Pacific Gas and Electric Company®

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April 17, 2024

Mr. Terence Eng
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: General Order (G.O.) 112-F Compliance Inspection of Pacific Gas and Electric's Pipeline Construction and Material Traceability Audit.

Dear Mr. Eng:

Pacific Gas and Electric Company (PG&E) submits this response to the Safety and Enforcement Division's (SED) Post-Inspection Summary of Inspection Findings (Summary) received March 18, 2024, stemming from the 2023 SED inspection of PG&E's Pipeline Construction and Material Traceability records conducted August 21 – 28 and August 28 – September 1, 2023.

For clarity, each of the items identified in the Summary will be repeated followed by PG&E's response.

Unsatisfactory Result #1: §192.205 Records: Pipeline Components

Issue Summary

G.O. 112-F Reference Title 49 CFR, Part 192 Section 192.205 states in part:

§192.205(a) states, in part:

"*For steel transmission pipelines installed after July 1, 2020, an operator must collect or make, and retain for the life of the pipeline, records documenting the manufacturing standard and pressure rating to which* ***each valve*** *(emphasis added) was manufactured and tested in accordance with this subpart…"*

SED reviewed PG&E's construction documentation for project S-1137 and determined that the 2-inch regulators (2'' X 1" Mooney Flow Grid) V-6 and V-8 noted on the as-built drawing were not in the Component Receiving Log or Valve Receiving Log that PG&E provided to SED during the audit. SED requested PG&E to provide the receiving log for those regulators, but PG&E was unable to provide a Component Receiving Log that showed the regulator valves V-6 and V-8.

PG&E's representative explained that the regulator valves were not included in the PG&E's Material Traceability Scope log because components that are 2 inches or less were not required to be documented. PG&E stated that its material traceability scope outlined in Standard TD-4030S covered only components greater than 2 inches with yield strength grades of 42,000 psi or greater. Also, PG&E stated that it did not classify the regulators as valves, hence, PG&E does not have to record the regulators in the component receiving log. However, PG&E Standard TD-4030S requires material traceability record for valves of all diameters, and the specification sheet from the manufacturer of the 2'' X 1'' Mooney Flow-Grid

regulator describe it as a "Pilot Operated Valve". The As-Built Drawing did not match the Bill of Materials (BOM).

SED consulted PHMSA's subject matter expert on whether a Pilot Operated Regulator is a Valve and falls under the Valve category for material traceability. PHMSA's response was "Yes, the 2" x 1" Mooney Flow Grid regulator is used to control flow and pressure and hence it is a valve."

PHMSA indicated that the Mooney Flow Grid regulator is a valve. Therefore, PG&E is in probable violation of G.O. 112-F Reference Title 49 CFR, Part 192 Section 192.205(a) for not documenting each valve in its Component Receiving Log as part of the as built records.

Response to Unsatisfactory Result #1:

PG&E appreciates that SED consulted with PHMSA's subject matter expert on the Mooney Flow Grid regulator. PG&E reviewed the interpretation and maintains that the Mooney Flow Grid regulator in question is not a valve subject to the material traceability requirements of Section 192.205(a). Although the Mooney Flow Grid regulator is described as a "pilot operated valve" in the manufacturer specification sheet, the component is a pressure regulator; therefore, it is classified as a fitting pursuant to Section 192.205(a). 49 CFR Part 192.145 notes that valves must meet the minimum requirements of ANSI/API Specification 6D (API Spec 6D), which is incorporated by reference in 192.145. API Spec 6D lists various types of valves, but it does not include pressure regulators like the Mooney Flow Grid regulator, which is not built per API Spec 6D. With regards to material traceability requirements set forth in 192.205(a), PG&E notes that the American Society of Mechanical Engineers (ASME) B31.8, "Gas Transmission and Distribution Piping Systems – ASME Code for Pressure Piping," upon which many of the 49 CFR 192 requirements are based, includes separate definition sections for regulators (803.6) and valves (803.7). This suggests that these are not intended to have the same meaning in the context of 192.205(a). PG&E would like to request an additional interpretation from PHMSA including this more detailed information to validate if the Mooney Flow Grid regulator is a valve pursuant to Section 192.205(a) and whether the Mooney Flow Grid regulator meets the criteria for inclusion in the Component Receiving Log or Valve Receiving Log.

