



CPUO Meeting Materials

Weekly Non-Destructive Examination Program Updates

February 7, 2014

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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



- See presentation dated 12/6/13 and 12/13/13 for past items
- Leak Survey details
 - Leak Survey began on 600 miles of identified Gas Transmission pipeline (12/2/2013)
 - January Leak Survey Results:
 - 6 indications from aerial survey
 - 4 of 6 Methane Indications found to be PG&E
 - 2 indications found to be normal operation (Operational Vent Gas)
 - Zero leaks found on weld (Girth or Long Seam)
 - February Leak Survey started as of 2/1/2014
- LLNL currently reviewing PG&E's proposed plan of 43 weld re-inspections

¹Activity progress/completion is discussed in the Completed Activities To Date section

²Dates are contingent on weather, permit, and/or construction schedules



NDE Program Enhancements

PG&E NDE Enhancements	Date of Implementation
Developed a specification to establish the minimum requirements for the qualification of personnel and performance of Non Destructive Examination (NDE) services on PG&E Gas Operation assets - "GO-TS-00	✓ Q2- 2013
Execution of facility and NDE program audits of all service providers to verify competency of NDE agency.	✓ Q3- 2013
Publication of a Manual for PG&E Non Destructive Examination work – "Non Destructive Examination Code Manual - "TD-4190M"	✓ Q3 - 2013
All Contractor NDE procedures will be reviewed and approved by qualified PG&E staff. PG&E requires mandatory Radiography quality requirements above and beyond API 1104 20 th .	Q2 - 2014
Proficiency testing of NDE personnel is required in addition to contractor awarded certifications. PG&E shall administer additional Specific and Practical examination questions to confirm their knowledge of PG&E requirements and expectations.	Q2 - 2014
A PG&E endorsement card will be issued to the contractor certification. All contractor supplied technicians will require both a valid contractor certification and PG&E endorsement to perform NDE services on PG&E work. (Currently 16 NDE technicians have successfully proficiency tested).	Q2 - 2014
In the field oversight of NDE technicians working in the field by qualified PG&E staff to ensure the quality and reliability of NDE inspection results. (53 total field observations were completed in 2013). Current oversight frequency is weekly.	✓ Q3 - 2012
PG&E has made mandatory that NDE contractors develop and perform a process of self-checking their technicians. NDE contractors shall submit to PG&E a minimum of one observation (completed by a senior member of the NDE contractor organization) per quarter per project site worked on.	Q2- 2014
Online Operator Qualification (VeriForce) Training modules developed for contractor NDE personnel.	✓ Q3- 2013
Prepared specific Radiography procedures for the inspection of Pressure Control Fittings (PCF).	Q4 - 2013



NDE Program Validation Protocols

- Engaged 3rd Party experts (LLNL) to develop scope and provide historical understanding (11/21/2013)
- Held kick-off meeting on 1/21/14
 - PG&E, LLNL, [Redacted] and [Redacted] met to discuss go forward plan
- LLNL will work to provide the following:
 - Validation of statistical approach to TCI Extent of Conditions/Remediation
 - PG&E will work to incorporate LLNL improvements if any
 - Development of Extent of Condition for Post-'61 Transmission Pipe
 - Development of Validation Protocol for Post-'61 Transmission Pipe
 - Inspection methods
 - Girth weld integrity
 - Provided sample documents for LLNL to review (LLNL received on 2/3/14)
 - Summary Reader sheets
 - Weld X-Ray films
 - Comprehensive review data



Completed Activities to Date

- 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
 - Held kick-off meeting with LLNL and party experts (1/21/14)
- Excavated/Tested/Passed 35 welds as of 1/31/14:
 - 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)
 - 4 welds at Gateway Generating Station
 - 8 welds at L-108 (MLV38.17)
- Completed L-114 Final Report
- Created Maps of pipeline segments to be Leak Surveyed as a result of L-114 Findings
- Completed 2 monthly Leak Surveys of 600 miles of pipeline
 - Zero leaks on welds have been found

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- 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 12/31/2013) ✓
 - Finalize Keifner & Associates Contract (Under Master Service Agreement) ✓
 - Finalized LLNL contract (1/15/20) ✓
 - Signed contract; held Kick-off Meeting on 1/21/14
- Inspection of all 43 TCI Welds [3/31/14]
 - 35 welds verified to date; all have high weld quality
 - WV-4A/B/C (Stockton) scheduled for 2/18/2014 (3 Welds)
 - WV-4D-H (Stockton) on hold pending permit issuance from San Joaquin Cty (5 Welds)
 - Working to engineer 6 other welds as contingency (3 separate locations)
- LLNL to validate TCI Dig plan and issue recommendations if necessary (43 digs) (3/1/2014)
- LLNL to recommend validation protocol for remainder of pipe segments required to have been inspected by radiographic inspection methods.