when the outlet pressure from Milpitas terminal reached 199 PSIG (District Regulator Station E-04 located inside the terminal feeds this DFM). The documented MAOP downstream of Milpitas Terminal is 200 PSIG. Pressure continued to rise to the "High-High Alarm" setting of 203 PSIG. At this point Brentwood took action and closed the remote operated mainline valve (Valve 50) to control the pressure. However, the valve did not seat properly and the downstream pressure reached 223 PSIG before T&R personnel arrived and shut-in the station. Though not documented via SCADA, the intermediate piping between DR Station E-04 and Valve 50 may have reached as high as 275 PSIG.

Details of What Happened:

Root Cause Category:
Equipment - Filter

If work procedure, worker classification involved: -	**If work procedure, action involved:** -

Detailed Description of Root Cause (Why):
After T&R shut-in DR Station E-04 and stabilized pressures by switching to the stand-by regulator/monitor run, it was determined that the operating run had failed due to oil in the pilot filters. Large amounts of oil were found in the regulator station filter as well, which had caused the filter element to collapse. Once enough oil had gotten past the station filter, it was picked up by the individual pilot filters and prevented the regulators from controlling the downstream pressure. To get to the actual root cause, Milpitas Terminal will have to determine how this much oil is getting past the terminal's filter-separators.

Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -

If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**
Action Plan (who does what/when to preclude similar event): At this time, it has been decided that a small portion of the downstream piping may have to be leak surveyed to ensure no leaks are present as a result of the overpressure situation.	
Action Plan Status: -	**Estimated/Actual Completion Date:**
Who Should follow up on Action Item(s)?: -	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.): A material problem report may be required to address the deficiencies in the Milpitas Terminal filter/separators. I believe they are in the process of being replaced, so this MPR may just be further validation that this is necessary.	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: Yes	
Prepared By/Lan ID: SRFa **Last Updated By/LAN ID:** DAO5	

Help CLOSE GAS REPORT EDIT REPORT

Gas Event or Close Call/Near Miss Report(ID=954)

Incident Date : 17 Dec 2008 14:00:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 17 Dec 2008 14:00:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected

Operating Area: Area6	**Division/District:** Sacramento	**Department Responsible for Event:** GC **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☑ **Operator Work Procedure**	☐ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: 3rd & O Sreet Ave, Sac . Type- Main Map- 2525 Plat- I02 Block-

Pressure: - **Material:** -	**MAOP:** **NOP:** **MOP:**

Briefly Describe What Happened:
On 12/17/08 at 1400 hrs the Sacramento Division experienced a near miss situation when a temporary 2” by-pass feeding a Low Pressure District Regulator Station in Downtown Sacramento was inadvertently closed shutting off gas flow to the regulator station. Although the 2” temporary by pass valve was closed only momentarily, the sudden increase in pressure when the valve was reopened resulted in the station’s regulator overpressure safety device to activate and shut off gas flow downstream into the low pressure system. Notification was made immediately to Gas T&R and based on Gas Engineering’s load calculations for the indicated pressure of 2.4” w.c. and current temperatures, it was determined that gas system integrity had remained intact. Verification of system integrity was conducted and that information assured that no customer service was lost.

Details of What Happened:
The sequence of events and actions taken are as follows: Overview GC Gas was tasked with a job to install a new inlet fire valve

for a District Regulator Station (DREGS) on 3rd and O Street in Sacramento. The scope of the work required the installation of a temporary 2” by-pass to provide feed for a low pressure DREGS. The temporary by-pass was installed and connected between the upstream and downstream regulators in the station. An existing 6” distribution valve along with a newly installed 6” PCF and the inlet station valve were the points of isolation. Gas T&R assistance was requested to operate the inlet station valve and monitor downstream pressure. 1200 hrs- When the 6” PCF was plugged it was observed that the upstream pressure was dropping. Investigation revealed that there wasn’t flow coming from the DREGS upstream of the 6” PCF. This DREGS feeds the tied distribution system that feeds the low pressure DREGS. Because the system is tied the low pressure DREGS isn’t affected by feed not coming from this station. However, a single service between the upstream 6” PCF and this station required that corrective repairs take place before the continuation of the job. The Gas T&R crew identified the issue and began corrective action 1330 hrs- As the corrective repairs for the DREGS were taking longer than anticipated it was decided that the final installation of the new valve be performed the following day. 1345 hrs- The GC Forman instructed his crew to begin the process of closing down the job. He instructed a crew member to close and remove the by-pass. When the crew member closed the 2” temporary valve he noticed the pressure drop on the installed gauge. He immediately opened the valve to re-pressure the piping feeding the station. At that time the sudden increase in pressure caused the regulator’s overpressure safety device to trip and shut off gas flow to the low pressure system. The crew member notified the Forman of what happened. The Forman contacted the Gas T&R crew who were still repairing the upstream DREGS. Gas T&R found that the Fisher EZR Slam shut’s over pressure trip had activated and that no gas flow into the low pressure system was present. The permanent recorder at the DREGS indicated that system pressure has dropped to 2.4” w.c. 1400- Hrs The gas T&R Supervisor was notified of the situation. Gas SCADA indicated that pressure from the tied DREGS has increased slightly and was confirmed as the system pressure had recovered to 4” w.c. Gas Engineering was contacted and based on load calculations for indicated pressure and temperatures, system gas integrity should have remained intact. Verification of system gas integrity was performed and the information gathered confirmed that no customers were lost due to this incident. 1530 hrs- The DREGS at 3rd and O street was returned to normal operation.

Root Cause Category:
Operations - Work procedure error

If work procedure, worker classification involved:	**If work procedure, action involved:**
Crew – GC	Construction

Detailed Description of Root Cause (Why):
The Root Cause of this incident is not following the correct work procedure for the removal of the temporary by-pass.

Secondary Cause (what prolonged the outage?):	**Contributory Cause :** Process – gaps
Operations - Inattention/carelessness	

If secondary cause is work procedure, worker classification involved:	**If secondary cause is work procedure, action involved:**
-	-

Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):

Action Plan Status:	**Estimated/Actual Completion Date:**
-	

Who Should follow up on Action Item(s)?: -

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:

-

Prepared By/Lan ID: XXXX
Last Updated By/LAN ID: SPR4

Help

Gas Event or Close Call/Near Miss Report(ID=1065)

Incident Date : 09 Jan 2009 14:00:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 04 Feb 2009 14:00:00:000	
Report Status: Final Revised Report	**Report Type:** Event - No Customers Affected

Operating Area: Area5	**Division/District:** Yosemite	**Department Responsible for Event:** T&R **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☐ **Operator Work Procedure**	☑ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: MODESTO - DR L15 MELROSE & SCENIC DR

Pressure: - **Material:** -	**MAOP:** **NOP:** **MOP:**

Briefly Describe What Happened:
Low pressure distribution system exceeded MAOP by 2.5 inches of water column in the month of January.

Details of What Happened:
On 01/07/2009 Division T&R personnel adjusted the set points at the three district regulator stations feeding the Modesto low pressure system. They increased the settings from approximately 9 inches of water column to 10 inches of water column. This was to accommodate increased winter loading during anticipated colder weather. On 01/09/2009 the system began a daily pressure increase where the pressure exceeded the MAOP of 10.5 inches of water column. The pressure would increase between 1300 and 1400 hours and remain elevated for approximately 6 hours. The pressure would remain normal throughout the night, dip during the morning load peak, and spike in the afternoon. During these events the highest recorded pressure was 13 inches of water column. Neither the slam-shut OPP nor the system relief valves operated during the event because they are set

to operate at higher pressures. This cycle continued throughout the month until 02/04/2009 when the charts were replaced. The employee replacing charts noticed the anomaly and conducted an inspection at all three stations. The employee questioned why the SCADA monitoring system had not gone into alarm when the pressure exceeded MAOP.

Root Cause Category:
Equipment - Regulator

If work procedure, worker classification involved:	**If work procedure, action involved:**
-	-

Detailed Description of Root Cause (Why):
The root cause of the increase in pressure is based on two issues: 1)Why did the pressure increase? 2)Why didn't SCADA discover the pressure increase? 1)The first step was to inspect each station. One station was found to have moisture in the regulator vent line, which acts to increase the outlet pressure of the regulator. During higher flows the pressure doesn't get seen downstream, but as load drops during the day the outlet pressure increases. A single malfunctioning station would over pressurize the entire distribution system. 2)The second step was the investigation of the SCADA system. T&R discovered an intermittent problem with the circuit "freezing" and not transmitting real-time data. For multiple days the SCADA circuit showed an electronically locked-in pressure of approximately 9 inches of water column. The SCADA circuit did not show any alarms that it was operating incorrectly. There have been problems with the lease line losing communication, but the problem automatically corrects itself. Due to the SCADA system freezing Brentwood was unable to detect irregularities. As a result, SCADA never reported the increased pressure.

Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date: 2/6/2009	**Event Review Lead:** JDHD

Action Plan (who does what/when to preclude similar event):
The following are the action items undertaken to ensure this type of event does not happen again: 1)The T&R Tech adjusted the restrictor and reset the pressure to 9 inches of water column at the Melrose and Scenic District Regulation Station. (Completed February 4, 2009) 2)Water was cleared from the vent at the Melrose and Scenic Station. The vent line was relocated to eliminate the build up of water. (Completed February 4, 2009) 3)For one week following the incident T&R physically monitored pressures at each district regulation station on the low pressure system daily. 4)T&R powered down the circuit board and rebooted the SCADA system. The SCADA system is currently monitoring properly. (Completed February 4, 2009) 5)T&R monitors their interface of SCADA twice daily to ensure that it is operational. 6)Engineers are working on repairing the SCADA system. If it can't be repaired, it will be replaced. (Complete by 9/30/2009) 7)T&R will work with telecommunication and the phone company to troubleshoot the phone line. One the problem is found the phone line will be repaired or replaced. 8)District Regulator Service Data: A. Station at Melrose and Morris (MO LP 3). An A-Inspection was completed on 4-16-08. A B-Inspection will be performed in April 2009. B. Station at 10th and D (MO LP 16). An A-Inspection was completed on 4-8-08. A B-Inspection was completed on 4-8-08. A A-Inspection will be performed in April 2009. C. Station at Melrose and Scenic (MO LP 15) An A-Inspection was completed on 4-18-08. A B-Inspection was completed on 5-3-06. A A-Inspection will be performed in April 2009.

Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 2/6/2009

Who Should follow up on Action Item(s)?: Supervisor

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -
Prepared By/Lan ID: SGF4 **Last Updated By/LAN ID:** RALw

Help

Gas Event or Close Call/Near Miss Report(ID=1136)

Incident Date : 10 Mar 2009 09:00:00:000

IGIS Leak No. :	**Risk Master No. :**
N/A	N/A

Date Reported to PGE : 10 Mar 2009 09:00:00:000

Report Status: Final Report	**Report Type:** Event - No Customers Affected

Operating Area: Area4	**Division/District:** Kern	**Department Responsible for Event:** Operating Records **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☑ **Operator Work Procedure**	☐ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : -	**Total Number of Customers Affected :**

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: DFM-6603-01

Pressure: TP **Material:** Steel	**MAOP:** 400 **NOP:** 400 **MOP:** 400

Briefly Describe What Happened:
Due to inaccurate data on the data sheets and GIS, the outlet of the Ridgecrest Primary Station was set at 430 PSIG. A MAOP of a segment of the downstream piping is 400 PSIG. The uprate of the pipeline from 400 to 430 PSIG in 1988 under GM # 457189 was invalid. It was decided to reduce the MAOP of the pipeline from 430 PSIG to the original MAOP of 400 PSIG

Details of What Happened:
An M&C mechanic reduced the outlet pressure of the Ridgecest Primary Regulator station to 395 PSIG, immediately after determining the MAOP was 400 PSIG.