If the Mooney Flow Grid regulator is considered a valve for the purposes of material traceability, the documentation required by 192.205(a) is provided on the Drawing, Bill of Materials (BOM), and Gas Design Standard (GDS), all of which have correlation through the Item number and Material Code. The 2" x 1" Mooney Flow Grid regulator in question is indicated below as Item #201 on the Drawing (Figure 1), which correlates to Item #201 on the BOM (Figure 2). Additionally, GDS H-80 (Figure 3) specifies the standard and pressure rating.

Furthermore, PG&E has obtained the manufacturer's Statement of Conformance for Mooney regulators manufactured beginning July 1, 2020. Please see Attachment 1_Mooney Statement of Conformance.

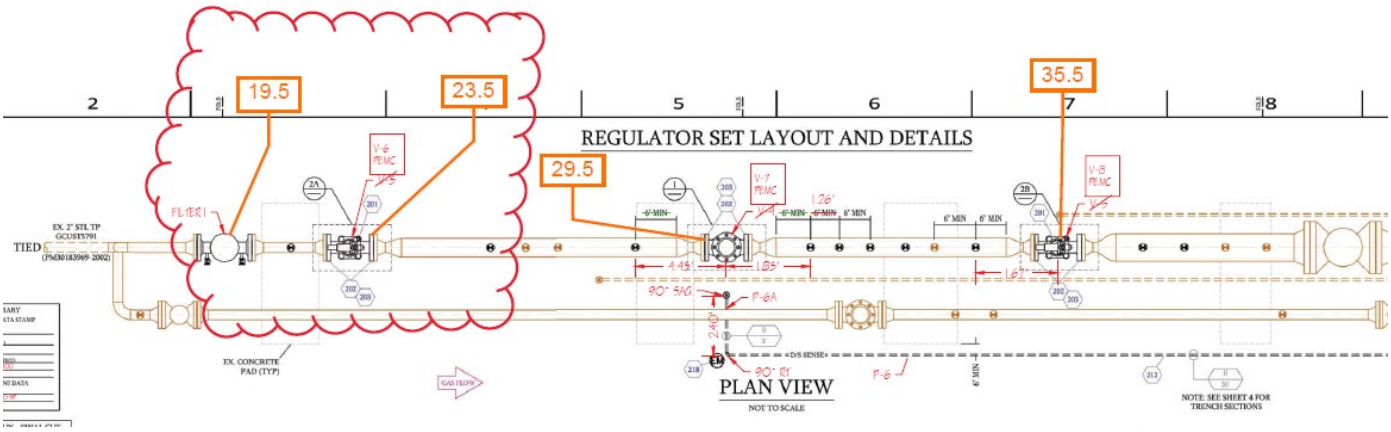

Figure 1. Station Project S-1137 As-built Drawing

REG. STATION MATERIALS (ANSI 600)						
ITEM	LLTM	QTY.	DESCRIPTION	CODE	GDSM	SHEET
200A	X	1	2" X 1" PF APERFLUX 851 W/ SLAM SHUT, MODEL SB/82, ANSI 600	65-0252	H-103	3
200B	X	0	SLAM SHUT SPRING, 58-109 PSIG (YELLOW/BLACK)	65-0502	H-103	---
201	X	2	2" X 1" MOONEY FLANGED FLOWGRID REGULATOR, ANSI 600	03-0842	H-80	3

Figure 2. S-1137 Bill of Materials

GAS DESIGN STANDARD **H-80**
MOONEY FLOWGRID REGULATOR

Publication Date: 11/20/2023 **Effective Date:** 02/01/2024 **Rev.** 8a

Purpose and Scope

This gas design standard (GDS) provides ordering instructions, specifications, part lists, and part numbers for the Mooney Flowgrid regulator assembly including: the Flowgrid regulator, Series 20 pilot, Type 24 restrictor, Type 30 filter, and slam shut controller. This GDS also provides a drawing to assist with the assembly of the Mooney Flowgrid control loop.

