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# CPUC Meeting Materials

Weekly Non-Destructive Examination Program Updates

November 22, 2013

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1

- PG&E/SED 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



# PG&E/SED Alignment on four critical workstreams

- PG&E would like to update SED each week with the intent on covering (4) components to the overall NDE Program:
  - L-114 – This will be an update to the progress of PG&E’s final report detailing the findings and remediation of any and all concerns with L-114 in Brentwood.
  - Extent of Conditions for TCI Inspections – This update will consist of all activities related to the validation of TCI welds as defined in the Testing Plan submitted to SED
  - NDE Program Enhancements – This will be an update to our progress of NDE enhancements spanning from Q3 2012 through present day.
  - NDE Program Validation Protocols/Extent of Conditions (LLNL) – This will be an update to progress associated with the Validation of all vendors in the Pipeline Safety Enhancement Program. This program will identify the necessary actions required by PG&E to ensure no weld integrity issues exist.

- PG&E activities to validate welds inspected by TCI (Listed by Weld Validation number, e.g. WV-XXX, per PG&E Dig Management PMO Tracking Sheet):
  - WV-132-13 (completed 11/15/2013)
    - 5 welds located due south of Milpitas Terminal on L-132 cross-tie
    - All 5 welds “finger-printed”
    - All 5 welds passed inspection per API 1104
  - WV-06A (L-108/L-401) (12/10/2013)<sup>2</sup>
    - 14 welds to be evaluated at dig site
  - WV-05D (L-108) (12/18/2013)<sup>2</sup>
    - 2 Welds to be removed as part of pipe replacement project
    - Weld will be sent to ATS for radiographic testing
  - WV-05E (L-108) (12/18/2013)<sup>2</sup>
    - 2 Welds will be removed as part of pipe replacement project
    - Welds will be sent to ATS for radiographic testing

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

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



# NDE Program Enhancements

- Increased job observation frequency from quarterly to weekly (Q1 2013)
- Expanded job observations outside of new construction (Q1 2013)
  - Station Projects
  - Integrity Management Inspection Projects
- Issuance of Gas Welding Control Manual (TD-4160M) (Q2 2013)
  - Sets minimum Requirements for qualifications, procedures, and materials for NDE
- Development of Gas NDE Control Manual (TD-4190M) (Started Q2 2013)
  - Establishes procedures for all NDE inspections
- Comprehensive review of all NDE Contractor procedures and qualifications (Q2 2013)
- Engagement of 3<sup>rd</sup> Party experts for the review and execution of new contracts with NDE service providers (Q2 2013)
- Integrity Management NDE vendor's procedures were reviewed and personnel proficiency tested for the performance of inspections (Q3 2013)
- Facility and NDE program audits were conducted for existing and prospective NDE service providers (Q3 2013)
- Online OQ Training modules (Veriforce) developed for contractor NDE

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# NDE Program Validation Protocols

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- Engaged 3<sup>rd</sup> Party experts (LLNL) to develop scope and provide historical understanding (11/21/2013)
- Working to establish contracts with Lawrence Livermore National Labs
  - Working to meet contract requirements, and fee structure requirements
- 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



## Completed Activities to Date

- PG&E terminated TCI as a PG&E-approved vendor (4/1/13)
- Review of 3,755 inspections dating from 2012-2013<sup>1</sup>
- Submittal of “Quality Assurance Program for Radiographic Inspections” presented to CPUC (10/31/13)
- Increased frequency and quantity of job site observations of NDE contractors
- Completed a detailed, independent third-party review of all contractors certification programs and NDE Procedures
- Retained qualified independent third-party to review all TCI Validation radiographs
- Completed notification to local agency authorities in the cities and counties affected by the citation in accordance with Resolution ALJ-274 (11/6/13)
- “With input from SED, retain a technically qualified third party to develop a comprehensive Extent of Condition Analysis and Re-Inspection & Remediation”
  - Engagement with Lawrence Livermore National Labs has commenced
  - Currently working to finalize LLNL/PG&E contract
- <sup>1</sup>This population contained some 2010 and 2011 welds  
**Validation of 5 welds on L-132 (11/15/2013)**  
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  - All 5 Welds passed radiographic inspection per API 1104

- High Level activities within the next 6 Weeks
  - Expand the transmission leak survey program and perform additional surveying of affected transmission lines
    - Integrated Leak Survey plan for additional 640 miles to commence in December 2013
      - Development of flight maps to facilitate aerial leak survey is currently underway
      - Comprehensive Map and corresponding data will be available for 12/6/2013 meeting
  - Leak analysis associated with prior girth welds (Transmission Pipe, post-1961 construction, requiring radiographic inspection)
    - Leak data has been collected and is currently being correlated with pipe segments
    - Analysis scheduled for completion on 12/2/2013
  - Finalize Contract with LLNL [11/27/13]
  - Issue L-114 Final Report [12/6/13]
  - Inspection of first 20 TCI Welds [12/31/13] (5 completed as of 11/15/2013)
  - Inspection of all 43 TCI Welds [3/31/14]
  - Provide summary of NDE Program Enhancements
- Detailed TCI Weld Validation Schedule



# Appendix I

Inspection Summary for L-132 Welds:  
W-31, W-32, W-33, TI-9, TI-10

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9