

2020 T&D Wildfire Mitigation Plan (WMP) Process & Controls (P&C) QA Review Status Update

October 14, 2020



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Background

Pre-Read

Objective: Perform QA review to provide reasonable assurance there is sufficient evidence to support the 40 T&D 2020 WMP goals in preparation for the CPUC Independent Evaluator review or data requests using the risk-based approach.

Highlights From the Approach & Findings:

- Reviewed 17 High & 5 Medium risk WMP activities (8 of 22^a completed)
- Focus of the review was on overall data integrity of data evidence provided (not fieldwork)
- Identified data integrity issues in six areas - Distribution & Transmission Ground Inspections, Covered Conductor, Fire Resistant Poles, Current Limiting Fuses and Automatic Reclosures.
 - Several improvement opportunities were also identified in other areas
- In addition the WMP goals, QA will also be reviewing WMP Deficiency Conditions A&B, Risk Prioritization Analysis, Off Ramp/Change Order Report, Quarterly AB1054 Report, etc.

a. QA will review evidence for anomalies and completeness on 18 low-risk T&D WMP activities identified.

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Distribution Ground Inspections

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Distribution Ground Inspections (IN-1.1)

Discussion

A. Completed ODI inspections without Cosmos¹ record (survey questions)

(Potential Risk: Operational)

| Category | Count |
|---|---------------|
| Complete SAP WO without Cosmos record – (05/31/20) | 10,489 |
| SAP Measurement Documents found (07/01/20) | -9,212 |
| Central Field Services RPPM sync issues log (07/05/20) | -820 |
| Completed inspections without DIMP ODI or Cosmos record | 457 |
| Aerial Inspection completed or scheduled (07/27/20) | -332 |
| Quality Control Inspection completed (07/31/20) | -5 |
| No compensating document or activity supporting field inspection | 120 |

¹ Cosmos: Cloud-based repository for survey data
Inspect App: Field tool app used to collect survey data

Distribution Ground Inspections (IN-1.1)

Discussion

B. Inspect App survey responses and Notifications - Direct Notification not found (Potential Risk: Compliance)

| Classification | Apparatus Leak | Downguy Damage | Transformer Weepage | Vegetation Clear Prim | Total |
|--|----------------|----------------|---------------------|-----------------------|------------|
| Not "No abnormal conditions" or blank ¹ | 3 | 237 | 91 | 695 | 1,026 |
| Matched SAP Notification ² | -2 | -178 | -42 | -63 | -285 |
| No Related Notification³ | 1 | 59 | 49 | 632 | 741 |
| Aerial Inspection complete or planned | -1 | -41 | -27 | -515 | -584 |
| QC Inspection complete | | -2 | -1 | -14 | -17 |
| Survey Responses with Potential Risk | 0 | 16 | 21 | 103 | 140 |

¹Response not blank or not solely "no abnormal conditions"

²Problem Statement match (e.g., TRIM VEG TREE PRI CBL/CND POLE) and/or description relates to condition

³Includes 305 with unrelated P2 or P3 Notifications

Distribution Ground Inspections (IN-1.1)

Discussion

B. Inspect App survey responses and Notifications *(cont.)* - Conflicting Responses (Potential Risk: Compliance)

| Area | Survey Response |
|----------------------|---|
| Downguy Damage | Guys broken/missing/worn out , pole not leaning + No abnormal conditions |
| Transformer Weep | Excessive oil leakage , oil reaches ground or public access or environmentally sensitive area + No abnormal conditions Minor leakage , oil remains on equipment, does not reach ground or public access or environmentally sensitive area + No abnormal conditions Blown fuse + No abnormal conditions Bushings damaged + No abnormal conditions |
| Vegetation Clearance | No abnormal conditions + Vegetation arcing or in contact with energized conductor + Immediate danger concerning palm fronds falling or blowing into conductors + Vines, branches, or foliage presenting an overhang or other imminent threat |

Next Steps:

Observations & Recommendations issued October 7, 2020
Working with T&D management to obtain action plans

ODI Deep Dive (InspectApp vs. SAP)

provided by Asset Assessments & Data Strategy

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Status of AA&DS Deep Dive into InspectAPP versus SAP

Discussion

Step 1

- Reviewed ODI Material
- Determined Questions ODI was told to create notifications for

Step 2

- Map Survey Questions to Problem Statements in SAP
- Validated Mapping with M&IPO

