

Memorandum

Date: March 20, 1989  
To: GOLDEN GATE REGION  
From: GAS SYSTEM DESIGN  
Subject: Failure of Longitudinal Weld on  
30-Inch Steel Pipe

File # 460.21

*BW*



[Redacted]

Thank you for bringing to our attention the problem with the longitudinal weld on the 30-inch steel pipe. The Gas System Design Department has finished processing the Material and/or Equipment - Problem or Failure Report you submitted (GSD received date 11/28/88). A copy of the completed report is attached.

If you have any questions concerning this report, please contact me on Ext. [Redacted]

[Redacted]

[Redacted] (223-1888):cm

cc: [Redacted]

[Redacted]

*I will find its way to you sooner or later - BUT HERE'S ADVANCE COPY*

Attachment

[Redacted]

**MATERIAL AND/OR EQUIPMENT - PROBLEM OR FAILURE REPORT**

**NOTE:** Do not use this form for reporting failures or accidents which result in death, injury, and/or property damage. Also, this form should not be used for reporting corrosion leaks in pipe, or replacement due to normal wear.

TO BE COMPLETED BY FOREMAN AND/OR LOCAL ENGINEERING STAFF  
See Attachment 2 of S.P.460.21-7 for Instructions

- Failed material or equipment LONGITUDINAL WELD ON 30" T.L. 132
- Location (address) where failure occurred [redacted] City, Co. [redacted]
- Material or equipment details and description of problem or failure  
A PINHOLE LEAK WAS FOUND ON THE LONGITUDINAL WELD ON 30" T L 132.
- Service information: Date installed 1948 Other information GM 98015
- Disposition of failed material Delivered to [redacted] G.G.R. Gas Manager on 11-4-88.
- Person to contact for information [redacted] Telephone [redacted]
- Reported by: [redacted] Location Peninsula Region G.6 Date 10-27-88
- Noted by Regional office: By [redacted] Date 8/8/116

SEND ORIGINAL TO MANAGER GAS SYSTEM DESIGN DEPARTMENT - ROOM 2857, 77 BEALE STREET

FOR USE BY GAS SYSTEM DESIGN DEPARTMENT DATE RECEIVED

- Review assigned to: [redacted] - GS) 11/29/88
- Copies distributed to: (Gas Dist.) \_\_\_\_\_
- Evaluation, comments and action by Gas System Design:  
FAILED SECTION OF PIPE WAS INSPECTED. SEE THE ATTACHED T&ES LETTER DATED 3/1/89.

GAS SYSTEM DESIGN		
PCN	FJU Date	KCR
JRG	NOV 28 1988	KMB
RCB		ED
JAC		CM
SYC	CIRCULATE	HANDLE
RFD	COMMENT	FILE
RRR		

- Evaluation completed by: [redacted] Telephone [redacted] Date 3/15/89
- Approved by: [redacted] Date 3-20-89

**FEEDBACK\***

- By: OEA Date 3/20/89 Method letter  
To: \_\_\_\_\_

\* **IMPORTANT:** Feedback must be provided on all Material Problem or Failure Reports, either by letter or copy of completed report. Distribution should be made as outlined in the Guidelines (Supplement to S.P. 460.21-7).

