

Quality Assurance Vegetation Management Distribution Audit Procedure

SUMMARY

This utility procedure specifies how Quality Assurance Vegetation Management (QAVM) under Electric Operations (EO) Quality Management (QM) performs audits of vegetation line clearance activities along overhead electric distribution lines and transmission lines with distribution underbuild. Following this procedure ensures compliance with the following documents and legal requirements:

- Pacific Gas and Electric Company (PG&E) Vegetation Management (VM) [Utility Procedure TD-7102P-01, "Distribution Routine Patrol Procedure \(DRPP\)."](#)
- [Utility Procedure TD-7103P-01, "Transmission Non-Orchard Routine Patrol Procedure \(TRPP\)."](#)
- [California Public Utilities Commission \(CPUC\) General Order \(G.O.\) 95, Rule 35.](#)
- [Public Resources Codes \(PRCs\) 4293–4296.](#)

This audit procedure implements [Utility Standard RISK-6301S, "QA Audit Standard"](#) and incorporates elements of ISO 19011 guidelines for Auditing Management Systems.

Level of Use: Informational Use

TARGET AUDIENCE

All Quality Assurance Specialists (QAS) and Quality Assurance Auditors (QAA), known as the Lead Auditor, who perform Vegetation Management (VM) electric distribution audits.

SAFETY

Safety must always be considered before the start of field work. Determine necessary personal protective equipment (PPE) and potential safety issues before beginning field work. Obtain as much information as practical concerning safety where work is to be performed. Discuss this information with local management personnel for clarification.

When working in remote areas, notify a VM or Quality Assurance (QA) representative of the work location, wear a personal locator beacon or similar device (e.g., GARMIN), and always perform a 360-degree vehicle walk around inspection before entering the vehicle and driving.

If a situation is potentially unsafe, discuss with the QA Supervisor for options and alternatives.

BEFORE YOU START

1. Review Appendix A, "Audit Procedure – Authorization and Communication."
2. Review Appendix B, "Flowchart: Audit Procedure – Preparation."
3. Verify the Quality Management (QM) SharePoint line mileage population query is updated for the year.

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PROCEDURE STEPS

1 Define the Audit Scope

1.1 DETERMINE the audit scope based on the following criteria:

- QAVM annual authorized work plan.
- Geographic area.
- Fire Responsibility Area.
- Contractor make-up.

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Section 1.1 (continued)

- Contractor performance.
- Desired sample size.

NOTE

Sustained prior years' audit results may be factored into sampling parameters to either reduce or increase sample size.

- 1.2 COMPILE the last three years' contact and regulatory compliance audit results for the subject area and type of audit.

2 Determine the Sample Equation and Plan

- 2.1 PERFORM the following steps to DETERMINE the sample size:

NOTE

A line mileage population query is generated once per year for the entire distribution system. Circuit verification occurs before the first distribution audit of each new year.

1. REFER to the QA SharePoint site for the Geographic Information System (GIS) line mileage annual query.
 2. USE the data obtained from the GIS query to tally the number of distribution circuit miles for the sample area.
 3. Using the values provided by the QAVM Supervisor, CALCULATE a statistically valid audit sample size in accordance with [Form RISK-6301P-06-F01, "Distribution Audit Sample Equation."](#)
 - Level of Confidence.
 - Estimated Level of Compliance.
 - Actual Error Willing to Incur.
- 2.2 CREATE an audit plan.
 1. USE [Attachment 1, "Distribution Audit Plan."](#)
 2. ESTIMATE field work duration.
 - 2.3 SUBMIT the Distribution Audit Plan and Distribution Audit Sample Equation to the QA Supervisor for review and approval.

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2.4 SAVE a PDF of the approved audit plan and approval email in the audit folder.

3 Prepare the Sample

3.1 PERFORM the following steps in [Attachment 2, "QAVM Distribution Sample Generation,"](#) to GENERATE a source side device (SSD) list.

3.2 GENERATE a source side device (SSD) list.

3.3 QUERY VM databases for information on each sample location as follows:

NOTE

Circuit and SSD assignment in the Vegetation Management Database (VMD) can differ from external databases (e.g., GIS).