Root Cause Category:
Operations - Work procedure error

If work procedure, worker classification involved: Other	**If work procedure, action involved:** Operating Records
Detailed Description of Root Cause (Why): The M&C mechanics in Ridgecrest had the incorrect MAOP noted on the reg data sheets. The uprate of 1988 from 400 to 430 PSIG was invalid due to following Distribution procedures, which do not apply to Transmission pipelines.	
Secondary Cause (what prolonged the outage?): Other	**Contributory Cause :** Process – gaps
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** Operating Records
Incident Critique / Event Review Date:	**Event Review Lead:**
Action Plan (who does what/when to preclude similar event): Future corrective actions include additional training for T&R personnel to identify erroneous data, and a thorough review / correction of all pertinent documents related to this pipeline. The pipeline MAOP has been reduced to 400 PSIG. The GIS, Operating Diagrams, and Regulator Data Sheets have all been updated with the new MAOP of 400 PSIG.	
Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 3/16/2009
Who Should follow up on Action Item(s)?: Supervisor	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.): Distribution and Transmission Planning have reviewed the lowering of the MAOP of this pipeline and are in agreement.	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -	
Prepared By/Lan ID: BWW1 **Last Updated By/LAN ID:** JHB8	

Help

Gas Event or Close Call/Near Miss Report(ID=1168)

Incident Date : 16 Mar 2009 22:00:00:000

IGIS Leak No. : N/A	**Risk Master No. :** N/A

Date Reported to PGE : 17 Mar 2009 07:20:00:000

Report Status: Final Report	**Report Type:** Event - No Customers Affected

Operating Area: Area3	**Division/District:** Central Coast	**Department Responsible for Event:** GC **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☑ **Operator Work Procedure**	☐ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: Overpressure Santa Cruz 30# Gas Distribution System

Pressure: HP **Material:** -	**MAOP:** 30 **NOP:** 27 **MOP:** 27

Briefly Describe What Happened:
A gas distribution pipeline crossing Highway 17 in Santa Cruz had been cut-off (de-activated) for safety at the request of Cal Trans durin lane a widening project. Upon performing the tie-in to restore the pipeline to service on 03/16/09, the GC gas crew opened a nearby MA valve (30# to 50#), over pressurizing the Santa Cruz 30# system. No customers were affected. The Santa Cruz system is qualified to operate up to 30#, and allowed to exceed that by 6# in an emergency situation. Opening the MAOP valve caused the system to reach a pressure of 42#. The chart recorder location at Poplar regulater was at the opposite end of the system relative to the overpresure source therefore the entire 30# distribution system was believed to exceeded allowable limits. As a result we chose to leak survey the entire sys (115,423 feet of pipeline and approx. 2,100 services) to verify system integrity. The survey is estimated to cost approximately $27,000.

Details of What Happened:
The error was caught through an informal conversation when the GC Gas Crew Foreman notified the Santa Cruz ADE (7:20AM on 30/17/09). He stated that the tie-in had been completed the night before at 22:00 and that the nearby valve was opened. The Santa Cruz ADE knew this to be a normally closed MAOP valve and immediately notified division gas engineering. Engineering identified a nearby ri with gauge taps (1080 Emeline) while still on the phone with the ADE, and requested that the ADE give a heads up to the Santa Cruz M mechanic on the location to check pressure. Engineering then contacted the T&R Supervisor and requested that T&R check pressure, cl valve E02, and retrieve pressure recording chart at the Poplar Regulator Station. T&R checked the pressure at the riser to be approxima 34# @ 8:45 AM, then proceeded to close the MAOP seperation valve at approximately 9:00. The chart at Poplar Regulator showed that pressure had reached 42# during low flow. Mapping then created leak survey maps of the system. These were delivered to construction

14:30. The leak survey of the system was started at 15:00 and was continued until dark. The survey will continue Thursday and be completed on Friday 03/20/09. The Construction department checked IGIS for any open leaks within the affected area, and identified one grade 3; the leak was rechecked prior to the start of the survey and remained a grade 3.

Root Cause Category:
Operations - Work procedure error

If work procedure, worker classification involved:	**If work procedure, action involved:**
Crew – GC	Construction

Detailed Description of Root Cause (Why):
The root cause for opening the valve was a result of the gas crew using a procedure that was not authorized. This is covered under USP par 24A&B: USP 22 par 24A Employees shall consider all equipment in-service unless properly tagged (e.g., with “Man on Line” or “Out Order” tags, etc.). Employees shall inspect all equipment for damage, deterioration and defects prior to use. Employees shall not assume that untagged equipment is free of hazards. USP 22 par 24b Clearance, where required, shall be obtained in accordance with applicable Company work standards and procedures. Prior to the tie-in, the MAOP valve was properly tagged “Valve Normally Closed Do Not Oper without Clearance“. Maintenance records were checked indicating valve E02 was last maintained on 10-23-08. One of the requirements the annual maintenance is to check the tags, etc. There was no indication of a missing tag. The CG crew Forman felt the tag may have fallen off or slipped out of position and was not visible at the time the valve was turned. The tag had been re-installed to its proper locatic on the valve stem prior to the time T&R arrived on 03/17/09. It was also noted that the valve was not locked; however locking valves is n requirement for the distribution emergency valves. An alternate method of completing the tie-in utilizing the pressure control equipment would not have lead to the overpressure event. A related issue is that the GC Forman was checking with Estimating in regards to making an operational change notice. The operational change notice has been working well in Central Coast, and it is what enabled the overpressure to be discovered. The operational change notice for this tie-in, due to insuring events, was ultimately created beyond the 24hour time limits. Therefore it is recommended that the Operational Change Notice procedure be tailboarded with the crew.

Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date: 3/19/2009	**Event Review Lead:** WDT2

Action Plan (who does what/when to preclude similar event):
1) Tailboard the employees involved on USP 22 par 24A&B, to follow established work procedures for valve identification and clearance requirements. Also tailboard the Operational Change Notice procedure, Responsible Party: Paul Limon GC Construction Supervisor. Completed for Central Coast GC Gas on 3/20/09 and for Area 3 GC Gas on 3/25/09. 2) Complete leak survey of Santa Cruz 30# system Responsible Party: Warren Brown, Santa Cruz Construction Supervisor. Completed by 03/21/09 at 12:00. 3) Investigate and administer positive discipline with Crew Foreman, and report on level administered when complete. Responsible Party: Paul Limon GC Construction Supervisor. Completed by Paul Limon on 04/09/09, a positive discipline was administered to the Gas Crew foreman responsible.

Action Plan Status:	**Estimated/Actual Completion Date:**
Action Items Completed	4/6/2009

Who Should follow up on Action Item(s)?: Superintendent

TES (Technical and Ecological Services) Report Number (if applicable): N/A	**Is further sample analysis of laboratory examination require**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issu RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:
No

Prepared By/Lan ID: XXXX
Last Updated By/LAN ID: WDT2

Help CLOSE GAS REPORT EDIT REPORT

Gas Event or Close Call/Near Miss Report(ID=1376)

Incident Date : 09 Jun 2009 13:00:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 10 Jun 2009 07:00:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected
Operating Area: Area7 **Division/District:** Sonoma	**Department Responsible for Event:** Area7 **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☑ **Operator Work Procedure**	☑ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Principal Facility Affected: Al, Sonoma . Type- Main Map- ___1 Plat- A01 Block-

Pressure: TP **Material:** Steel	**MAOP:** 150 **NOP:** 148 **MOP:** 150

Briefly Describe What Happened:

Sonoma DFM (1305-01) was over-pressurized on 6/9/09 to 187 psig (above its 150 psig MAOP). As part of periodic annual maintenance, Division Gas T&R crewmen slightly opened MLV-3.79 to confirm its operability. The crewmen stated they followed their recent valve maintenance training by cracking the MAOP valve open (hearing flow), opening another 1/4 to 1/2 stroke and then closing it down on the rubber seal. The valve was silent and they monitored the electronic pressure recorder less than 10' away which read 140.3 psig for at least 15 minutes. (Per the pressure chart and electronic data, the valve leak started soon after their maintenance visit.) They sated that no change was observed indicating that the higher pressure was isolated. The pressure on the high pressure-side of MLV-3.79 (200 psig MAOP) slowly increased to 187 psig. The Electronic Recorder on the DFM indicates that as this pressure had increased slowly after the maintenance visit in excess of the 150 psig MAOP.

Details of What Happened:

Around 7:00 A.M. on 6/10/09, the Senior Division Gas Engineer notified the Acting Gas T&R Supervisor that 157 psig was present in the DFM and had been as high as 187 psig, in excess of its 150 psig MAOP. A T&R crew was dispatched to the fieldaround 7:00 A.M. The two crewmen revisited the site and could hear the valve flowing. They shut the valve another 1/2 turn and sound continued. They then opened the valve at least 2 turns to clear it and re-closed. Sound of flowing gas had increased. At that point (around 9:00 AM) they reduced the DFM pressure by dropping the Moon Valley and Monroe Regulation to 148 psig to correct the overpressurization (MLV-3.79 left "closed" but equalized). He believes that besides the hard-to-turn issue, either debris and/or its past fully-open operational status affected the seal. Removal and inspection should confirm. On 6/10/09, a leak survey was performed on the entire section of DFM 1305-01 that exceed MAOP. There were no new leaks found on the DFM, only pre-existing Grade 2 leaks. On 6/15(TBD), the Gas Transmission Pipeline Engineer and the Gas T&R Supervisor completed a tailboard (within 5 working days of incident) with Gas T&R personnel, regarding WP 4430-04, Gas Valve Maintenance and Procedures will be reviewed in detail, so that Gas T&R personnel can ensure proper operation of all valves in the field.

Root Cause Category:
Equipment - Valve

If work procedure, worker classification involved:	**If work procedure, action involved:**
Crew – Division/District	Maintenance

Detailed Description of Root Cause (Why):
The root cause of the event appears to be that MLV-3.79 has a defective seal or was not fully closed, resulting in gas leaking from the 200 psig system to the 150 psig system. Further investigation of the valve condition will clarify if this is the root cause. These EV-11 multi-turn Gate valves have a history of closure problems due to a rubber seat. In recent history, at least 4 of these 6" and larger valves required replacement in this area alone. There is a lower rubber seal that is squeezed shut, but with a hard-to-turn valve as we have in this case, a false closure or over-closure is possible. Recent valve training and actions reported by the Crewmen do not indicate any specific problem with maintenance prior to this event. Again, subsequent valve inspection will clarify the root cause. The valve will be replaced by the end of October 2009. Then it can be inspected.

Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):
Correct DFM Pressure (Done 6/10) Perform Leak Survey on DFM (Done 6/10) Perform Tailboard with Crewmen (6/15) Remove valve and inspect (Prior to 11/1/09)

Action Plan Status:	**Estimated/Actual Completion Date:**
Pending	10/31/2010

Who Should follow up on Action Item(s)?: Supervisor

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:
-

Prepared By/Lan ID: XXXX
Last Updated By/LAN ID: GMV2

Help

Gas Event or Close Call/Near Miss Report(ID=1375)

Incident Date : 12 Jun 2009 14:42:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 12 Jun 2009 14:42:00:000	
Report Status: Final Revised Report	**Report Type:** Event - No Customers Affected

Operating Area: Area3	**Division/District:** Central Coast	**Department Responsible for Event:** T&R **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☑ **Operator Work Procedure**	☐ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene: 12 Jun 2009 14:42:00:000

Gas FLow Stopped: 12 Jun 2009 14:52:00:000

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: DFM-1816-01

Pressure: TP **Material:** Steel	**MAOP:** 303 **NOP:** 303 **MOP:** 303

Briefly Describe What Happened:
T&R was performing "B" inspection on Front Street Regulator Station in Watsonville. During maintenance, a Mechanic opened the station bypass valve (V-5), exposing upstream pressure (from 181B) to the 303 psi DFM (1816-01). Downstream pressure increased up to 338 psi before before valve was closed. There are SCADA pressure monitoring points in this station.