02 0291 (REV 9/82) NO DAY YR  
 DATE OF ESTIMATE 103188

# JOB ESTIMATE

JOB COORDINATOR S RC NUMBER 0269

DEPARTMENT SAS DISTRICT PENINSULA DIVISION GOLDENGATE REGION 02  
 APPLICANT(S) PACIFIC GAS & ELECTRIC CO. SOURCE DOCUMENT OF ESTIMATE No 0234691727  
 LOCATION \_\_\_\_\_ COUNTY \_\_\_\_\_  
 JOB TITLE CODE V0 PROJECT/PHASE COORDINATOR GALESIU PROJECT/PHASE BUDGET AMOUNT \$ \_\_\_\_\_  
 PROJECT TITLE TRANSMISSION MAINT GENERAL PROJECT/PHASE BUDGET AMOUNT \$ \_\_\_\_\_  
 PROJECT IDENTIFICATION NUMBER (PIN) G.D. 1028812.1 1P  
 NEW BUSINESS/APPLICANT BILLING DATA  
 LINE EXTENSION REINFORCEMENT  
 NON-RESIDENTIAL ELEC. NON P T GAS ESTIMATED BASE ANNUAL REVENUE \$ \_\_\_\_\_  
 RESIDENTIAL ELECTRIC, ALL P T GAS US ELEC OR GAS TRENCH \_\_\_\_\_ FT No UNITS  
 CONTRIBUTIONS EXCESS SERVICE CHARGE \$ \_\_\_\_\_  
 OTHER \$ \_\_\_\_\_  
 REFUNDABLE ADVANCE \$ \_\_\_\_\_  
 OTHER RELATED JOB AUTHORIZATIONS (INCLUDING D & C)  
 D & C No. \_\_\_\_\_  
 OTHER JOB No. \_\_\_\_\_  
 PERC PROJ No. \_\_\_\_\_  
 CSC LOCATION \_\_\_\_\_  
 ESTIMATOR \_\_\_\_\_  
 DATE REQUIRED 11-11-88

IT IS NECESSARY TO REPLACE A 6' SECTION OF 30" T.L. 132 DUE TO A LONGITUDINAL WELD DEFECT.

RECOMMENDATION RULE No and RATE SCHEDULE  
COMPANY EXPENSE

Dy	C	ACCOUNT	SUB ACCOUNT	SPECIAL CODE	DESCRIPTION OF DIRECT COST ITEMS (If involved estimate give summary item—detail on other sheets)	WEEKDAYS of UNIT AMOUNT	AMOUNT (Dollars Only)					
							LABOR	MATERIAL	UTILITY RELATED COST	CONTRACT OR OUTSIDE SERVICES	OTHER	
02	132	3475	6034		SHUTDOWN AND RESTORE MAIN	40	5800		75	1000		
02	132	3664	2040		REPAIR LONGITUDINAL WELD DEFECT	22	3190	300		5000		

TOTAL AMOUNT (Dollars Only)				TOTAL CAPITAL DIRECT COSTS		TOTAL M&O DIRECT COSTS		TOTAL CAPITAL DIRECT COSTS (Estimated—if applicable)		TOTAL M&O DIRECT COSTS (Estimated—if applicable)	
				15365		15365		15365		15365	
PLANT TO BE REMOVED OR ABANDONED (Enter on Form 02-0428, "Detail Sheet for Plant to be Retired")											
JOB EXPENDITURE BY YEAR											
COSTS	FIRST YEAR	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL					
DIRECT COSTS	15365						TOTAL M&O COSTS 22195				
GROSS COSTS	22195										