1. QUERY for information to review reports as needed for the following information:

- Safety information (e.g., Notify First, Refusals, Bad Dog, Concerned Customer).
- Customer notification and contact information.
- Access information (e.g. gate codes).
- Location comments.
- Other location/tree alert codes as necessary (e.g., endangered species, riparian).

2. QUERY VM databases for Major Wood Stems (MWS) AND FILL out [Form RISK-6301P-06-F02, "QAVM Major Woody Stem Template."](#)

a. REVIEW the MWS electronic form for the following criteria to be complete:

- MWS number.
- Species.
- Latitude and longitude.
- All boxes checked in Sections 1 and 2.
- Signature and LAN ID.

3.4 CONTACT local VM operations personnel for additional detailed information as needed.

3.5 PLOT waypoints to the preferred navigation tool.

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3.6 CREATE GIS audit maps (paper or digital) in color with the following minimum information for each sample line:

1. Header
 - Sample number.
 - Audit number.
 - Circuit.
 - SSD number.
 - Estimated Mileage.
2. Distribution Maps must include the following layers:
 - Electric distribution devices.
 - Overhead electric distribution lines.
 - Fire Responsibility Area boundaries.
 - High Fire Threat District boundaries.

4 Conduct an Entrance Meeting

- 4.1 SCHEDULE an entrance meeting with the Supervising Vegetation Program Manager (SVPM) and Vegetation Program Manager (VPM).
- 4.2 NOTIFY the SVPM/VPM of the option of inviting other stakeholders as needed (e.g., PG&E personnel, contractors).
- 4.3 DEVELOP an entrance meeting presentation including the following:
 - Purpose.
 - Scope of audit.
 - Projected timeline.
 - Audit sample parameters.
 - Finding types and definitions.
 - Communication of findings.
 - Dispute process.

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Section 4.3 (continued)

- Areas of concern for safety, access, etc.

4.4 CONDUCT the entrance meeting.

4.5 RECORD invites and attendees in the final presentation.

4.6 STORE final presentation in the QAVM network drive.

4.7 SEND to VM Operations via email a PDF of Entrance Meeting Presentation, the Audit Plan, and Cause Definitions.

4.8 Before starting field work, COMPLETE [Form RISK-6301P-06-F03, "QAVM Audit Preparation Checklist."](#)

4.9 Audit Team CONDUCTS applicable audit activities based on guidance documents, procedures, and standards.

5 Record Findings

5.1 IF a tree is identified that meets any of the following criteria:

- Currently in contact with high-voltage bare wire.
- Evidence of previous contact with high-voltage bare wire (e.g. ash or charring).
- Immediate risk or poses imminent threat of failure that would impact facilities.
- Abrading Tree Wire or Raychem to expose high-voltage bare wire.

THEN RECORD the finding on the relevant datasheets as described in Section 7.1 thru 7.8 as follows: "Tree Line Contact" (TLC).

1. NOTIFY VM Operations according to Step 1.3.1.a in the [Utility Procedure TD-7103P-09, "Vegetation Management Hazard Notification Procedure."](#)
2. STAY on site if necessary due to public safety concerns.

5.2 IF a tree is identified that is less than 18 inches from high-voltage bare wire in an area subject to G.O. 95, Rule 35 and does not exhibit signs of contact,

OR a tree is identified as more than 18 inches, but less than 48 inches clear of bare wire in an area subject to PRC 4293 or High Fire Threat Districts subject to G.O. 95, Rule 35 and does not exhibit signs of contact,

THEN RECORD the finding on the relevant datasheets as described in Section 7.1 thru 7.8 as follows: "Non-Compliance" (NC).

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1. NOTIFY the responsible SVPM/VPM via protocol agreed upon at the entrance meeting. In the event there are additional findings in the immediate vicinity, Lead Auditor will notify SVPM/VPM of these findings as well.
2. SEND via email full details of QAVM non-compliance observation(s) to the SVPM/VPM no later than the start of the following business day. Save PDF of the email in communications folder of audit.

5.3 IF a tree is in contact with Raychem OR tree wire as defined by [G.O. 95](#),

PERFORM the appropriate steps below:

1. IF there is abrasion to the Raychem or tree wire,
THEN RECORD the finding on the relevant datasheets as "TLC."
2. IF there is strain (without abrasion) on the Raychem or tree wire,
THEN RECORD the finding on the relevant datasheets as "NC."