Details of What Happened:
GSO received SCADA alarm. GSO contacted T&R Supervisor. Valve was closed. PLE Contacted RS&A. Line 1816-01 and attached systems were leak surveyed, completed on 6/13/09 with no leaks detected. T&R Crew tailboard was conducted on 6/15/09. This event was deemed not a safety related condition since it was adequately resolved within 5 days.

Root Cause Category:

Operations - Inattention/carelessness	
If work procedure, worker classification involved: Crew – Division/District	**If work procedure, action involved:** Operations
Detailed Description of Root Cause (Why): The Mechanic opened Valve 5 (the station bypass valve/MAOP separation) and left it in the open position, causing the downstream system to overpressure. A clearance was submitted by T&R and approved by GSO for this work (CC-STD-04). Crew was directed to read and follow the clearance. The T&R mechanics did not tailboard the clearance prior to start. The T&R mechanics did not follow clearance tagging requirements. MOL tags were not placed. The valves in the station were not properly tagged with permanent tag identification. The lack of tags should have been remedied prior to the clearance. The station bypass valve was not locked out. MAOP separation lockout is required by design. This item should have been identified and resolved during every inspection performed in this station over its history. There were two valves in the same vault (V4 and V5). The mechanic was supposed to operate (open) valve 4. The mechanic proceeded to operate (opened) valve 5 even though he did not know which valve was which. The mechanic monitored downstream pressure with a 300 psi gage. The mechanic witnessed the downstream pressure climb to 300 psi and left the gage to get a higher pressure gage. The mechanic did not report to anyone that the pressure climbed past MAOP of 300psi.	
Secondary Cause (what prolonged the outage?): Operations - Clearance violation	**Contributory Cause :** Inexperience
If secondary cause is work procedure, worker classification involved: Crew – Division/District	**If secondary cause is work procedure, action involved:** Maintenance
Incident Critique / Event Review Date: 6/15/2009	**Event Review Lead:** tla3
Action Plan (who does what/when to preclude similar event): Leak Survey downstream piping system. Completed 6/13/09. Tailboard T&R crew on proper clearance procedures; valve operation during "B" inspection; valve tagging and lockout requirements, and crew expectations; gas event report system; H-14; S5351. Completed 6/15/09. Install lock on bypass valve V-5. Completed 6/12/09. Install permanent Tags on all valves in the station. Due 8/31/09 (Whitmer) Purchase clearance tags and train EEs on proper usage. Due 8/31/09 (Whitmer)	
Action Plan Status: Pending	**Estimated/Actual Completion Date:** 8/31/2009
Who Should follow up on Action Item(s)?: Superintendent	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.): Was the employee Operator Qualified? Yes at time of Incident employee was OQ qualified. //// Was the employees Operator Qualification pulled? Yes OQ qualification was revoked. //// Was the employee drug tested? If no, why not? No. Employee reported for work at 7:00 am and had been on site all day. I (Supervisor) had no suspicions of drug or alcohol use. //// The valves within the Front Street Regulating Station (Operating Diagram 0800097) were not properly tagged. Is this issue isolated to the Front Street Station? As an action item, shouldn't all Local Transmission Stations and Gas Distribution Regulating Stations within Central Coast be inspected for proper identification tags? There are a couple of issues here. Let me make sure we all understand that inlet and outlet valve are permanently tagged. The station valves inside the pit are not generally tagged. But the bypass valve should have been tagged within the scope of the clearance as required on step 3. Step 3 states (Verify closed, Install MOL Tags). It has been recognized that all equipment in Central Coast stations may not be clearly tagged. Moving forward all equipment in a station will be permanently tagged as we do each regulator maintenance. //// How do we educate employees how to recognize this as an abnormal operating condition? The employee was provided all necessary information to recognize the abnormal operating condition. //// MAOP of Line 1816-01 is 303 psig and the inlet supply from L-181B has an MAOP of 400 psig	

why was a 300 psig gauge used? This is a stand by station. NOP is 270# with monitor setting at 280#. At this site you should never see more than 280#. //// Did the employee understand what the MAOP and NOP pressures upstream and downstream were? The employee was given a copy of the clearance 6-11-2009. He was asked to review the clearance and get back to his supervisor if he had any questions. The clearance clearly stated under gage designations the low and high limits. Also the set point of the station was discussed on line 9 of the clearance. He was given a copy of the station diagram which has the MAOP for each line. There was also a copy of the station diagram permanently mounted in the station.

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:
No

Prepared By/Lan ID: TLA3
Last Updated By/LAN ID: TLA3

Help

Pacific Gas and Electric Company

Event Reporting

Gas Event or Close Call/Near Miss Report(ID=1481)

Incident Date : 23 Jul 2009 10:00:00:000
IGIS Leak No. :
9109303551
Risk Master No. :
Date Reported to PGE : 23 Jul 2009 10:00:00:000
Report Status: Preliminary Report
Report Type: Event - No Customers Affected
Operating Area: Area5 **Division/District:** Yosemite
Department Responsible for Event: -
Department Responsible for Event(If more than one): -

Criteria

- ☐ **Cpuc Reportable**
- ☐ **Death or Injury Flag**
- ☐ **>50k Damage**
- ☐ **Media Coverage**
- ☐ **Service Interruption**
- ☐ **Planned Outage**
- ☐ **Insufficient Design**
- ☐ **Operator Work Procedure**
- ☐ **Equipment Material Failure**
- ☐ **Natural Disaster**
- ☐ **Transmission Leak**
- ☑ **DOT Safety Related Condition**
- ☐ **Near Hit**

Reported By : PGE Employee
Total Number of Customers Affected : 0
First Outage Occurence:
PGE Personnel on Scene: 23 Jul 2009 10:00:00:000
Gas FLow Stopped:
Ready Begin Relights:
Last Relight / Last CGI Issued:
Principal Facility Affected: DFM-7228-16
Pressure: TP **Material:** Steel **MAOP:** 180 **NOP:** 175 **MOP:** 180

Briefly Describe What Happened:
While repairing a leak on a service riser valve, a crew determined that the pressure feeding a standard meterset was 175 psig. No HPR was found along the length of the service piping including at the meterset. Preliminary information implies that the service piping was overpressurized as no test records have been found.

Details of What Happened:
A construction crew working on a service riser valve leak, determined that the pressure into the standard meterset was 175 psig. After shutting off the gas to the meterset at the riser valve, the crew began probing for an HPR near the 180 psig (MAOP is 180) transmission line but found nothing. Contact was made with the Pipeline Engineer. They then contacted the T&R Supervisor who began working on a clearance to dig up the tee at the Transmission line. When they exposed the tee, they found it leaking and could not pin off the flow of gas. Another clearance was obtained to install 2 fittings on either side of the tee to stop the flow of gas (line was fed from both directions and Trans Planning Eng was contacted). Once the gas flow was stopped, the tee was removed and the line repaired. A new service to the meterset was run from an ajacent property where an HPR was found. The meterset was then rebuilt.

Root Cause Category:
Other
If work procedure, worker classification involved:
-
If work procedure, action involved:
-
Detailed Description of Root Cause (Why):
TBD
Secondary Cause (what prolonged the outage?): -
Contributory Cause : -
If secondary cause is work procedure, worker classification involved:
If secondary cause is work procedure, action involved:
-

-

Incident Critique / Event Review Date: **Event Review Lead:**

Action Plan (who does what/when to preclude similar event):

TBD

Action Plan Status:

Estimated/Actual Completion Date:

-

Who Should follow up on Action Item(s)?: -

TES (Technical and Ecological Services) Report Number (if applicable): **Is further sample analysis of laboratory examination required?:** -

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

This incident will be reviewed and a formal review held. There were no injuries associated with find the issue. No outside groups or people were involved.

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:

-

Prepared By/Lan ID: XXXX

Last Updated By/LAN ID:

Help

Gas Event or Close Call/Near Miss Report(ID=1597)

Incident Date : 24 Aug 2009 15:53:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 24 Aug 2009 15:58:00:000	
Report Status: Final Revised Report	**Report Type:** Event - No Customers Affected

Operating Area: Area6	**Division/District:** Sierra	**Department Responsible for Event:** Other **Department Responsible for Event(If more than one):** -

Criteria

- ☐ **Cpuc Reportable**
- ☐ **Death or Injury Flag**
- ☐ **>50k Damage**
- ☐ **Media Coverage**
- ☐ **Service Interruption**
- ☐ **Planned Outage**
- ☐ **Insufficient Design**
- ☑ **Operator Work Procedure**
- ☐ **Equipment Material Failure**
- ☐ **Natural Disaster**
- ☐ **Transmission Leak**
- ☑ **DOT Safety Related Condition**
- ☐ **Near Hit**

Reported By : PGE Employee	**Total Number of Customers Affected :**

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Principal Facility Affected: DFM-0618-05

Pressure: TP **Material:** Steel	**MAOP:** 175 **NOP:** 170 **MOP:** 175

Briefly Describe What Happened:
On Monday, 8/24/09, at 3:54 PM, L-123 MLV 3.42, located at Baseline Road Station in Roseville, had been opened causing both the Roseville (Citrus Heights) DFM (0618-05 and 0618-02) and the Walerga DFM (DREG4093) to exceed MAOP + 10%.

Details of What Happened:
Monday was Day One of Sierra Division Clearance SI-09-13, which involved drafting L123 between MP 0.00 and MP 3.42 below 175 psig. Valveing at Antelope Station in Sacramento, allowed the regulation that feeds the Walerga and Roseville Road DFM's (MAOP 175 psig), to feed this segment of L-123. The replacement of the Baseline Road SCADA RTU was also scheduled for

Monday. Sierra T&R verified MLV 3.42 to be in the closed position, disabled the power gas by closing the power gas valve on MLV 3.42, and hung a Man-On-Line (MOL) tag from MLV 3.42 (on top of the piston actuator). Sierra and Sacramento T&R proceeded to complete the remaining steps for Day One of the clearance. In the mean time, GC M&C was at Baseline Road Station replacing the original Texas Instruments RTU with the new SCADA Pack 32 RTU. Once complete, they began testing. GC M&C, with the help of an onsite contractor, performed end-to-end tests on the new SCADA RTU. This is done by having an offsite contractor observe SCADA displays remotely while the onsite crew cycles through all the signals; checking pressure transducers, limit switches, door alarms, power supply, etc., and finally control output. The Onsite contractor noted that MLV 3.42 was in the closed position, the controller shut off valves were open, and the power gas valve was closed. No Man On-Line tags were observed on MLV 3.42. The Onsite contractor opened the power gas valve and asked offsite contractor to stroke the valve. The valve was fully opened and closed within 2 minutes. Pressure in the pipeline peaked at 230 psig.

Root Cause Category:
Operations - Clearance violation

If work procedure, worker classification involved:	**If work procedure, action involved:**
-	-

Detailed Description of Root Cause (Why):
Primary Root Cause: RC-1. MLV 3.42 was operated outside of the contract scope of work, without proper authorization or clearance from the local operating supervisor and/or Gas Control. Secondary Root Causes: RC-2. The SCADA RTU replacement scope of work was not clearly identified and communicated to Gas Control and the local operating supervisor prior to start of work. RC-3. The Division clearance practices are inconsistent with the CGT Clearance Procedure.