Step 3

- Run Analysis for All Survey Questions
- Determined Common answers where problem statement was not created

Step 4

- Conduct Random Sample of Questions using Pictures
- Use Simple form to pull 5 questions from each category as baseline

Step 5

- Examine QA/QC database, determine if QC inspected structure and had findings

Step 6

- Make recommendation concerning difference

Step 7

- Retrain ODI Inspectors

High Level Overview of Findings To Date

Maintenance & Inspection Analytics (M&IA) mapped survey answers to SAP notifications to determine if the data in SAP matched InspectApp

The analysis found the following

- Survey Data indicated 83k notifications needed to be created
 - 18K notifications found in SAP
 - 65K difference between SAP and InspectAPP data
 - Ten questions account for ~54.5k of the data issues
 - Twenty inspectors account for ~25k of the data issues
 - North Coast, Rural and San Jacinto account for ~40k of the data issues
 - North Coast is ~19k

Preliminary Findings of Comparison of SAP to InspectApp

Discussion

| Asset Type | Notifications Needed | Created in SAP | Appear To be Missing |
|--|-----------------------|----------------|----------------------|
| Conductors | 31,654 ^{1,2} | 3,404 | 28,250 |
| Cross Arms | 2,912 | 1,284 | 1,628 |
| Down Guys | 4,419 | 1,343 | 3,076 |
| Hardware Framing | 2,296 | 427 | 1,869 |
| Insulators | 3,291 | 610 | 2,681 |
| Pole | 21,874 ^{1,4} | 6,824 | 15,050 |
| Recloser, Regulators, Sectionalizers, Switches | 52 | 1 | 51 |
| Service Drops | 1,206 | 391 | 815 |
| Span Guys | 2,456 | 795 | 1661 |
| Terminators | 750 | 271 | 479 |
| Transformers | 12,262 ³ | 2,593 | 9,669 |

1 - ~24k issues are Vegetation and Nest related

2 – ~7k issues related to Clearances to other structures (Communication, Customer)

3 – ~8k issues related to animal guards

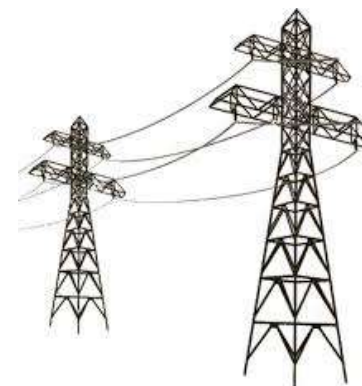
4 – ~3.5k Animal nest on structures

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Transmission Ground Inspections

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Transmission Ground Inspections – potential missed notifications

Discussion

Objective: Review inspection and notifications data to identify instances where there may be a potential field condition without an associated notification

Observation: **633 potential field conditions without an associated notification. Brush clearing makes up 63%**

Process Improvement in 2020: Trans significantly improved its process by enhancing S123 features, question's clarity, developing new controls, etc.

Next steps: Trans to review exceptions, validate cause by 11/6/2020, and develop detail action plan.

Update: Management review has revealed a notification for brush clearing field condition may have been created with the incorrect problem statement. Issue may be corrected through the gatekeeping process.

| # | Critical Question | Notification needed | Notification created | Missed notifications |
|-----------------------------|--|---------------------|----------------------|----------------------|
| 1 | Brush clearing | 6,125 | 5,726 | 399 |
| 2 | Main structure | 1,728 | 1,675 | 53 |
| 3 | Suspension insulator plum | 50 | 17 | 33 |
| 4 | Down guys | 75 | 47 | 28 |
| 5 | Guys/Anchors due to clearance (<5ft from non-SCE metallic objects) | 28 | 6 | 22 |
| 6 | Bonds/bonding | 286 | 269 | 17 |
| 7 | Dampers | 28 | 14 | 14 |
| 8 | Structure Base | 25 | 14 | 11 |
| 9 | Line hardware | 38 | 27 | 11 |
| 10 | Supporting members | 78 | 68 | 10 |
| 11 | Insulators | 211 | 203 | 8 |
| 12 | Span guys | 31 | 25 | 6 |
| 13 | Anchors | 97 | 91 | 6 |
| 14 | Bird nest/wildlife debris | 153 | 149 | 4 |
| 15 | Wire or splices | 49 | 45 | 4 |
| 16 | Footing/Base | 166 | 162 | 4 |
| 17 | Jumpers | 6 | 3 | 3 |
| 18 | Transmission bird avian | 24 | 22 | 2 |
| 19 | Equipment brackets or braces | 1 | 0 | 1 |
| 20 | Conductor spacers | 7 | 6 | 1 |
| 21 | Shield wire | 7 | 6 | 1 |
| 22 | Equipment | 0 | 0 | 0 |
| 23 | Riser | 0 | 0 | 0 |
| 24 | Hook or structure where it | 1 | 1 | 0 |
| 25 | Pilot wire/open wire | 0 | 0 | 0 |
| 26 | FRC | 0 | 0 | 0 |
| Total missed notifications: | | 9,214 | 8,576 | 638 |
| Identified by Trans QA: | | | | -5 |
| Subtotal missing | | | | 633 |