NOTE

Some coated wire and weather proofing does not offer a high enough resistance to the passage of current as described in [G.O. 95, Rule 21.6](#) and, therefore, is treated as bare wire.

5.4 IF a tree is identified that may become non-compliant to bare wire within ninety days of QAVM observation,

THEN RECORD the finding on the relevant datasheets as "90-day" (90D).

5.5 IF the finding is in a State Responsibility Area (SRA), Non-High Fire Threat District (HFTD) within ninety days of estimated closure of fire season according to the CALFIRE Fire Season Declarations, <https://fire.ca.gov/stats-events/>,

AND is sure to maintain compliance with [G.O. 95](#) for ninety days, but potentially encroach within [PRC 4293](#) clearance distances within the next ninety days,

THEN RECORD the finding on the relevant datasheets as FYI.

5.6 IF a tree or portion of a tree is identified as posing a potential threat as defined in [G.O. 95, Rule 35, Paragraph 3](#), that is dead, rotten, diseased, declining, or defective that overhangs or leans toward any high-voltage or secondary facilities with the potential to fail,

THEN RECORD the finding on the relevant datasheets as "Facility Protect Tree" (FPT).

5.7 IF any overhanging limb is found on transmission,

THEN RECORD the finding on the relevant datasheets as "Facility Protect Tree" (FPT).

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- 5.8 IF a tree is identified in the field that meets the major woody stem (MWS) exemption criteria as defined in [Utility Procedure TD-7102P-05, "Major Woody Stem Exemption,"](#)

THEN VERIFY proper MWS documentation is complete.

1. IF a previously identified MWS is observed,

THEN refer to Attachment 2, "Major Woody Stems Categories Table" in [Utility Procedure TD-7102P-05, "Major Woody Stem Exemption,"](#) to see if form is required.

- a. IF a form is required,

THEN ENSURE all exemption boxes are checked and the form is signed by a qualified inspector.

- b. VERIFY the correct exemption code is applied in the VM Database.

IF any conditions from sections 5.8.1.a or 5.8.1.b are not met,

THEN RECORD the finding on the relevant datasheets as "major woody stem documentation finding" (MWS).

2. IF an MWS is identified adjacent to bare wire,

AND the tree has vegetation within the compliance zone that does not qualify for the MWS exemption,

THEN RECORD the finding on the relevant datasheets as a "Non-Compliance" (NC).

3. IF an MWS is identified adjacent to tree wire or Raychem,

AND the tree has vegetation within the compliance zone that does not qualify for the MWS exemption,

THEN RECORD the finding on the relevant datasheets as a "Non-Conformance" (CONF).

NOTE

According to PRC 4293 Section 1257a.3.B.4, "When constructing, installing, replacing, or maintaining primary distribution equipment, prevent the creation of new Exempt Trees, to the extent feasible."

4. IF a newly identified Major Woody Stem is created due to construction changes on a span with bare wire in SRA,

THEN RECORD the finding on the relevant datasheets as "Non-Compliant" (NC).

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5. IF a newly identified MWS is created due to construction changes on a span with tree wire or Raychem in SRA,

AND Inspection has inspected the tree,

THEN RECORD the finding on the relevant datasheets as a "Non-Conformance" (CONF).

6. IF a newly identified MWS is created due to construction changes on a span with tree wire in SRA,

AND Inspection has inspected the tree,

THEN RECORD the finding on the relevant datasheets as a "Non-Compliance" (NC).

5.9 PATROL AND DOCUMENT a stand-alone secondary voltage line as follows:

1. IF a secondary line is observed with evidence of significant strain or abrasion due to vegetation as defined in [G.O. 95, Rule 35](#),

THEN RECORD the finding on the relevant datasheets as a secondary wire finding (SEC).

2. IF a facility protect tree (FPT) is observed on a secondary wire serving more than one customer,

THEN RECORD the finding on the relevant datasheets as FPT.

3. IF a facility protect tree (FPT) or tree with evidence of significant strain or abrasion is observed on a secondary wire serving only one customer AND is not a service drop,

THEN RECORD the finding on the relevant datasheets as FYI.

5.10 IF a tree is non-conforming to PG&E internal policy but is compliant to regulatory standards,

THEN RECORD the finding on the relevant datasheets as Non-Conformance (CONF).

