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# CPUOMeeting Materials

Weekly Non-Destructive Examination Program Updates

January 3, 2014

DRAFT For Discussion Purposes Only

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- PG&E/SE Alignment
  - L-114
  - Extent of Conditions for TCI Inspections
  - NDE Program Enhancements
  - NDE Program Validation Protocols/Extent of Conditions (LLNL)
  
- Completed Activities To Date
  
- Next Steps
  - Schedule
  - Immediate Needs



## Completed Activities to Date

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- See 11/22/13 presentation for items prior to 11/22/13
- Validation of 5 welds on L-132 (11/15/2013)
  - All 5 Welds passed radiographic inspection per API 1104
- Engaged Lawrence Livermore National Labs (LLNL)
  - Developed Scope of Work
  - Finalized contract/agreement; awaiting final signature
- Excavated/Tested/Passed 23 welds as of 12/20/13:
  - 5 welds on L-132
  - 12 welds at Vernalis Station
  - 2 welds at 8 Mile Rd Pressure Limiting Station (PLS)
  - 4 welds on L-108 (MLV38.1)
- Completed L-114 Final Report
- Created Maps of pipeline segments to be Leak Surveyed as a result of L-114 Findings
- Completed 1st monthly Leak Survey of 600 miles of pipeline



## Follow-Up Questions from 12/20/13

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- SED: No “Reader Sheet” for welds associated with WV-5D/E.
  - PG&E has provided the “Reader Sheet” from WIX associated with WV-5D/E in the Appendix of this presentation.
- SED: SEDonce again requests the list of 3755 welds associated with TCI Weld Inspections.
  - PG&E requests that it provide a consolidated list of the welds by 1/17/2014. PG&E is working to consolidate the list of 3755 welds (2010-2011 and 2012-2013), as well as provide greater detail to each line item for the purpose of submitting to TCI as part of a reimbursement settlement. Allowing for the submittal to take place on 1/17/2014 would eliminate redundancy and provide greater data quality.
- SED: SEDonce again requests the list of 398 welds that were comprehensively reviewed by PG&E as part of the TCI Weld Inspection review.
  - PG&E requests that it provide a consolidated list of the welds by 1/17/2014. PG&E is working to consolidate the list of 398 welds (2010-2011 and 2012-2013), as well as provide greater detail to each line item for the purpose of submitting to TCI as part of a reimbursement settlement. Allowing for the submittal to take place on 1/17/2014 would eliminate redundancy and provide greater data quality.
- SED: SEDdoes not have a copy of the Welding Control Manual that PG&E submitted via FTP. Please provide a copy no later than 1/3/2014.
  - PG&E has a full electronic file (5M) to provide SED during today's meeting.

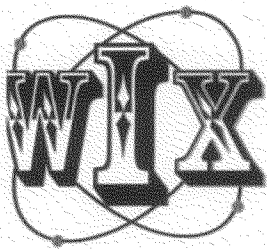
- High Level activities within the next 6 Weeks
- See 11/22/13 presentation for prior items:
  - Issue L-114 Final Report [12/6/13] Submitted (12/6) ✓ 3)
  - Inspection of first 20 TCI Welds [12/31/13] (23 completed as of 3) ✓ '2013)
  - Finalize Keifner & Associates Contract (Under Master Service Agreement) ✓ it)
  - Finalize LLNL contract (1/10/2014)
    - Currently agreement is ready for signature through LLNL and PG&E
- Inspection of all 43 TCI Welds [3/31/14]
  - 23 welds verified to date; all have high weld quality
  - WV-2A/B scheduled for 1/20/2014
  - WV-4A/B/C scheduled for 1/20/2014
- LLNL to validate TCI Dig plan and issue recommendations if necessary (43 digs) (2/1/2014)
- LLNL to recommend validation protocol for remainder of pipe segments required to have been inspected by radiographic inspection methods. (4/1/2014)



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# Appendix I

WIX Reader Sheet for WV-5Welds:



# Western Industrial X-Ray, Inc.

P.O. Box 238 Fairfield, CA  
 (707) 425-4673  
 (888) For X-Ray  
 info@wixinc.net  
 www.wixinc.net

Date 12.13.13 Page 1 Of 1  
 Radiographic Report or Control # #1 RIG C  
 Customer PG&E  
 Address \_\_\_\_\_  
 Customer's P.O. Number \_\_\_\_\_  
 Job Location LODI, CA  
 Job Number 30919862  
 Item Description 12"/16" GIRTH WELDS  
 100% Insp.  Spot Insp. \_\_\_\_\_ Percent \_\_\_\_\_