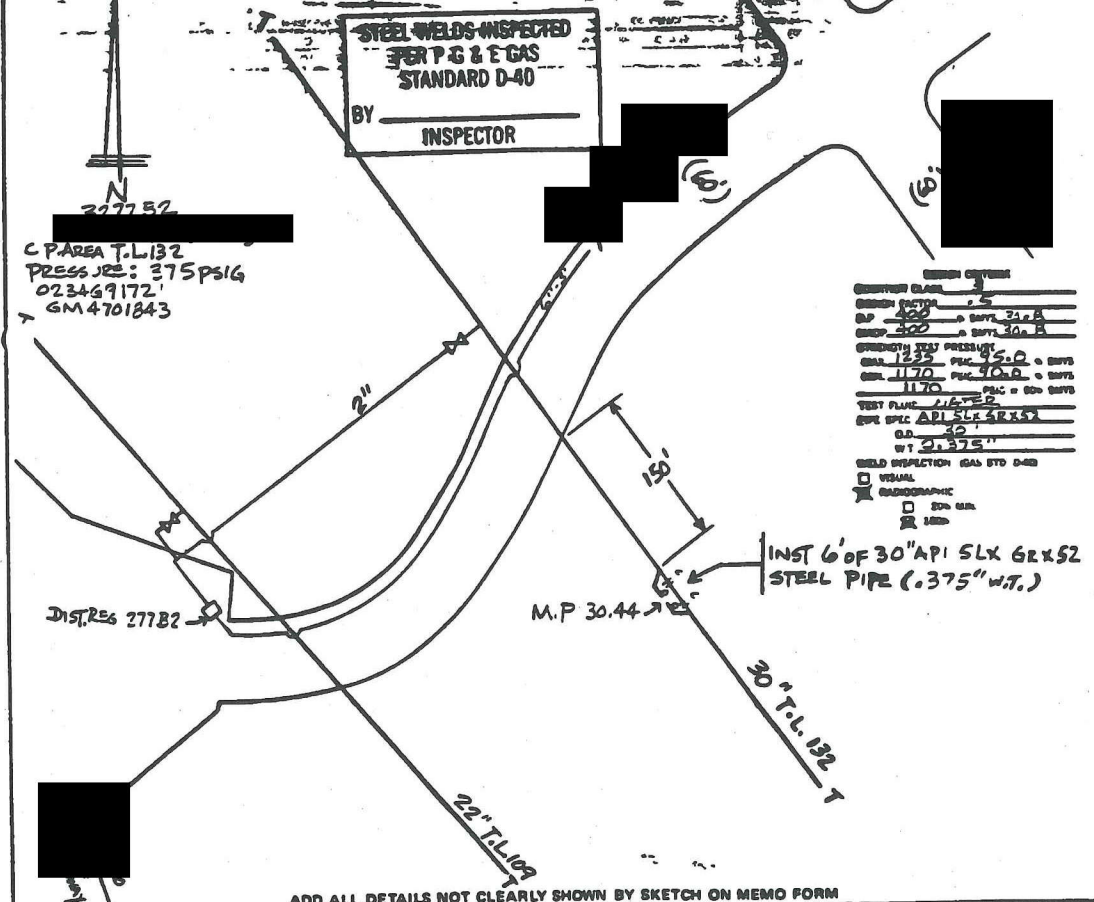
FOR ACCOUNTING USE ONLY											
RULE CODE	PERCENT UNDERPAID	FUNCTIONAL GROUP	SELF REPORT NO.	CONTRIBUTIONS	CATEGORY OF WORK						
NET AMOUNT <u>022195</u>											
JOB AUTHORIZATION											
SUPERVISOR'S SIGNATURE _____											
DATE _____											
JOB ORDER NUMBER <u>GM4701843</u>											

Date Work Started \_\_\_\_\_ Date Completed \_\_\_\_\_ Foreman Signature \_\_\_\_\_

MATERIAL USED ON THIS AUTHORIZATION				LOCAL PURCHASE ORDERS	MAPPING RECORD
REQUISITION AND CREDIT CHECK NUMBERS				ORDER REFERENCE Nos.	POSTED TO DATE
DEBIT	DEBIT NO.	DEBIT SEQ.	CREDIT CHECK		M Sheet
					Fran Sheet
					Prop Tax Rec
					Plot Sheet
					Switch & Wall Map

For transformer installation - Job foreman shall show following data on sketch at transformer location: Type, Mfg Serial No., KVA, Voltage, New or Old (If spec is insufficient, add separate sheet with same data and transformer location grid coordinates or pole reference number.)

SKETCH OF WORK - Foreman to connect & charge to make - otherwise O.K. by installing



ADD ALL DETAILS NOT CLEARLY SHOWN BY SKETCH ON MEMO FORM

Code Area	Pub RW	COUNTY	RA-UNINC	RA-INC	NON RA	UG	CL	SL	UG
Poles - Trns.	Pvt RW					Cables	Conduit	Line No	Computer
Cond	No Trfs.								
Trfs	KVA								

LEAK SURVEY, INSPECTION AND REPAIR REPORT (S.P. 460-2)  
 FOR UNSCHEDULED REPAIR OR RESPONSE  
 Form 08-0000-0 (07/87)

Valid on: \_\_\_\_\_

INITIAL LEAK REPORT

LEAK NUMBER: 18 E-203-C-11 RC NUMBER: 13250 TODAY'S DATE: 10/27/88 TIME: 4:00 PM  
 ADDRESS: \_\_\_\_\_ DATE FOUND: 10/20/88 GRADE: 1  
 READING: \_\_\_\_\_ LOC: \_\_\_\_\_ 150 OPERATOR: \_\_\_\_\_ REPORTED BY: \_\_\_\_\_  
 # 13227 PLAT: 1B2 BLOCK: 12 SURFACE OVER LEAK #0: \_\_\_\_\_ CITY: San Jose DISTRICT NO: 159  
 FED'L LAND?  (Y/N) ENTL. PROT.?  (Y/N) YEAR INST: 1988 SYSTEM PRESS: 325 GPM: 020.2