Secondary Cause (what prolonged the outage?):	**Contributory Cause :** Training – gaps
Operations - Miscommunication or unclear expectations	
If secondary cause is work procedure, worker classification involved:	**If secondary cause is work procedure, action involved:**
-	-
Incident Critique / Event Review Date:	**Event Review Lead:**
9/16/2009	rjws

Action Plan (who does what/when to preclude similar event):
CA-1. Develop and implement a procedure to prevent a valve from being remotely operated by anyone outside of the gas control centers. (Lead: Keith Slibsager, Complete by: 4/1/10) CA-2. Consider Including specifications in the description of work for all future contracts for contractors who will work in the field that clearly state that the contractor will not perform any operator qualified tasks (i.e. operate valves). They must coordinate with the local operating department to have an operator qualified employee present to perform covered tasks. (Lead: Ed Stracke/Ryan Weber, Complete by: 6/1/10) CA-3. Develop and implement a process to ensure Gas SCADA Notifications include a clear statement of all work that will be performed on, or within, gas facilities. Notifications must be made to the responsible operating department with sufficient lead time to allow for a Gas Clearance to be prepared and approved by Gas Control prior to start of work. (Lead: Keith Slibsager/Dan Menegus Complete by: 4/1/10) CA-4. Develop and implement a procedure in the Level 4 Custom Design Process outlining requirements of Project Managers and Project Engineers to communicate and coordinate project scope of work with the local operating department. (Lead: Dan Menegus/Ed Stracke, Complete by: 6/1/10) CA-5. Develop and implement a tailboard to educate all construction employees who work on gas facilities that operate over 60 psig (i.e. GC Gas, GC M&C, Division T&D, etc.) on the new gas clearance process. This tailboard will ensure gas construction employees understand gas clearance terminology, the correct use and application of Man-on-Line and Caution Tags, and their role in the clearance process. The tailboard will reinforce that valves shall only be operated by an operator qualified PG&E employee. (Lead: Gary Chrisco/Alfred Musgrove, Complete by: 6/1/10) CA-6. The fundamental requirement of the new gas clearance work procedure (WP 4100-10) is that all energy sources will be isolated and tagged to safely secure an area between specific points before performing work. The work procedure should be evaluated to ensure clarity on tagging requirements for clearance points, as well as physical tag placement on equipment. (Lead: Gary Chrisco/Alfred Musgrove, Complete by: 6/1/10) CA-7. Ensure ISTS Gas SCADA, Division T&R and Transmission Districts, and all gas engineering are included in the rollout of WP 4100-10. (Lead: Gary Chrisco, Complete by: 4/1/10) CA-8. Ensure ISTS Gas SCADA, Division T&R and Transmission Districts, and all gas engineering have the Clearance CBT as required annual training. (Lead: Gary Chrisco/Trista Berkovitz , Complete by: 12/31/10)

Action Plan Status: Pending	**Estimated/Actual Completion Date:** 6/1/2010
Who Should follow up on Action Item(s)?: Manager	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.): A detailed version of the event report with supporting attachments is availible by clicking on **Sac Over-Pressure Event Final Report Document , or contact Ryan Weber.**	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -	
Prepared By/Lan ID: RJWs **Last Updated By/LAN ID:** TRH4	

Help

Gas Event or Close Call/Near Miss Report(ID=1669)

Incident Date : 25 Sep 2009 13:00:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 25 Sep 2009 13:00:00:000	
Report Status: Final Revised Report	**Report Type:** Event - Customers Affected

Operating Area: Area5	**Division/District:** Yosemite	**Department Responsible for Event:** - **Department Responsible for Event(If more than one):** -

Criteria

- ☐ **Cpuc Reportable**
- ☐ **Death or Injury Flag**
- ☐ **>50k Damage**
- ☐ **Media Coverage**
- ☐ **Service Interruption**
- ☐ **Planned Outage**
- ☐ **Insufficient Design**
- ☐ **Operator Work Procedure**
- ☐ **Equipment Material Failure**
- ☐ **Natural Disaster**
- ☐ **Transmission Leak**
- ☑ **DOT Safety Related Condition**
- ☐ **Near Hit**

Reported By : PGE Employee	**Total Number of Customers Affected :** 2

First Outage Occurence: 25 Sep 2009 13:00:00:000

PGE Personnel on Scene: 25 Sep 2009 13:00:00:000

Gas FLow Stopped: 25 Sep 2009 13:00:00:000

Ready Begin Relights: 25 Sep 2009 22:00:00:000

Last Relight / Last CGI Issued: 25 Sep 2009 22:30:00:000

Prinicipal Facility Affected: 3827 SantaFe Al, Riverbank . Type- Service Map- 3121 Plat- I06 Block- 1

Pressure: TP **Material:** Steel	**MAOP:** 180 **NOP:** 175 **MOP:** 180

Briefly Describe What Happened:
During a patrol of the 4" DFM that runs from Riverbank to Oakdale, our personnel discovered an abnormal operating condition where 2 customer metersets (service and branch) had transmission pressure (175 psig) feeding into the house regulators. The patrol was being performed to complete the action plan associated with Event Report #1481 (similar situation @ 3956 Santa Fe). The patrol was initiated to verify that services in the area have HPR's feeding them. If the HPR's were not visible, personnel utilized metal detectors and probes to find them. In the event they still could not be found, the inlet pressure of the meterset was checked. The 2 services found were immediately shut-off and the meters removed. A new HPR was installed, along with a new branch service and both customers service restored.

Details of What Happened:
During a patrol of the 4" DFM that runs from Riverbank to Oakdale, our personnel discovered an abnormal operating condition

where 2 customer metersets (service and branch) had transmission pressure (175 psig) feeding into the house regulators. The patrol was being performed to complete the action plan associated with Event Report #1481 (similar situation @ 3956 Santa Fe). The patrol was initiated to verify that services in the area have HPR's feeding them. If the HPR's were not visible, personnel utilized metal detectors and probes to find them. In the event they still could not be found, the inlet pressure of the meterset was checked. The 2 services found were immediately shut-off and the meters removed. Crews installed a new HPR, re-test the mother service, and install a new branch service and the customer's service restored. Here are some of the facts associated with this issue: * Patrolled approximately 4,000 feet of the 4" main and 29 services. Completed 9/22/09. 6 services required further investigation (no HPR found with standard techniques). * Found 2 over-pressurized Services: 3827 Santa Fe & 3831 Santa Fe. 9/25/09. The other 4 services all were fed by HPR's (note that one of the HPR's, at 3872 Santa Fe had failed and was supplying 125 psig to the meterset, although the meter was turned off and the house was not occupied. This meterset was also removed and the HPR will be fixed after completing the other 2). * 3831 Santa Fe is a ¾" steel service line (mother). No service order has been found for this facility thus far. No installation date is shown on the maps * 3827 Santa Fe is a ½" plastic service line (branch). Extends approximate 30' from the mother service to the house. With the developments today, a similar patrol of the entire 4" line that was installed in 1930 will be performed. This is roughly 10 miles of pipe (# of services still to be determined). The patrol is scheduled to start on Monday, Sept. 28th. The line will be patrolled first and identify any services where an HPR is not visible. After the patrol is completed, a team of investigators will be sent out to find the HPR's and for those that can't be found, pressures will be checked at the meterset. I've been in contact with my Director, Todd Hogenson, who notified Glen Carter. They have recommended we proceed with the patrol aggressively. Glen suggested utilizing a team of GSR's to patrol the line and identify the services since they could break down the metersets. Frank felt that we could put a team together from the T&D and T&R folks because the ALS completed their work today and these folks will have the proper equipment required to do the work. Glen will verify if we can charge the costs of the patrol to a special order associated with the gas matters programs. I've also contacted Matt Pender who said he will send me the order number.

Root Cause Category:
Operations - Design error

If work procedure, worker classification involved:	**If work procedure, action involved:**
Estimator	Design

Detailed Description of Root Cause (Why):
Preliminary: No HPR called for on service orders

Secondary Cause (what prolonged the outage?):	**Contributory Cause :** -
Operations - Work procedure error	

If secondary cause is work procedure, worker classification involved:	**If secondary cause is work procedure, action involved:**
Crew – Division/District	-

Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):
Expand the initial Patrol to entire DFM. Perform pressure verification at all services (approx. 205). Repair any issues found related to pressure irregularities.

Action Plan Status:	**Estimated/Actual Completion Date:**
Action Items Completed	10/15/2009

Who Should follow up on Action Item(s)?: Supervisor

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -
Prepared By/Lan ID: JDHd **Last Updated By/LAN ID:** JDHd

Help

Gas Event or Close Call/Near Miss Report(ID=1741)

Incident Date : 13 Nov 2009 08:28:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 13 Nov 2009 08:28:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected

Operating Area: Area3	**Division/District:** San Jose	**Department Responsible for Event:** - **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☐ **Operator Work Procedure**	☑ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : Police	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: DFM-0807-01

Pressure: TP **Material:** Steel	**MAOP:** 200 **NOP:** 200 **MOP:** 200

Briefly Describe What Happened:
The 200 psig MAOP DFM systems 0805-01 and 0807-01 overpressured to 222 psi at approximately 0828 on 11/13/09. The regulator station E04 that supplies these DFMs is located inside Milpitas Terminal. It is a dual run station. The station primary reg run lost control: the regulator and monitor both failed open.

Details of What Happened:
DFM system pressure brought under control by approximately 0930. Reg station was internally inspected on 11/13/09 later in the day. The Downstream DFM systems were leak surveyed on 11/13/09 and 11/14/09. One leak on a threaded fitting was found and repaired.

Root Cause Category:
Operations - Gas quality

If work procedure, worker classification involved: -	**If work procedure, action involved:** -
Detailed Description of Root Cause (Why): Pipeline liquids compromised the Mooney regulator controls. The liquids entered the regulator station and plugged up theregulator and monitor pilot supply gas lines. This caused loss of control - the regulator and monitor failed open. When liquids enter the pilot supply lines, they cause the pilot regulator to lose inlet pressure (power gas) which then lifts the regulator diaphram.	
Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**
Action Plan (who does what/when to preclude similar event): Inspect station regs filters and pilots. (completed 11/13/09). Leak survey downstream system. (completed 11/14/09).	
Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 11/14/2009
Who Should follow up on Action Item(s)?: -	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.): Coalescing Filter-Separators are now installed at Milpitas Terminal upstream of this specific regulator station. These filter-seps are intended to capture all liquids and mists that travel through Milpitas Terminal, thus improving the gas quality for all piping systems downstream of the terminal and minimizing the likelihood of regulator equipment failures due to liquids.	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -	
Prepared By/Lan ID: TLA3 **Last Updated By/LAN ID:** DAO5	

Help

Gas Event or Close Call/Near Miss Report(ID=2343)

Incident Date : 08 Sep 2010 19:10:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 08 Sep 2010 19:15:00:000	
Report Status: Preliminary Report	**Report Type:** Event - No Customers Affected

Operating Area: Area6	**Division/District:** North Valley	**Department Responsible for Event:** Area6 **Department Responsible for Event(If more than one):** -

Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☐ **Operator Work Procedure**	☑ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene: 08 Sep 2010 20:30:00:000

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: CHICO - DR C L09 4TH AND SALEM ST

Pressure: LP **Material:** -	**MAOP:** 11 **NOP:** 9 **MOP:** 11

Briefly Describe What Happened:
Chico Low Pressure System exceeded 10.5" WC MAOP at 11 inches W.C.. Caused by localized flooding over regulator pits in sidewalk. Water went over the pilot vents and caused the set point of regulator to rise, and monitor took control at 11 inches W.C..