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Distribution & Transmission Remediation

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Distribution & Transmission Remediation

Objective: To determine whether remediation evidence appears reasonably accurate and properly supports the WMP goal

Observation:

Review revealed open notifications against an inactive floc/equipment: Distribution - 4,883 & Trans - 1,343

- Example#1: Notification may have been written against an old equipment because new equipment was still not in SAP. This would be a higher risk if remediation is required.
- Example#2: Notification written against an equipment that has since been replaced. This would be a lower risk if it is just a clean-up effort.

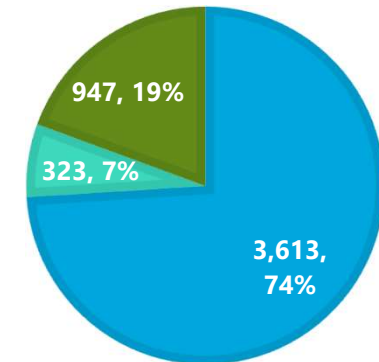
Next steps:

Obtained action plan, QA is currently reviewing

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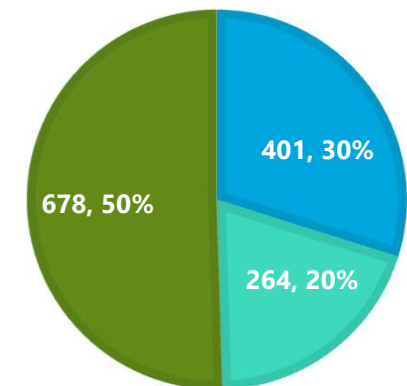
DIST

■ Due prior years ■ Due 2020 ■ Due after 2020



TRANS

■ Due prior years ■ Due 2020 ■ Due after 2020



Preliminary Evidence (CC, RAR, FR & CLF)

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Preliminary Evidence (CC, RAR, FR & CLF)

Review of preliminary evidence for Covered Conductor (CC), Fire Resistant Poles (FR), Remote Automatic Reclosers (RARs) and Current Limiting Fuses (CLFs) revealed the following:

| | #1 CC, FR and RARs | #2 CC and FR | #3 CC and RARs |
|--------------------|--|--|---|
| <u>Issue:</u> | Based on DPM Tracker. Not generated or reconciled to a System of Record (SOR) (e.g. mapping, SAP) | DPM Tracker does not contain critical information (e.g. structure# and HFRA designation) | DPM Tracker contains installations made in prior years |
| <u>Example:</u> | Generated from DPM Tracker (stand-alone access database) which is based on estimates, not actuals | Specific structures/location where material is installed is not included | 11 CC Work orders reported installations from 2018 and 2019 (total: 33 miles) |
| <u>Cause:</u> | One SOR does not exist to capture all critical info, due to challenges below: 1) SAP: Delays in updating record due to work order closure delay 2) Mapping: does not identify specific asset data (e.g. FR vs. wood) or contain necessary information (e.g. WO#) 3) CC – see note below | 1) CC – see note below 2) FR – Delays in updating record in SAP due to work order closure delay | Lack of monitoring control |
| <u>Next steps:</u> | WPM to discuss impacted parties and develop an action plan | 1) CC – see note below 2) FR – WPM to discuss impacted parties and develop an action plan | Issue has been resolved – pending QA verification |

Note: A Mapping Process Improvement effort on CC is underway to address similar concerns identified by ASD in 2019. QA will continue working with management to confirm effectiveness of this new process.