## Nondestructive Inspection Report

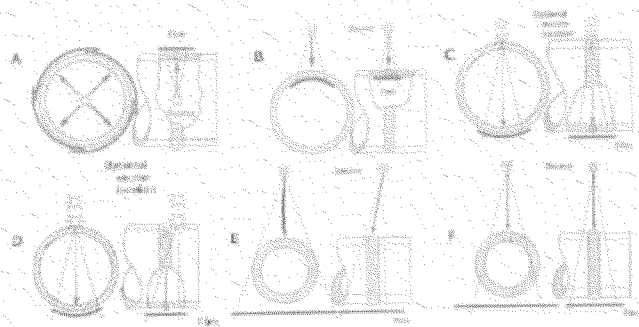
Piece or Joint #s	Weld Number	Film No.	A c c	R e j	Defect Code	Comments	Work Summary				
							Amount	Description			
LOCATION E	W-64-RI	3	✓			12" .375	2	Travel Hours	2	# Persons	
LOCATION E	W-65-RI	3	✓			12" .375	0800	In Time	1200	Out Time	
							4	Work Hours			
							0	Standby Hours			
LOCATION D	W-72-RI	3	✓			12" .375	6	Total Hours			
LOCATION D	W-74-RI	3	✓			16" .375		Per Diem		# Persons	
							90	Mileage One Way		Round Trip <input checked="" type="checkbox"/>	
							3	Weld 12" in. dia.		Weld _____ in. dia.	
							1	Weld 16" in. dia.		Weld _____ in. dia.	
								Weld _____ in. dia.		Weld _____ in. dia.	
								Film _____ x _____		Type _____	
								Film _____ x _____		Type _____	
							Technique Date/Procedure Qualification				
							Inspection Specification <u>API 1104</u>				
							Acceptance Standard <u>20TH</u>				
							RT Procedure No. <u>RT-Z</u> Shooting Sketch (RSSS) <u>D</u>				
							View: <u>DWE</u> <u>SWV</u> Source <u>Ir192</u> Curies <u>85</u>				
							Physical Source Size: <u>106 X 114</u> Effective Focal Spot: <u>156</u>				
							Pb Screens: Front <u>.005</u> Center <u>0</u> Back <u>.010</u>				
							Dia. <u>12"</u> Material Type: <u>CS</u> Thickness: <u>.375</u> Reinf.: <u>.125</u>				
							SFD: <u>12.75</u> Source To Obj.: <u>12.4"</u> IQI Essential Wire: <u>.013</u>				
							Exp. Time: <u>0</u> min. <u>50</u> sec. Dev. Time: <u>5</u> @ <u>68</u> deg.				
							Film Manufacturer: <u>AGFA</u> Speed: <u>D5</u> No. of Exp. <u>3</u> Film <u>3</u>				
							Geometric Unsharpness (Ug): <u>.005</u> Avg. Density: <u>2.7</u>				
							Dia. <u>16"</u> Material Type: <u>CS</u> Thickness: <u>.375</u> Reinf.: <u>.125</u>				
							SFD: <u>16"</u> Source To Obj.: <u>15.625</u> IQI Essential Wire: <u>.013</u>				
							Exp. Time: <u>1</u> min. <u>25</u> sec. Dev. Time: <u>5</u> @ <u>68</u> deg.				
							Film Manufacturer: <u>AGFA</u> Speed: <u>D5</u> No. of Exp. <u>3</u> Film <u>3</u>				
							Geometric Unsharpness (Ug): <u>.004</u> Avg. Density: <u>2.7</u>				
							Dia. _____ Material Type: _____ Thickness: _____ Reinf.: _____				
							SFD: _____ Source To Obj.: _____ IQI Essential Wire: _____				
							Exp. Time: _____ min. _____ sec. Dev. Time: _____ @ _____ deg.				
							Film Manufacturer: _____ Speed: _____ No. of Exp. _____ Film _____				
							Geometric Unsharpness (Ug): _____ Avg. Density: _____				

### Defect Code

- |                     |   |                         |
|---------------------|---|-------------------------|
| BT - Burn Through   | ICP - Inadequate Cross Penetration          | P - Porosity            |
| C - Crack           | IF - Incomplete Fusion                      | SL - Slag Lines         |
| CV - Root Concavity | IP - Incomplete Penetration                 | SI - Slag Inclusions    |
| CX - Root Convexity | PD - Inadequate Penetration Due to High-Low | UC - Undercut           |
| DT - Drop Through   | Ox - Oxidation                              | TI - Tungsten Inclusion |

1. Cameron Rhodes Level II  
 Radiographer  
 2. Taylor Wickrs Level I  
 Radiographer's Assistant

The person signing this document represents that they have the authority to sign on the behalf of the customer. This report does not guaranty or warranty the condition of the material tested. Western Industrial X-Ray, Inc. is not liable for any interpretation of results or losses attributable to any testing performed. There is no warranty for these services. Any liability is limited to the amount paid for the services in question. Final film interpretation is the responsibility of the customer.



Date 12.13.13

Customer's Signature \_\_\_\_\_