REPAIR REPORT  
 LOCATION: San Jose  
 ROAD NAME/REMARKS: 11-4th St. Repaired 30" Pipe  
 REPAIRED BY: M DATE: 10/28/88  
 JOB CODE:  Capital,  Maintenance  
 LINE SIZE: 30 inches  
 LINE MATERIAL:  Cast Iron or Ductile Iron,  Copper,  Steel or Wrought Iron,  Alloys A, I-TE 616,  Plastic other than "A" or "T",  Other  
 LINE USE:  Distribution Main,  Service,  Transmission Main,  Gathering Main,  Distribution Feeder Main  
 PIPE SET:  Aboveground,  Yes  No  
 Material of Main Connected to Service:  Cast Iron,  Steel,  Plastic  
 LEAK CAUSE:  Corrosion,  Damage by Outside Forces,  Dig,  Damage by Electrical Failure,  Construction Defects,  Material Failure,  Cast Iron Fractures,  Other  
 LEAK SOURCE:  Birth Weld,  Longitudinal Weld,  Other Welds,  Body of Pipe,  Valve,  Scraper Plug,  Tap Connection,  Drop,  Compressor Components,  Fan Cooler,  Physical (Mechanical) Joint,  Fitting,  Ball Joint,  Regulator,  Other  
 TYPE REPAIR:  Temporary,  Permanent  
 REPAIR CODE:  Weld Over Sleeve or Cap,  Patch Welded,  Clamp,  Replace Pipe,  Tighten Cap or Bolt,  Ball Joint Clamp,  Ball Joint Seal,  Other

INSPECTION REPORT  
 FOR:  MAIN or  SERVICE  
 DATE: 10/28/88 REPORTED BY: \_\_\_\_\_  
 SIZE: 30 in. WALL THICK.: \_\_\_\_\_ in. MATERIAL: STC  
 COVER ON PIPE: 24 FT OF PIPE EXPOSED: 16 SPEC.: \_\_\_\_\_  
 TEST DATE: 10/28/88 TIME: 5:00 PM PRESSURE: N/A PSI  
 COATING:  None (None)  Double Wrap,  Single Wrap,  Other: \_\_\_\_\_  
 WRAP CONDITION:  Excellent,  Fair,  Poor  
 PIPE CONDITION:  
 EXTERNAL - RUST:  None,  Light,  Heavy  
 PITTING:  None,  Light,  Heavy  
 PIT DEPTH (MAX): \_\_\_\_\_  
 GRAPHITIZED (C.I.):  Yes,  No  
 INTERNAL - INSPECTION:  Clean,  Dirty,  Dirty  
 RUST:  None,  Light,  Heavy  
 PITTING:  None,  Light,  Heavy  
 PIT DEPTH (MAX): \_\_\_\_\_  
 SOIL TYPE:  Hard Silt,  Soft Silt,  Sandy Clay,  Hard Clay,  Sand,  Other: \_\_\_\_\_  
 CAST IRON MAIN FRACTURE REPORT: (Cause or probable cause)  
 \_\_\_\_\_  
 \_\_\_\_\_

FOR CAST IRON ONLY - NO. OF D.J. CLAMPS/TEALS/FRACTURES: \_\_\_\_\_  
 MATERIAL FAILURE REPORT?  Yes  No  
 PREP BY: Cost Survey, Call-in, Hoopring Contractor or Outside Force, Public Service, Serviceman or Company Emp., Mobile Survey, Other  
 SURFACE OVER LEAK: Concrete, Tar Compound, Spacelock, Other

PIRINT AND REVIEW INFORMATION  
 COMPLAINT - BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 LOCATION: \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_ DATE: 11-4-88  
 Post Repair Check Req'd  Yes  No  
 Date: \_\_\_\_\_ Reading: \_\_\_\_\_ By: \_\_\_\_\_