Details of What Happened:
Gas Planning engineer received page from ERX indicating overpressure situation in Chico L.P.. After verifying on SCADA, he notified Gas T&R Supervisor. Two techs were dispatched and ultimately found station causing high pressure. Shut in until daylight. Upon investigation in the morning, found that localized flood water rose over the pilot vent causing regulator set point to rise until monitor took control. Water was found in the pilot spring chamber. Pilot vents at this station are elevated to the pit lid level with loops at top.

Root Cause Category: Outside Force - Flooding	
If work procedure, worker classification involved: -	**If work procedure, action involved:** -
Detailed Description of Root Cause (Why): Flooding was the root cause of the event that lead to regulator overpressure caused by water in the pilot spring chamber & vent.	
Secondary Cause (what prolonged the outage?): Equipment - Regulator	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date: 9/8/2010	**Event Review Lead:** rjr8
Action Plan (who does what/when to preclude similar event): 1. Raise pilot vents up into vault ventalation piping at 4th & Salem Regulator station. Completed same day on 9/8/10. 2. Review other Chico L.P. stations for pilot venting and potential flooding.	
Action Plan Status: Pending	**Estimated/Actual Completion Date:**
Who Should follow up on Action Item(s)?: Supervisor	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -	
Prepared By/Lan ID: RJR8 **Last Updated By/LAN ID:** EKW4	

Help

SUPPLEMENT TO 0027-002

SUBMITTED 2-22-2011

PACIFIC GAS AND ELECTRIC COMPANY
San Bruno Gas Transmission Line Incident
Data Response

PG&E Data Request No.:	NTSB_027-002-S1		
PG&E File Name:	San Bruno GT Line Incident_DR_NTSB_027-002-S1		
Request Date:	September 30 2010	Requesting Party:	NTSB
Date Sent:	February 22, 2011	Requestor:	NTSB (Sunil Shori)

QUESTION 2

Please provide information on all events since January 1, 2008 in which PG&E exceeded its established MAOP on any portion of its distribution system, or the MOP or MAOP on any of its transmission systems. For each instance, where MAOP, MOP, or both were exceeded, please provide:

a) PG&E's identifier for the facility involved (i.e., valve number, regulating station, limiting station, etc.); and

b) A copy of PG&E's investigation, including root cause analysis, to determine the reason(s) for the failure.

ANSWER 2 – SUPPLEMENT 1

Following subsequent research, PG&E supplements its response as follows.

At the end of this response is an updated over-pressurization table which includes 6 new events and updates to three events previously reported. Changes and new entries are reflected in bold type. In addition, new entries have "new" written in the right hand column. The updated table is also provided in the attached PDF file named "NTSB_027_002-S1_Over Pressure Events.pdf".

The specific additions and changes include:

New Events

4/7/2008 "High Pressure Regulator at Hwy 68, Salinas"
9/4/2008 "Primary Regulator Station servicing SEGS Power Plant, Gcust 5906"
5/10/2010 "Regulator Station H-83, Forest and 100F, Gilroy"
6/22/2010 "Milpitas, DFM 0805 and DFM 0807-01"
1/12/2011 "Union Street Regulator Station, Eureka"
2/1/2011 "L300B on suction side of Topock Compressor Station, Topock"

Updated Events

StanPac 3, East Bay Division: date updated from 10/9/2008 to 10/7/2008.
Milpitas DFM-0805-01: Name and Type updated to include DFM 0807-01.
Milpitas DFM 0807-01: Name and Type updated to include DRM 0805-01.

Stanpac 3 event was updated to have the date of the over pressurization reflect the day the over pressurization was discovered.

The two Milpitas events have been updated to reflect that both DFM 0805-01 and DFM 0807-01 were over pressurized on both events. The two DFM's have a common source (one regulator station supplies gas to both DFM's).

Also attached are the following:

Event Reports for 5 of the new events. The first event on the spreadsheet (High Pressure Regulator at Hwy 68, Salinas that occurred on 4/7/2008) does not have supporting documentation.

- 2011 02 01 US of Topock OverPressure Gas Event Report.pdf
- 2011 01 11 Union St Reg Station Overpressure Event Report.pdf
- 2010 06 02 Milpitas_San Jose Event Report.pdf
- 2010 05 10 Milpitas_San Jose Event Report.pdf
- 2008 09 05 Daggett Event Report.pdf

Safety Related Condition Report for “L300B on suction side of Topock Compressor Sta Topock” that occurred on 2/1/2011.

- 2011 02 01_Topock Safety Related Condition Report.pdf

The Initial Safety Related Condition Report and cover letter for “StanPac 3, East Bay” which supplements the follow-up and final letters that were provided with the original response.

- 2008 10 17_PGE SP-3 Safety Related Condition Report.pdf
- 2008 10 17_SP-3 Safety Related Letter.pdf

In addition to providing an updated spreadsheet and additional supporting documentation, PG&E clarifies that its response (original and this supplemental response) includes instances when the pipeline pressure exceeded MAOP + allowable pressure as defined by 49 CFR 192.201, which provides:

- 10% above MAOP for pipelines with an MAOP above 60 psig.
- 6 psig above MAOP for pipelines with an MAOP 12 psig or more but less than 60 psig, and
- 50% above MAOP for pipelines with an MAOP less than 12 psig.

PACIFIC GAS AND ELECTRIC COMPANY
San Bruno Gas Transmission Line Incident
Data Response

	Over Pressuring Events - 2008 to February 2011 (Originally 2008 to September 2010)								
New entries submitted with supplemental response.	Location	Date	Type	Reported to CPUC and DOT?	MAOP	Pressure Reached	Cause	Immediate Corrective Action	Long Term Corrective Action
New	High Pressure Regulator at Hwy 68, Salinas	4/7/2008	Service Line	N/A	60	240	Equipment - Valve	The high pressure regulator downstream valve was opened and the regulator checked and returned to normal operation.	Installed a locking valve on HPR set to prevent customer from closing valve.
New*	Primary Regulator Station servicing SEGS Power Plant, Gcust 5906 (MP 140.64B Line 300B) Daggett	9/4/2008	Transmission	N/A	300	399	Equipment failure - Regulator and monitor failed to lock up.	Returned station serving power plant to appropriate pressure; performed complete internal inspection of both the monitor and regulator and rebuilt both units.	Monitor performance of station.
	StanPac 3, East Bay Division	10/7/2008	Transmission	Y	250 psi	380 psi	Tap off transmission line was missed during uprate evaluation, resulting in pressure exceeding MAOP when SP3 was uprated.	Pressure reduced until pipe and valves were replaced, and tap line was hydro tested. Downstream pipeline system was leak surveyed.	MAOP re-established to 380 psig following thorough records review, installation of new facilities and subsequent hydro test. New MAOP and Uprate procedures written and implemented (completed 3/2010).
	Mountain View DR B20 BAYSHORE B/ MOFFETT BLVD	11/20/2008	Distribution	N/A	90 psi	375 psi	While performing lock-up on non-standard district regulator station, MAOP on 70' of piping between regulators was exceeded.	Lowered upstream regulator set-point to 64 psig.	Sensing lines have been installed to allow station to function as a single station. A capital project to reconstruct the regulator station is scheduled for construction in 4th quarter of 2010.
	Sonoma DFM 1305-01	12/2/2008	Transmission	N/A	150 psi	200 psi	MAOP valve not completely closed after completing valve maintenance.	Closed MAOP valve. Downstream pipeline system was leak surveyed.	Conducted a tailboard to ensure proper operation of all valves. Reinforced need to review pressure charts with local supervision.
	L-140 downstream of McMullen Ranch Station	12/15/2008	Transmission	N/A	408 psi	650 psi	Regulator and monitor failure due to slug of liquid causing the filter to collapse allowing the liquids into the regulator, monitor and ultimately plugging the pilot.	Shut in line, replaced pilot and regulator filters. Checked downstream regulator station filters for liquids (no liquids were found). Downstream pipeline system was leak surveyed.	Re-tube pilot regulator to minimize chances that liquids can reach the pilot regulator. Change the micron size of the filter to prevent collapse.
	Milpitas DFM-0805-01 and DFM 0807-01	12/15/2008	0805-01 is Transmission 0807-01 is Distribution	N/A	200 psi	275 psi	Large amounts of liquids were found in the pilot filters and regulator station filter preventing the regulators from controlling the downstream pressure. Oil was getting past the filter separators.	Closed remote operated valve 50 to isolate, but the valve didn't seat; a crew went to the station and closed valve, removed oil and replace filters. Downstream pipeline system was leak surveyed.	Replace the Milpitas Terminal filter separators
	Ridgecrest DFM-6603-01	3/10/2009	Transmission	N/A	400 psi	430 psi	1998 uprate on DFM-6603-01 used distribution uprate process, which did not qualify the pipeline for 430 psig.	Upon discovery that incorrect uprate procedure was used, pressure in DFM 6603-01 was lowered to 400 psig and leak survey was performed.	All source documents for DFM 6603-01 were reviewed and GIS was updated. MAOP of DFM was left at 400 psig.
	Santa Cruz Distribution line at Hwy 17	3/16/2009	Distribution	N/A	30 psi	42 psi	Operator opened an MAOP valve without authorization.	Closed valve. Downstream pipeline system was leak surveyed.	Disciplined employee and conducted tailboard with central coast employees regarding valve operations and the clearance process.
	Sonoma DFM 1305-01	6/9/2009	Transmission	N/A	150 psi	187 psi	MAOP valve seat damaged and would not completely close.	Closed valve (so it completely sealed). Downstream pipeline system was leak surveyed.	Replaced Valve.
	Watsonville DFM-1816	6/12/2009	Transmission	N/A	303	338	Bypass valve was opened incorrectly during a "B" district regulator station maintenance.	Closed valve. Downstream pipeline system was leak surveyed.	Mechanic's OQ was pulled and station equipment has been permanently tagged. Uprating lessons were incorporated into MAOP/Uprate Standard re-write (completed March, 2010).
	DFM-7228-16 Yosemite Division	7/23/2009	Distribution	N/A	60 psi	175 psi	Service was connected directly to DFM.	Shut in line.	The meter set was rebuilt, a new service line was installed connected to an adjacent High Pressure Regulation (HPR) sets. Field verify nearby HPRs (see "3827 SantaFe" event below").
	L-123 Roseville / Walerga	8/24/2009	Transmission	N/A	175 psi	230 psi	Valve being used for an isolation valve in an active clearance was operated by crew working on SCADA system, over pressurizing two DFM systems (0618-05, 0618-02 and DREG4093).	Shut in line. Downstream pipeline system was leak surveyed.	Updated clearance procedures.
	3827 SantaFe	9/25/2009	Distribution	N/A	60	175	During a patrol of the 4" DFM that runs from Riverbank to Oakdale, personnel discovered 2 customer meter sets (service and branch) had transmission pressure (175 psig) feeding into the house regulators. The patrol was being performed to complete the action plan associated with Event Report #1481 (see "DFM 7228-1 Yosemite Division" event above) - to verify services in the area have HPR's feeding them.	The 2 services found were immediately shut-off and the meters removed. A new HPR was installed, along with a new branch service and both customers service restored.	Expand the initial Patrol to entire DFM. Perform pressure verification at all services (approx. 205). Repair any issues found related to pressure irregularities.
	San Jose DFM-0807-01 and DFM 0805-01	11/13/2009	0805-01 is Transmission 0807-01 is Distribution	N/A	200 psi	222 psi	The primary regulator run lost pressure control due to the introduction of pipeline liquids. Secondary regulation took over pressure control.	Shut in line, cleared liquids from regulators and filters. Downstream pipeline system was leak surveyed.	Installation of coalescing filter separators to remove liquids and mists from the liquids. (installation of filter separator was in progress at time of over pressure event. Filter separator was placed into operation on 11/30/2009).
New^	Regulator Station H-83, Forest and 100F, Gilroy	5/10/2010	Distribution	N/A	55	71	Operations - Work Procedure Error during station maintenance.	The pressure was immediately reduced to an acceptable level. Leak survey was completed on 5/12/2010.	Tailboard maintenance group on proper procedures associated with regulator station maintenance.
New^	Milpitas, DFM 0805-01 and DFM 0807-01	6/22/2010	0805-01 is Transmission 0807-01 is Distribution	N/A	200	300	Operations - Work Procedure Error during clearance.	V52 was immediately closed upon discovery of the error and line was returned to acceptable pressure. The downstream distribution feeder system was leak surveyed on 6/23/2010 and no leaks were found on the system.	Tailboard maintenance group on proper procedures associated with regulator station maintenance.
New^	Union Street Regulator Station, Eureka	1/12/2011	Distribution	N/A	167	194	Equipment - Sulfur deposits on regulator stem and seat.	All regulators and valves at Union Street Regulator Station were rebuilt.	Sulfur filters were installed on all regulator control loops.
New^	L300B on suction side of Topock Compressor Station, Topock	2/1/2011	Transmission	Y	660	727	Third Party - Overpressure of supplier pipeline.	Initial indications suggest this overpressure ization was caused to action on the TransWestern pipeline. Pressure returned to acceptable level.	Pressure lowered to 528 psig (20% below MAOP) on 2/3/2011. Assessment of pipeline is on-going.