1 General Information

1.1. All regulators have American Society for Testing and Materials (ASTM) A-216 Grade weldable cast B-grade (WCB) carbon bodies and stainless steel throttle plates and springs.

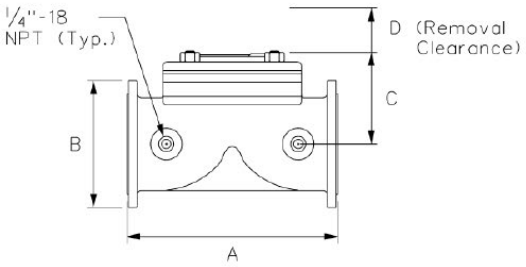

Figure 1. Mooney Flowgrid Regulator Assembly

Table 1. Mooney Flowgrid Flanged Regulator

Main Valve Body Size (Inches)	Number of Ports	Body Class	Maximum Inlet Pressure (psig)[1]	Maximum Pressure Drop (psi)	Dimensions (Inches)				Weight (Pounds)	Code
					A	B	C	D		
2 × 1	Single	150	275	275	10.00	6.00	3.50	0.35	23	030840
		300	720	720	10.50	6.50	3.50	0.35	26	030841
		600	1440	1000	11.25	6.50	3.50	0.35	30	030842

Figure 3. PG&E GDS H-80

Concern #1: PG&E's Pipeline Material Management Standard TD-4030S, Table 1

Issue Summary

PG&E's Pipeline Material Management Standard TD-4030S Table 1. Material Traceability Record Requirements, the applicable range for Flanges, fittings, branch connections, extruded outlets, anchor forgings, and other components (third category) specified Outer Diameter (OD) greater than 2 inches with material yield strength grades of 42,000 psi (X42) or greater.

49 CFR Part 192, §192.205(a) states: "*Flanges, fittings, branch connections, extruded outlets, anchor forgings, and other components with material yield strength grades of 42,000 psi (X42) or greater and with* ***nominal diameters*** *of greater than 2 inches must have records documenting the manufacturing specification in effect at the time of manufacture, including yield strength, ultimate tensile strength, and chemical composition of materials*."(emphasis added)

The applicable diameter range of components in the third category in Table 1 of PG&E standard TD-4030S should be Nominal Diameter (ND) greater than 2 inches instead of Outer Diameter (OD) pursuant to Part 192 Section 192.205(a). PG&E should make the correction in Table 1 of the TD-4030S. Furthermore, SED suggests PG&E document the regulator manufacturing standard and pressure rating on the weld map.

Response to Concern #1:

PG&E Utility Standard TD-4030S, Table 1 has been updated to reflect Nominal Diameter (ND). Please see Figure 4 below.

As the regulators were flanged-end, Utility Procedure TD-4030P-03, Section 3, does not require the non-welded connections to be shown on the weld map.

Pacific Gas and Electric Company®

Utility Standard: TD-4030S

Publication Date: 03/20/2024 Effective Date: 06/01/2024 Rev: 2

Pipeline Material Management

5.2 The scope of material components in the PG&E gas transmission materials traceability program is listed in Table 1.

Table 1. Gas Transmission TMD Requirements

Material Type	Applicable Range	Required Information Within TMD	Identification Number
Pipe	All diameters	Diameter, yield strength, ultimate tensile strength, wall thickness, seam type, chemical composition, and results of tests, inspections, and attributes required by the manufacturing specifications applicable at the time the pipe was manufactured	Heat number or API[1] 5L Z number[2]
Valves	All diameters	Manufacturing standard and pressure rating	Serial number or delivery unit number[2]
Fittings, Station Equipment, and Assembly	Greater than 2" ND[3] with material yield strength grades of 42,000 psi[4] (×42) or greater	Manufacturing specification, yield strength, ultimate tensile strength, pressure rating, and chemical composition, as applicable per the manufacturing specification	Heat number, serial number, or delivery unit number[2]

1 American Petroleum Institute 2 API 5L Z number and delivery unit number can be used for special orders such as bundled pipe, etc.
3 Nominal diameter 4 Pounds per square inch

Figure 4. TD-4030S, rev 2 - Table 1

Concern #2: PG&E's Pipeline Material Verification Procedure TD-4125P-11

Issue Summary

In PG&E's Material Verification Procedure TD-4125P-11 Sections 1.4, 2.1, 3.1.1, 4.2.1 and 5.1.1, PG&E used "OD" to represent "nominal outside diameter" as in Part 192 Section 192.607(f)(2)(i).