Form 100-1000-1000

**GRADE 1 LEAK RESPONSE**  
*(For Downgraded or Deleted Grade 1 Leaks)*

UNIQUE ID: 1      **UNIT LABEL:** BRWT

**DATE:** 11/17/08      **TIME:** 4:00 PM      **BY:** J.D.

**REASON:** 1 Upgrade Leak to Grade 2      2 Delete Leak

**REASON FOR LEAK:** (Other than initial coating)

**LOCATION/REMARKS:** OVER MAT      **TIME:** 4:00 PM

**DATE:** \_\_\_\_\_      **TIME:** \_\_\_\_\_

**DATE:** \_\_\_\_\_      **TIME:** \_\_\_\_\_

**REPAIR/REWORK INFORMATION:**

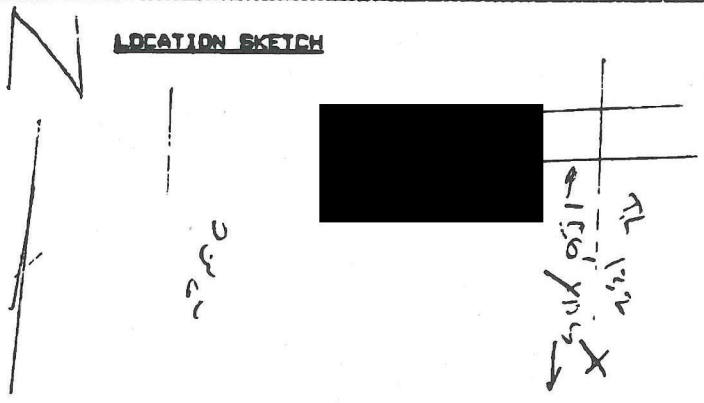
**Repair By:** 11      **Perform Special Request on:** 11      **Authorized By:** \_\_\_\_\_      **Date:** 11

**PREVIOUS REPAIR RECORDS**

REASON	LOCATION/REMARKS	TIME	DATE	OPERATOR	ACTION / FOLLOW-UP
_____	_____	_____	11	_____	_____
_____	_____	_____	11	_____	_____
_____	_____	_____	11	_____	_____
_____	_____	_____	11	_____	_____

Legend: Type = H - Hydrogen flame ionization or C - combustible gas indicator

**LOCATION SKETCH**



Date: December 1, 1988

File #: 460.21

To: GOLDEN GATE

From: GAS SYSTEM DESIGN

Subject: Failure of Longitudinal Welding on  
30-Inch Steel Pipe



[Redacted]

I have received the Material and/or Equipment - Problem or Failure Report that you prepared describing the failure of the longitudinal welding on 30-inch steel pipe. This report has been assigned to [Redacted] of the Pipe Line System Engineering of Gas System Design Department. The evaluation for this report is expected to be completed by April 1989.

If you have any questions concerning this report, please contact me on Ext. [Redacted]

[Redacted]

[Redacted] :cm

cc: [Redacted] (attachment)

Memorandum

Date March 1, 1989 File # 4152  
To GAS SYSTEM DESIGN  
From TECHNICAL AND ECOLOGICAL SERVICES  
Subject [REDACTED] 30" Transmission Line Failure



[REDACTED]  
A section of the 30" [REDACTED] transmission line (132) was removed for failure analysis because of a pinhole leak in the longitudinal seam weld (see attached materials failure report) X-ray, dye penetrant, and magnetic particle inspections were performed on the submitted section, but these did not locate the leak. The X-ray and subsequent metallographic examination identified several weld shrinkage cracks, but they did not extend through wall. The cracks are pre-service defects, i.e., they are from the original manufacturing of the pipe joint.

Overall, the X-ray inspection showed the weld to be of low quality, containing shrinkage cracks and voids, lack of fusion, and inclusions. Although the actual leak could not be found, it is likely that it was related to one of the weld defects. With the leak removed, the remaining pipe should be fully operational again.

If you have any further questions, please contact myself or [REDACTED] respectively.

[REDACTED]

[REDACTED] kar *DM*  
033103 [REDACTED]

XC [REDACTED]

Attachment