* = new project had event report documentation

Events were reported in NTSB 027-002, but pressures did not exceed allowable pressures per 49 CFR 192.201.

3rd & O Street, Sacramento	12/17/2008	Distribution	N/A	10.5" wc	14.5"wc	While installing a new fire valve for a district regulator station, a temporary 2" by-pass feeding a LP Regulator Station was inadvertently closed shutting off gas flow to the regulator station. The sudden increase in pressure when the valve reopened activated the station's regulator overpressure safety device and shut off gas flow downstream into the low pressure system.	Gas T&R found that the Fisher EZR Slam shut's over pressure trip activated, which limited downstream pressure to 14.5" wc. Integrity of downstream distribution system was assessed.	Reviewed valve operations and clearance procedure with crew.
MODESTO - DR L15 MELROSE & SCENIC DR	1/9/2009	Distribution	N/A	10.5" wc	13" wc	The set points at 3 regulator stations were adjusted from 9 in wc to 10 in wc for winter loading. The system exceeded the MAOP, the highest pressure was 13 in wc. Neither the slam-shut operated nor the system relief valves operated because they are set to operate at higher pressures. SCADA did not alarm.	T&R reset the pressure, water was cleared from the vent line.	Pressures were monitored daily for 1 week, SCADA was rebooted & checked daily, SCADA phone line needed repair/replacement, A&B inspections were performed on all 3 stations.
Chico Regulator Station - DR C L09 4TH AND Salem St.	9/8/2010	Low Pressure	N/A	10.5 in WC	11 in WC	`	Removed water from diaphragm.	Run the vents up into the vault air ducts.

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Pacific Gas and Electric Company

Event Reporting

Gas Event or Close Call/Near Miss Report(ID=2528)

Incident Date : 01 Feb 2011 12:30:00:000
IGIS Leak No. :
Risk Master No. :
Date Reported to PGE : 01 Feb 2011 12:30:00:000
Report Status: Preliminary Report
Report Type: Event - No Customers Affected
Operating Area: GT M&C Districts
Division/District: Topock
Department Responsible for Event: Operations
Department Responsible for Event(If more than one): -
Criteria

☐ **Cpuc Reportable**	☐ **Death or Injury Flag**	☐ **>50k Damage**	☐ **Media Coverage**
☐ **Service Interruption**	☐ **Planned Outage**	☐ **Insufficient Design**	
☐ **Operator Work Procedure**	☑ **Equipment Material Failure**	☐ **Natural Disaster**	
☐ **Transmission Leak**	☐ **DOT Safety Related Condition**	☐ **Near Hit**	

Reported By : PGE Employee **Total Number of Customers Affected :** 0
First Outage Occurence:
PGE Personnel on Scene:
Gas FLow Stopped:
Ready Begin Relights:
Last Relight / Last CGI Issued:
Principal Facility Affected: 383655.g06 - Topock
Pressure: HP **Material:** Steel **MAOP:** 660 **NOP:** 640 **MOP:** 650

Briefly Describe What Happened:
On Tuesday February 1st 2011 between 1230-1303 the Topock Compressure Station suction header pipeline was over-pressurized to a maximum pressure of 727 psig. (Sections of this piping have an MAOP of 660 psig). The compressor station was in bypass mode, not compressing, main line gas was flowing through two compressor units K-6 & K-8 by throtling the suction and discharge valves on the units. The compressor station is inter-connected with two out of state gas companies, El Paso Natural Gas Co.(EPNG) which operates a metering station located across the colorodo river in Arizona & Transwestern Gas Co.(TW)which operates a metering station located adjacent to Topock Compressor station. EPNG gas rate for the day was 61.2 MMCF/d and TW gas rate was 150.1 MMCF/d. The hourly gas flow was averaging about 9.0 to 12.0 mcfhr. Starting at 0700 the compressor station operator began cutting back on flow in small incriments to keep on rate, this backed off the El Paso flow, however the TW flow continued to push our suction pressure up until it reached 727 psig at 12:30 at which time System Gas Control noticed the high pressure and contacted the compressure station operator who was performing weekly test run duties at the emergency generator and was unaware of the high pressure situation.

Details of What Happened:
The Topock compressor Station operator imediatley opened the two throtling compressor units to relieve the suction header pressure, at the same time at about 12:50 the pressures began to drop back to normal range and was back to normal around 13:03 it returned to 660 psig. At 15:30 the Topock compressor station supervisor was contacted by System Gas Control to investigate the cause. The station supervisor asked Gas Control to contact Station engineering, TW Gas Control & EPNG Gas Control for assistance. After looking at SCADA point data of EPNG & TW pressures, It appeared to be the pressure controls at the TW metering station. TW said it would send a tech out on Wednesday morning to investigate thier equipment.

Root Cause Category:
Equipment - Operator/controller

If work procedure, worker classification involved:
-

If work procedure, action involved:
-

Detailed Description of Root Cause (Why):

On the morning of Wednesday Feb 2 the tech from TW arrived at thier metering station and It was discovered that TW had performed some work at the station on 1-17-2011 where they had raised the set point on thier pressure control devices from normal set point of 680 psig to 800 psig to allow them to do some work on thier equipment and upon completing that work they forgot to re-set the controlers back to 680 psig before leaving the station. The TW tech re-set the control pressure set points back to 680 psig. A secondary issue was the suction header high pressure alarm was inoperable. It was discovered that the suction header high pressure alarm had activated on Jan 21st at 8:40 am due to a high suction header pressure of 701 psig. With in 30 minutes the pressure returned to normal, however the alarm didn't clear. The operators submitted a work request for repairs on Jan 24th however it had not yet been scheduled for repairs which lead to the Topock operator not recieving the alarm on February 2.

Secondary Cause (what prolonged the outage?): -

Contributory Cause : -

If secondary cause is work procedure, worker classification involved:

-

If secondary cause is work procedure, action involved:

-

Incident Critique / Event Review Date:

Event Review Lead:

Action Plan (who does what/when to preclude similar event):

1) Station Engineering should evaluate how we document and control over-pressure protection (OPP) of third party systems, e.g. inclusion into drawing 183018. 2) Station Engineering should evaluate our interconnect designs to ensure installation of a PG&E owned over-ride, slam-shut, pressure control device. 3) Station Engineering will take the lead to design and work with M&C to procure and install a slam-shut, pressure control device on Topock valve TW1. 4) Topock District to leak survey all suction lines from L-300A & B bridges to the compressor station and all pipeing with in the station. 5) Topock District to test & calibrate all suction and discharge Hi/low pressure alarms and verify.

Action Plan Status:

Pending

Estimated/Actual Completion Date:

3/31/2011

Who Should follow up on Action Item(s)?: -

TES (Technical and Ecological Services) Report Number (if applicable):

Is further sample analysis of laboratory examination required?:

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:

-

Prepared By/Lan ID: DLLd

Last Updated By/LAN ID: DLLd

Help

Pacific Gas and Electric Company

Gas Event or Close Call/Near Miss Report(ID=2490)

Incident Date : 12 Jan 2011 01:45:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 11 Jan 2011 23:50:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected
Operating Area: Area7 **Division/District:** Humboldt	**Department Responsible for Event:** T&R **Department Responsible for Event(If more than one):** -

Criteria

- ☑ **Cpuc Reportable**
- ☐ **Death or Injury Flag**
- ☐ **>50k Damage**
- ☐ **Media Coverage**
- ☐ **Service Interruption**
- ☐ **Planned Outage**
- ☐ **Insufficient Design**
- ☐ **Operator Work Procedure**
- ☑ **Equipment Material Failure**
- ☐ **Natural Disaster**
- ☐ **Transmission Leak**
- ☑ **DOT Safety Related Condition**
- ☐ **Near Hit**

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene: 12 Jan 2011 02:45:00:000

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: 082632.g06 - Union St

Pressure: TP **Material:** Steel **MAOP:** 167 **NOP:** 160 **MOP:**

Briefly Describe What Happened:
Overpressure event. Regulator and monitor failure at Union Street Regulator Station.

Details of What Happened:
Background: The Eureka area has a 160 psig transmission system (MAOP 167 psig) fed by four regulator stations; Elk River Regulator Station, Union Street Regulator Station, Ryan Slough Regulator Station, and Arcata Regulator Station. The inlet to these stations is 345 fed by Tompkins Hill Regulator Station. Union Street Regulator Station is comprised of 2 2” Mooney Dual-Port regulators in a dual-run configuration feeding into a common header and into one downstream 4” Mooney single port monitor. Annual maintenance occurs in January and was slated for the week of 1/17/10. Incident: On 11:50 PM on January 11th, 2011, the Eureka Gas on-call supervisor receiv a call from Gas Control that the Union Street Regulator Station pressure was in high alarm, and that the Tompkins Hill SCADA was not responding and was requesting to have it investigated. The on-call supervisor called in an M&C Mechanic, followed by a Gas Control Technician to respond to these events. The Mechanic and GCT left the Eureka yard at 12:50 AM and drove to Tompkins Hill Regulator Station as it was thought that this was the location for both issues due to annual maintenance completed two weeks prior and historical pressure callouts to adjust downstream pressure. Upon arrival at Tompkins Hill Regulator Station, it was found that the 345 psig downstream pressure was off by a couple of pounds, and was adjusted back to the correct setpoint. The Mechanic called Gas Control to report his findings. Gas Control stated to the Mechanic that they didn't think he was at the correct station to remedy the overpressure issu and needed to go to Union Street Reg Station. A while later on a follow-up call, Gas Control firmly stated to the Mechanic that the overpressure problem was on the 160 psig outlet side of Union Street Regulator Station and not the 345 psig incoming side fed from Tompkins Hill, which the Mechanic had just adjusted. The Mechanic became aware of the misunderstanding and prepared to leave

immediately to Union Street. At 1:30 AM, the GCT and Mechanic left Tompkins Hill Regulator Station, and drove to Elk River Regulator Station, which was on the way to Union Street Regulator Station to check its status as Elk River also feeds the 160 psig system. Elk Rive was found locked up and quiet. The Mechanic installed a gauge on the downstream side of the Elk River regulators and discovered that pressure was now 190 psig. At 2:15 AM the GCT and Mechanic left the Elk River Regulator Station and continued on to Union Street Regulator Station, to find it flowing gas rather loudly. At 2:45 AM, the Mechanic closed the inlet valve to the working regulator and shut in station. Pressure at this time was 194 psig. Acceptable MAOP + 10% = 184 psig. Downstream pressure immediately began to fall back t normal levels. A second M&C Mechanic was called in and the three T&R personnel began the process of performing an internal inspecti on the Union Street regulators and monitor.