49 CFR Part 192, Sections 192.205(a) and (b) related to material traceability refers to "nominal diameters" for covered pipe components, but Part 192 Section 192.607(f)(2)(i) related to material verification refers to "nominal outside diameter" for covered pipe components.

SED consulted PHMSA for clarification on the differences between the two terms "nominal diameters" and "nominal outside diameter" as used in Section 192.205 and Section 192.607, respectively. PHMSA's response was that "Nominal Diameter greater than 2 inches and Nominal Outside Diameter larger than 2 inches mean pipes greater than 2.375-inches Outside Diameter pipe". SED concluded that the "Nominal Outside Diameter" written in Section 192.607 is synonymous with "Nominal Diameters" written in Section 192.205 and should be referenced as "ND". PG&E should replace references to "OD" in TD-4125P-11 to read "ND".

Response to Concern #2:

As indicated above, "Nominal outside diameter (OD)" as referenced in sections 1.4 and subsequent sections of PG&E Utility Standard TD-4125P-11, are consistent with 192.607 and 192.205. However, for the sake of clarity, TD-4125P-11 will be updated to change references of "OD" to "ND".

Concern #3: Save-A-Valve (SAV) documentation on weld maps

Issue Summary

SED observed inconsistency of save-a-valve (SAV) documentation on PG&E weld maps. Some specifications were filled out in the Description and others were not.

- In its documentation for Project R-965, PG&E did not assign any component numbers to six 2-inch SAVs on the final tie-in map, one at each of the following at joints: TI-104, TI-105, TI-67, TI-68, W-95 and TI-111. Instead, PG&E marked them as "FXXX". PG&E filled out the specifications in the Description.
- In its documentation for Project R-445, PG&E recorded three SAVs in the final tie-in map at joints TI-10, TI-11 and TI-7 with assigned component numbers F-11, F-12, and F-8, respectively. However, PG&E did not record the material specifications in the Description.

The job aid Weld Map example in PG&E's TD-4030P-03-JA02 has the SAV with complete component number F-6 and its specifications recorded in the Description.

SED is concerned that the inconsistency in PG&E's documentation of SAVs' specifications may cause some attributes that are currently flagged as "not known", may require material verification actions in the future because the "not known" attributes may be required to comply with Part 192, Section 192.607(f)(3) requirements.

SED recommends PG&E apply a consistent documentation practice that includes the ANSI rating or pressure rating for SAVs that are 2 inches or less and update the weld map instructions.

Response to Concern #3:

Pursuant to 192.205(a), 2-inch save-a-valves which are fittings, are out of scope for gas transmission material traceability since they do not meet the "nominal diameters of greater than 2 inches". The sample weld map in PG&E job aid TD-4030P-03-JA02 is for visual guidance only. However, to provide clarity, the sample weld map will be updated to show only the size for specification and the description of the save-a-valve.

Concern #4: Project R-445 Weld Map

Issue Summary	On the Project –R445 weld map, PG&E indicated the description of the save-a-valve F11 to be @ the 2:30 location. However, the as-built drawing description showed that the location of F11 was @10:30. SED recommends PG&E verify the location of the save-a-valve F11 and make the final tie-in weld map description consistent with the as-built drawing.

Response to Concern #4:

PG&E disagrees with this finding. Both the as-built drawing (Figure 5) and weld map (Figure 6) indicate save-a-valve F-11 to be at the 2:30 position.