Root Cause Category:
Equipment - Regulator

If work procedure, worker classification involved:	**If work procedure, action involved:**
-	-

Detailed Description of Root Cause (Why):
Findings: It was found that the 2" Dual Port Mooney working regulator failed in a partially open position due to excessive buildup of sulfur the Mooney pilot regulator stem and seat. This allowed the pressure to slowly build up to monitor pressure. The backup regulator showed issues. It was found that the 4" Single Port Mooney monitor did not catch the pressure due to a clogged inlet port to the Welker pilot filter upstream of the pilot regulator. This issue is discussed in Bulletin TD4540B-002 "Welker F-7 Filter Replacement on Control Loops". The clogged port restricted loading gas to reach the main boot, thereby preventing lockup at the normal setpoint. Secondary Cause: The M&C Mechanic and On-Call Supervisor reported that it was not made perfectly clear to them that it was the downstream pressure and not the upstream pressure that was the issue. The simultaneous report of a comm failure at Tompkins Hill added a level of confusion as to the source of the problem. In addition, the M&C Mechanic was slightly lethargic from being recently wakened and judgement was cloudy. Th Mechanic assumed it was a problem that has historically occurred in this area in that Tompkins Hill was feeding slightly high. Training Ga Citect training does not exist. Knowledge of the tool comes through usage and word of mouth from other fellow employees. Understandir of the tool is key is determining the appropriate response to a situation.

Secondary Cause (what prolonged the outage?): Operations - Miscommunication or unclear expectations	**Contributory Cause :** Training – gaps
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):
Corrective Actions: All Union Street regulators and monitor were completely rebuilt. Sulfagon sulfur filters are to be installed on all regulator/monitor control loops the week of 1/17/11. Actual completion date 1/21/11. The Welker filter was replaced with a Mooney Type filter. All affected transmission pipelines will be leak surveyed and documented. The survey is 90% complete as of 1/13/11. The survey w 100% completed on 1/15/11. No leaks have been found. All T&R personnel are to be tailboarded on the proper and timely use of the Cite SCADA software so a better understanding of system pressures can aid in efficient and accurate troubleshooting of AOCs. In addition, ensure that a follow-up call to Gas Control occurs prior to leaving the yard to get concurrence on proper actions for the event, especially the middle of the night. This is to be completed the week of 1/17/11. Tailboard completion date 1/14/11.

Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 1/21/2011

Who Should follow up on Action Item(s)?: Supervisor

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issu RCA title/number; etc.):

Photos can be seen at \\eureka01\LocalShared\T&R EUREKA\R31 Union Street Photo's

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:
-

Prepared By/Lan ID: WDBa
Last Updated By/LAN ID: WDBa

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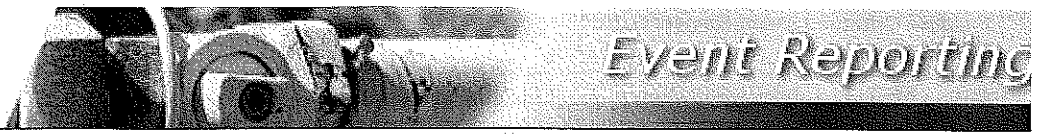
Pacific Gas and Electric Company



Gas Event or Close Call/Near Miss Report(ID=2190)

Incident Date : 22 Jun 2010 09:55:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 22 Jun 2010 10:00:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected
Operating Area: GT M&C Districts / **Division/District:** Milpitas	**Department Responsible for Event:** M&C **Department Responsible for Event(If more than one):** -

Criteria

☐ Cpuc Reportable	☐ Death or Injury Flag	☐ >50k Damage	☐ Media Coverage
☐ Service Interruption	☐ Planned Outage	☐ Insufficient Design	
☑ Operator Work Procedure	☐ Equipment Material Failure	☐ Natural Disaster	
☐ Transmission Leak	☐ DOT Safety Related Condition	☐ Near Hit	

Reported By : PGE Employee **Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: DFM-0805-01

Pressure: TP **Material:** Steel **MAOP:** 200 **NOP:** **MOP:**

Briefly Describe What Happened:
A work procedure error occurred when coming off of a clearance for an ILI inspection of L-100 in the Milpitas. GT Milpitas District employee mistook direction on clearance. Clearance directed for V-52 to be "check closed". Operator looked at next line of clearance which read "open valve". This caused an MAOP overpressurization downstream of V-52 in DFM-0805-01 line. MAOP is 200 psi and line reached 300 psi. DFM 0807-01 also affected.

Details of What Happened:
Gas Control called clearance supervisor Dave Boyd to inform of the situation. Error was discovered and V-52 was then immediately closed.

Root Cause Category:
Operations - Work procedure error

If work procedure, worker classification involved: Crew – Division/District	**If work procedure, action involved:** Clearance

Detailed Description of Root Cause (Why):
Preliminary root cause is a work procedure error. Inattention to detail or carelessness caused employee to look 1 step ahead on directions which resulted in a valve being opened instead of confirmed closed.

Secondary Cause (what prolonged the outage?): Operations - Inattention/carelessness	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -

Incident Critique / Event Review Date: 9/29/2010	**Event Review Lead:** msld
Action Plan (who does what/when to preclude similar event): GMS to tailboard the following two Action Plan items: 1. CS to not perform physical labor portion of clearance. 2. 3-way Communication is to be used during all clearances.	
Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 12/6/2010
Who Should follow up on Action Item(s)?: Specialist	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.): Line scheduled for leak survey for next morning. (6/23/10) No leaks were found on the DFM system. There were some leaks found on the adjacent distribution system survey as per PLE Todd Arnett.	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: -	
Prepared By/Lan ID: XXXX **Last Updated By/LAN ID:** JLC5	

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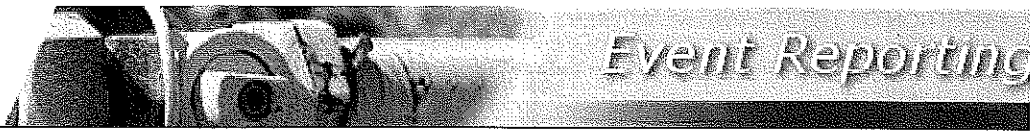

Gas Event or Close Call/Near Miss Report(ID=2109)

Incident Date : 10 May 2010 10:20:00:000

IGIS Leak No. :	**Risk Master No. :**

Date Reported to PGE : 10 May 2010 10:20:00:000

Report Status: Final Report	**Report Type:** Event - No Customers Affected

Operating Area: Area3	**Division/District:** San Jose	**Department Responsible for Event:** T&R **Department Responsible for Event(If more than one):** -

Criteria

☐ Cpuc Reportable	☐ Death or Injury Flag	☐ >50k Damage	☐ Media Coverage
☐ Service Interruption	☐ Planned Outage	☑ Insufficient Design	
☑ Operator Work Procedure	☐ Equipment Material Failure	☐ Natural Disaster	
☐ Transmission Leak	☐ DOT Safety Related Condition	☐ Near Hit	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: FOREST & IOOF Al, GILROY . Type- Main Map- 3606 Plat- J04 Block- 27

Pressure: HP **Material:** Steel	**MAOP:** 55 **NOP:** 52 **MOP:** 52

Briefly Describe What Happened:
GAS T&R PERSONNEL UTILIZED OUTLET FIRE VALVE TO PERFORM OPERATIONAL LOCK-UP TEST ON DOWNSTREAM REGULATOR AT STATION H-83: FOREST & IOOF, GILROY. THIS MOMENTARILY EXPOSED 20-FT OF 6" STEEL DISTRIBUTION MAIN TO A PRESSURE OF 71 PSIG WHICH IS GREATER THAN THE ALLOWABLE LIMIT OF 61 PSIG (55 PSIG MAOP + 6 PSIG).

Details of What Happened:
THE REGULATOR STATION IN QUESTION IS NOT PROPERLY CONFIGURED FOR STANDARD OPERATIONAL LOCK-UP TESTING WITHIN THE VAULTS. THE DOWNSTREAM REGULATOR IS BOLTED DIRECTLY TO OUTLET BLOCK VALVE, LEAVING NO SPACE TO "SHORT-LINE" THE SENSE LINE PIPING. MECHANICS COULD NOT OBTAIN AUDIBLE LOCK-UP ON THIS REGULATOR AND DECIDED TO PERFORM A MODIFIED VERSION OF THE OPERATIONAL LOCK-UP TEST USING THE DOWNSTREAM FIRE VALVE. THIS EXPOSED THE SHORT SECTION OF 6" STEEL DISTRIBUTION MAIN BETWEEN OUTLET BLOCK VALVE AND OUTLET FIRE VALVE TO A MOMENTARY INCREASE IN PRESSURE ABOVE MAOP PLUS 6 WHEN REGULATOR DID NOT LOCK UP AT SET POINT.

Root Cause Category:
Operations - Work procedure error

If work procedure, worker classification involved: Crew – Division/District	**If work procedure, action involved:** Maintenance

Detailed Description of Root Cause (Why):
THE ROOT CAUSE ASSOCIATED WITH THIS EVENT IS WORK PROCEDURE ERROR. T&R EMPLOYEES FOLLOWED CURRENT WORK PROCEDURE WP4540-01 AND TESTED THE REGULATOR IN QUESTION WITH A SHORT-LINE OPERATIONAL LOCK-UP TEST, HOWEVER THE ERROR WAS MADE WHEN THE DOWNSTREAM SYSTEM WITH AN MAOP OF 55 PSIG WAS ALLOWED TO GO ABOVE THE ALLOWABLE LIMIT OF 61 PSIG. A SECONDARY CAUSE IS INSUFFICIENT DESIGN OF THE REGULATOR STATION. THIS STATION IS NOT DESIGNED TO ALLOW FOR OPERATIONAL LOCK-UP TESTING AS DESCRIBED IN WP4540-01 DUE

POSITION OF THE DOWNSTREAM VALVE AND REGULATOR.

Secondary Cause (what prolonged the outage?): Operations - Design error	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):
T&R GROUP WAS TAILBOARDED 5/11/10 ON DISTRICT REGULATOR STATION DESIGN AND MAOP BREAK POINTS. TAILBOARD ALSO INCLUDED DISCUSSION ON MAOP PLUS ALLOWABLE LIMITS ON DOWNSTREAM DISTRIBUTION SYSTEMS AND REINFORCED THE SHORT-LINE LONG-LINE PROCESS COVERED IN WP4540-01. A LEAK SURVEY WAS COMPLETED 5/12/10 ON THE SHORT 20-FT SECTION OF DISTRIBUTION MAIN TO BE CONSISTENT WITH PREVIOUS PG&E ACTION WHEN MAOP PLUS ALLOWABLE HAS BEEN EXCEEDED. A COPY OF THE TAILBOARD SIGN-IN SHEET AND GAS LEAK SURVEY PLAT HAS BEEN SAVED ON THE SAN JOSE GAS COMPLIANCE SHAREPOINT SITE. TO ADDRESS THE DESIGN ISSUE, THIS STATION WILL HAVE EXISTING REGULATORS REPLACED WITH MOONEY REGULATORS TO ALLOW STATION TO BE SHORT-LINED PROPERLY.