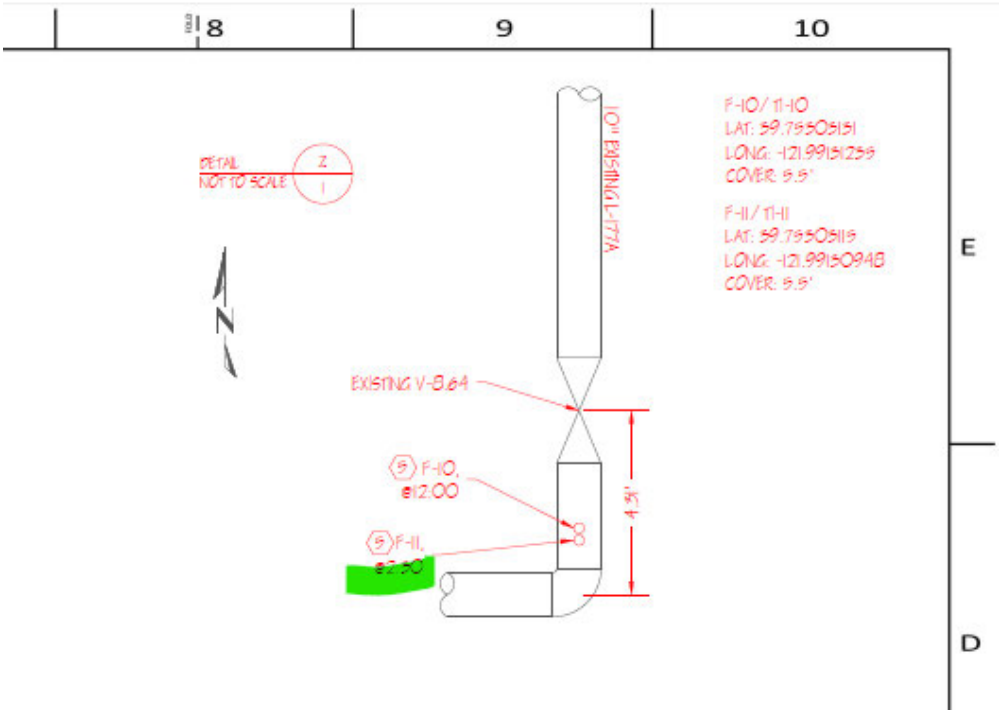

Figure 5. R-445, As-built drawing

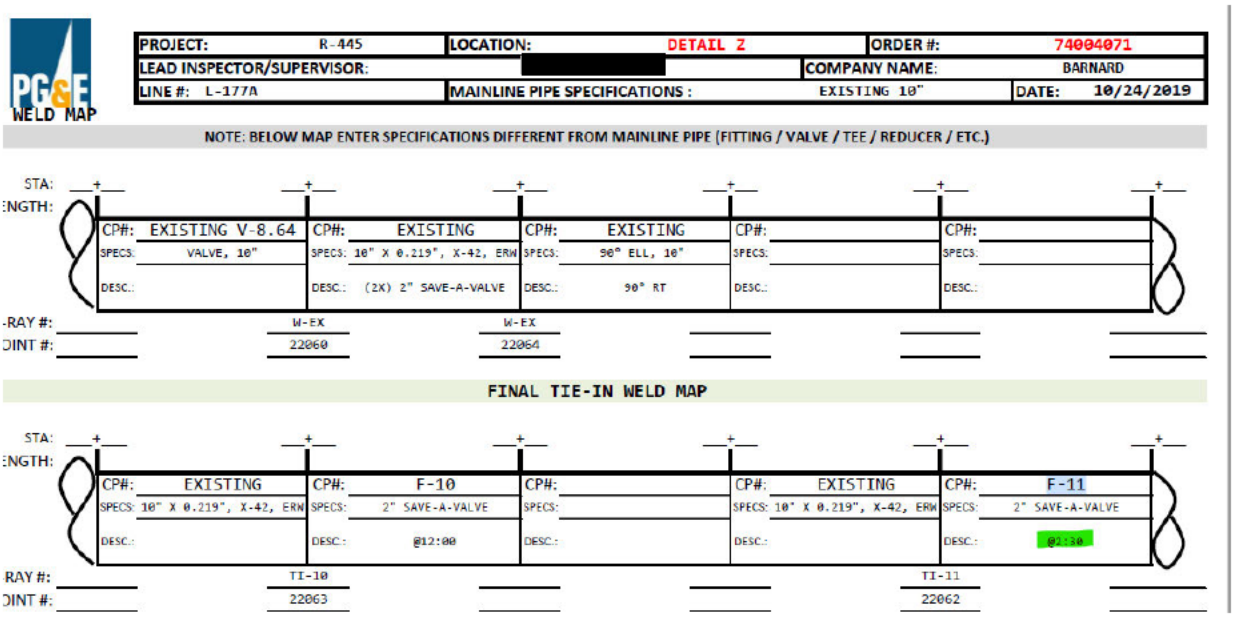

Figure 6. R-445, Weld Map

Concern #5: Project R-445 Weld Map Component naming/description

Issue Summary — Incomplete Component naming/description on a hydrotest weld map of R-445.