Action Plan Status: Action Items Completed	**Estimated/Actual Completion Date:** 5/12/2010

Who Should follow up on Action Item(s)?: None Required

TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**

Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):

M&C Mechanic was issues a C&C for not following current procedures.

SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?:
-

Prepared By/Lan ID: SRFa
Last Updated By/LAN ID: GMK3

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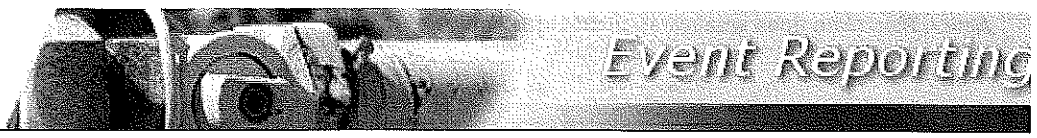

Gas Event or Close Call/Near Miss Report(ID=605)

Incident Date : 04 Sep 2008 17:30:00:000

IGIS Leak No. :	**Risk Master No. :**
Date Reported to PGE : 05 Sep 2008 07:10:00:000	
Report Status: Final Report	**Report Type:** Event - No Customers Affected
Operating Area: Area4 **Division/District:** Kern	**Department Responsible for Event:** Area4 **Department Responsible for Event(If more than one):** -

Criteria

☐ Cpuc Reportable	☐ Death or Injury Flag	☐ >50k Damage	☐ Media Coverage
☐ Service Interruption	☐ Planned Outage	☐ Insufficient Design	
☐ Operator Work Procedure	☑ Equipment Material Failure	☐ Natural Disaster	
☐ Transmission Leak	☐ DOT Safety Related Condition	☐ Near Hit	

Reported By : PGE Employee	**Total Number of Customers Affected :** 0

First Outage Occurence:

PGE Personnel on Scene:

Gas FLow Stopped:

Ready Begin Relights:

Last Relight / Last CGI Issued:

Prinicipal Facility Affected: Segs Primary (Barstow G) 300B T-140.64B

Pressure: - **Material:** -	**MAOP:** **NOP:** **MOP:**

Briefly Describe What Happened:
Over pressure according to Divison Station Drawing. Regulator and Monitor failed to lock up.

Details of What Happened:
When reviewing the Morning Alarm Report it was discovered that Barstow G had over pressured the line to 399 PSIG. MAOP is showing at 300 PSIG on station drawing. GIS shows MAOP of 537 PSIG. We responded to the site. We found station in operation and proceded to do an A inspection on the left run which failed to lock up. We then rebuilt the entire run (B inspection) on the left run, and left station in normal operating mode. Daggett Leasing Primary fm# R-621

Root Cause Category:
Equipment - Regulator

If work procedure, worker classification involved: -	**If work procedure, action involved:** -

Detailed Description of Root Cause (Why):
Rugulator and Monitor did not lock up.

Secondary Cause (what prolonged the outage?): -	**Contributory Cause :** -
If secondary cause is work procedure, worker classification involved: -	**If secondary cause is work procedure, action involved:** -
Incident Critique / Event Review Date:	**Event Review Lead:**

Action Plan (who does what/when to preclude similar event):	
Action Plan Status: -	**Estimated/Actual Completion Date:**
Who Should follow up on Action Item(s)?: -	
TES (Technical and Ecological Services) Report Number (if applicable):	**Is further sample analysis of laboratory examination required?:**
Additional Relevant Comments (e.g., Environmental/system impacts; lesson learned; customer restoration/communication issues; RCA title/number; etc.):	
SAP ATR (Apparatus Trouble Report) or MPR (Material Problem Report) Required?: No	
Prepared By/Lan ID: RWF5 **Last Updated By/LAN ID:** RWF5	

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Pacific Gas and Electric Company®

Kris Narayanan
Director, Gas Engineering
Gas Transmission and
Distribution

375 N. Wiget Lane, Suite 170
Walnut Creek, CA 94598

415-973-5757
Internal: 223-5757
Fax: 415-973-0881
Internet: KxNb@pge.com

February 8, 2011

Mr. Jeff Wiese
Associate Administrator for Pipeline Safety
Pipeline and Hazardous Material Safety Administration
United States Department of Transportation
1200 New Jersey Avenue SE
Room E22-330
Washington D.C. 20590

Dear Mr. Wiese:

Attached, as required by 49 CFR Parts 191, Sections 191.23 and 191.25, is a Safety Related Condition Report for Gas Transmission Line 300B, located at the Topock Compressor Station in the city of Topock, San Bernardino County, California.

Sincerely,

Kris Narayanan

Attachment

cc: Raffy Stepanian, California Public Utility Commission
Michael Robertson, California Public Utility Commission

SAFETY RELATED CONDITION REPORT

Name of Operator: Pacific Gas and Electric Company

Address: 375 North Wiget Lane, Suite 170, Walnut Creek, CA 94598

Date of Report: February 8, 2011

Person Submitting Report: Kris Narayanan

Job Title: Director, Gas Engineering

Telephone Number: (415) 973-5757

Person Determining Condition: Terry White

Job Title: Manager, Station Engineering

Telephone Number: (925) 974-4182

Date Discovered: February 1, 2011

Date Determined: February 1, 2011

Condition Location: Line 300B at Topock Compressor Station in Topock, CA.

Condition Description:
On February 1, 2011, pressure sensors on PG&E's system identified that a short section (0.45miles) of line 300B experienced a pressure of 727 psig on the intake side of the Topock compressor station, where PG&E's Line 300B interconnects with TransWestern pipeline. Transwestern is a gas supplier to PG&E and Line 300B is on the intake side of Topock compressor station. The Transwestern pressure reading of 727 psig was one pound over 110% of the Maximum Allowable Operating Pressure (MAOP) of 660 psig on this line segment. PG&E pressure transducers indicated a pressure of 725 psig which is 9.8% above MAOP.

How Condition was discovered: This pressure excursion was discovered via an instantaneous SCADA alarm read in PG&E System provided by Transwestern pipeline. Initial indications suggest the over-pressure was caused by actions on the TransWestern pipeline.

Condition's Effect on Safety: PG&E has reduced the operating pressure by 20% below MAOP in L-300B in accordance with the California Public Utilities Commission (CPUC) February 2, 2011 letter. The February 2, 2011 CPUC letter directed PG&E to reduce the operating pressure by 20% below the MAOP on any transmission line that have segments in HCAs that is found to have experienced planned or unplanned events in which the segments experienced pressure greater than 10% above MAOP.

Current Action Taken: The Maximum Allowable Operating Pressure (MAOP) of Line 300B is 660 psig. Accordingly, on February 3, PG&E reduced the operating pressure on Line 300B upstream of the Topock compressor station as well as within the suction side of the compressor station itself, to 528 psig, which is 20 percent below the MAOP of 660 psig. Additionally a leak survey was conducted and no leaks were found.

Planned Future Action:

- Validate pressure measurements on pipeline segments including pressure transducer calibrations and elevation analysis (February, 2011).
- Develop the plan to restore pressure. (March, 2011)

- Review and update pipeline design requirements related to interconnection facilities between PG&E and other entities to ensure it complies with industry best practices. (March, 2011)
- Reevaluate Interconnect agreement to ensure appropriate sharing of key operational information between TransWestern and PG&E (April, 2011)

Future Action Start Date: See above for dates.

SAFETY RELATED CONDITION REPORT

Name of Operator: Pacific Gas and Electric Company

Address: 375 N. Wiget Ln., Walnut Creek, CA 94598

Date of Report: October 17, 2008

Person Submitting Report: Glen Carter

Job Title: Sr. Director, Gas Engineering

Telephone Number: 415-973-4603

Person Determining Condition: Todd Hogenson

Job Title: Director, Gas Design and Planning

Telephone Number: (925) 974-4144

Date Discovered: October 7, 2008

Date Determined: October 10, 2008

Condition Location: 1074 foot section of transmission pipe lateral to StanPac-3 (SP-3) at Mile Point (M.P.) 194.20, between the Sarah Drive Meter Station and the El Sobrante Reg. Station along Appian Way in Pinole, CA.

Condition: A 1074 foot section of a 4 inch lateral to SP-3 has a MAOP of 250 psig while the SP-3 pipeline downstream of Franklin Canyon Station has an MAOP of 380 psig and typically operates in the 350 psig range. The 4 inch lateral was installed prior to 1948 and pipe specifications are not available within existing records. From about 1970 to 2006, both SP-3 and the lateral operated with an MAOP of 250 psig. In 2006 this section of SP-3 and the lateral were uprated to an MAOP of 380 psig.

How Condition was Discovered: This was discovered as part of background research to a gas leak reported on the 1074 foot section of line feeding El Sobrante Regulator Station on Friday, October 3, 2008.

Condition's Effect on Safety: Pipe specs for this lateral have been assumed as the most conservative for pipe manufactured in the mid to late 1940's. The lateral is listed at 4.5" OD, 0.141" wall thickness, 24000 psi SMYS, with a joint efficiency factor of 0.6. At 250 psig this equates to 27% SMYS. This section of pipeline is located in a High Consequence Area (HCA), and has operated for 35+ years at an MOP of 250 psig without incident.

Current Action Taken: Pressure in SP-3 from Franklin Canyon Station to San Pablo Station has been lowered to below 250 psig. Primary regulation at Franklin Canyon Station is set to 245 psig with the secondary regulation set to 240 psig. Monitors have been set to 250 psig.

Planned Future Action: SP-3 and this section of 4" pipe will continue to be operated at an MOP of 250 psig until the 4" pipeline specifications and records are confirmed so the line can be uprated, hydrotested, or replaced. Installing regulation at Sarah Drive Meter Station will also be explored so that SP-3 can be operated up to its current MOP of 380 psig. The pipe will be exposed and a section will be tested and/or cut out to gather accurate pipe specs to allow for development of an action plan.

Future Action Start Date: PG&E is in the process of applying for permits to allow for excavation of the 4" line in several locations to determine accurate pipe specifications. Once testing is complete on the pipe, an engineering evaluation will be made on how to proceed. A formal action plan to support restoration of the 380 psig MOP will be in place by late November 2008.

October 17, 2008

Mr. Jeff Wiese
Associate Administrator for Pipeline Safety
Pipeline and Hazardous Material Safety Administration
United States Department of Transportation
1200 New Jersey Avenue SE
Room E22-330
Washington D.C. 20590

Dear Mr. Wiese:

Attached, is a Safety Related Condition Report for Gas Transmission Line StanPac-3 (SP-3) at Mile Point (M.P.) 194.20 located between the Sarah Drive Meter Station and the El Sobrante Regulator Station. This line runs south along Appian Way in the City of Pinole, California.

Pursuant to 49 CFR 191.23(a)(8), PG&E elected to reduce the maximum operating pressure (MOP) for the subject pipeline and lateral until tests can be completed and an appropriate action plan developed.

This report is submitted in accord with the requirements and deadlines set forth in 49 CFR 191.25.

Sincerely,

/S/

Glen Carter
Sr. Director, Gas Engineering
Pacific Gas & Electric Company

cc: Raffy Stepanian, California Public Utility Commission
Julian Ajello, California Public Utility Commission
Sunil Shori, California Public Utility Commission

Attachment