a. PG&E incorrectly described the location of the Save-a-valve F-25 as 0.5 feet from TW-122, instead of TW-121.
b. PG&E incorrectly recorded the save-a-valve installed on pipe P-111A as F- without a component number.
c. PG&E labelled pipe component P-100B twice in the hydrotest weld map (26.52' at STA 0+46.54 and 1.00' at STA 47+29.08). There was another section of 5.54 feet pipe incorrectly labelled P-100 instead of P-100E that was used for the hydrotest tie-in. In SED's data request (DR) #24, PG&E clarified that the 26.52 feet of P-100B should have been listed as P-100D. P-100 was cut out and used for fit-up at the tie-in location and became P-100C. P-100A, P-100B, and P-100D were cut out after the hydrotest and removed from the permanent pipe section and were not put into service.
d. Pipe section P-55 (28.17' at STA 46+12.28) was incorrectly labelled as P-55A.

PG&E's hydrotest weld map R-445 was completed on 10/17/2019. PG&E did not have guidelines for labeling of pipe components prior to the material labeling standard in TD-4030P-03, that went into effect on 10/19/2019. Those pipe sections/components on the hydrotest weld head that were not permanently installed on the pipeline, should be documented accurately with the component numbers and description of the pipe segments/sections.

Response to Concern #5:

a. PG&E agrees that save-a-valve F-25 should have been recorded as TW-121 on the weld map. PG&E notes this was correctly recorded as TW-121 on the hydrotest test sketch. TW-121 was temporary and not in service.

b. Pursuant to the criteria of 192.205(a), 2-inch nominal diameter SAV P-111A is not required to have its component number recorded since it does not meet the "nominal diameters of greater than 2 inches."

c. PG&E agrees; however, as noted PG&E provided SED with traceable documentation that substantiated the correction and that the corrections were made, in the response to data request (DR) #24.

d. PG&E disagrees with this finding. Both the as-built drawing (Figure 7) and hydrotest weld map (Figure 8) depict P-55.

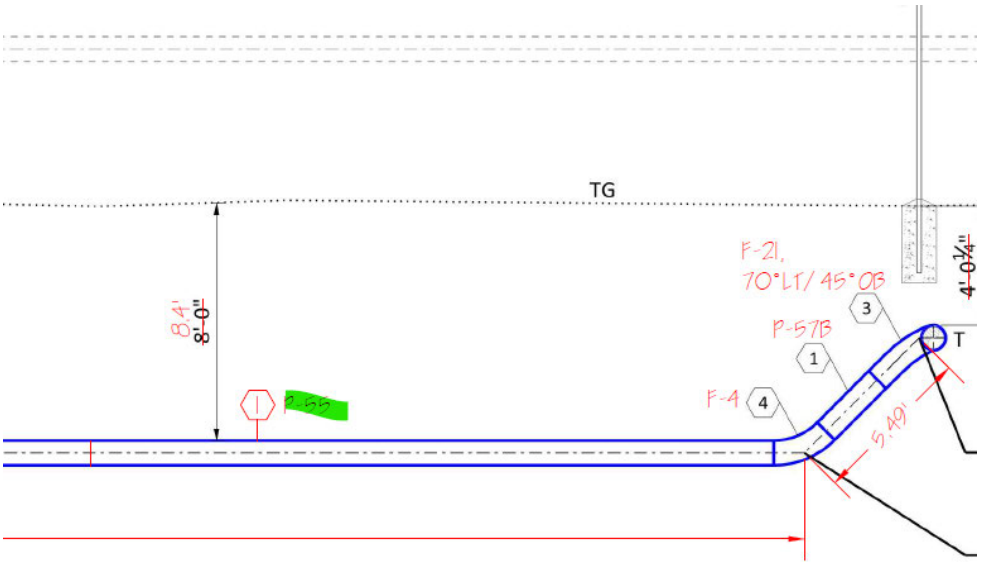

Figure 7. R-445 as-built, Pipe Section P-55

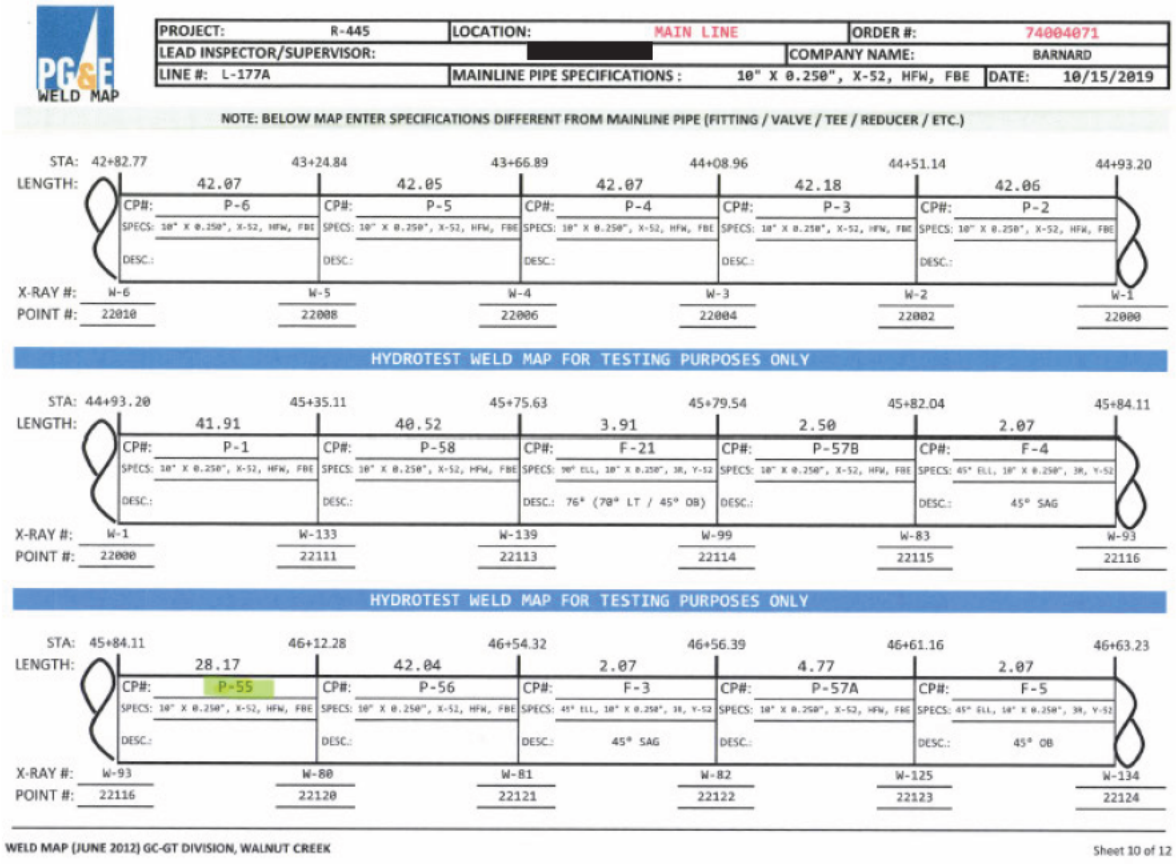

Figure 8. R-445, Pipe Section P-55 Hydrotest Weld Map

Please contact [redacted] for any questions you may have on this response.

Sincerely,

Kristina Castrence
Sr. Director, Gas Regulatory and Risk

cc: Dennis Lee, CPUC
Jason McMillan, CPUC
Claudia Almengor, CPUC
James Zhang, CPUC
[redacted] PG&E
[redacted] PG&E

Attachments :
Attachment 1_Mooney Statement of Conformance