5.11 IF a finding was reported complete by a tree contractor but no evidence of trim is found,

NOTIFY the Division's VPM as soon as possible after discovery.

5.12 IF a currently sprouting century plant is found under bare wire conductors,

THEN RECORD the finding on the relevant datasheets as 90 day.

5.13 IF a mature century plant is found under bare wire conductors,

THEN RECORD the finding on the relevant datasheets as FYI.

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- 5.14 IF a facility protect is observed with potential to damage guy wire,
THEN RECORD the finding on the relevant datasheets as an FYI.
- 5.15 IF a finding at a sample location is identified that affects transmission underbuild only,
THEN RECORD the finding on the relevant datasheets as FYI.
- 5.16 IF a finding at a sample location is identified that does not fit into one of the categories above,
but needs to be brought to the attention of the SVPM/VPM,
THEN RECORD the finding on the relevant datasheets as FYI.
- 5.17 IF a finding is observed on a non-sample location,
THEN the VPM must be notified via email/text and it is not recorded on any audit datasheet.

6 Collect Data

- 6.1 PERFORM the following steps to ensure appropriate line clearance conditions:
1. CONSIDER the following when observing vegetation clearances along a sample line:
 - Tree-to-line proximity.
 - Annual tree growth.
 - Tree movement due to wind.
 - Conductor sag.
 - Conductor sway.



WARNING

TREAT primary neutral conductors as high voltage

- 6.2 PERFORM the following steps to INSPECT each distribution sample line until the conductor OR flow of power ends OR is disrupted by another load-breaking SSD:
1. IF a portion of a sample line is considered unsafe,
THEN PERFORM the following steps:
 - a. DISCUSS the situation with the QA Supervisor to seek options and alternatives.
 - b. NOTE any deviations from the original sample selection in the report.

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2. IF portions of the sample line do not meet audit criteria (e.g., they cross fire responsibility area boundaries),

THEN perform the following tasks:

- a. EXCLUDE that portion of the line.
 - b. RECORD on field map a distinctive stopping point such as the following examples:
 - Electric facility
 - Road
 - Stream
 - Property line
 - Interface point
3. EXCLUDE idle lines from the sample, with the following exceptions:
 - a. IF the power flow is interrupted due to open/pulled fuses,
THEN CONTACT the local distribution operator (DO) to determine whether the lines are to be re-energized.
 - b. IF the line is de-energized for maintenance AND the fuse is to be closed at the completion of maintenance,
THEN include the line in the sample.
 4. IDENTIFY any privately-owned line (POL) that is part of the sample AND PERFORM the appropriate steps below:
 - a. IF PG&E is responsible for maintenance of the line,
THEN INCLUDE the line in the sample.
 - b. IF PG&E is not responsible for maintenance of the line,
THEN EXCLUDE the line from the sample.
 5. IF a sample location ends at an underground riser pole SSD,
INCLUDE the uninsulated conductor segment beyond the riser pole SSD.

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6. IF a sample device is located on a pole with multiple SSDs,
THEN EXCLUDE open devices AND review the line segment between sample device and next downstream SSD.
7. IF an SSD configuration is different in the field then on the map,
PATROL the line as configured in the field.
8. IF an SSD is encountered that is not on the map,
THEN DETERMINE whether the SSD is in the original SSD sample query AND
PERFORM the appropriate step below:
 - a. IF the SSD is in the sample query,
THEN EXCLUDE it from the sample location mileage and tree population.
 - b. IF the SSD is **not** in the sample query,
THEN INCLUDE the mileage and tree population beyond the SSD as part of the sample location.

6.3 VERIFY the tree population for each sample line as follows:

NOTE

Tree wire and Raychem are treated the same as bare wire for purposes of tree population counts.

1. COUNT all trees that need to be worked to maintain compliance within the next two years (three years for fast-growing trees).
2. INCLUDE any trees pruned for utility line clearance in the past, as determined by QAVM assessment at the time of audit.
3. TALLY brush as one brush unit for each continuous canopy of brush in a span, regardless of canopy length.
4. IF two devices are pulled that are stacked lines in the same span(s),
THEN INCLUDE both line segments in the sample,
AND EXCLUDE duplicate trees from the population.

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NOTE

This method of determining the brush tally is different from the method that the VM operations team uses.

5. EXCLUDE the following from the tree count:
- Trees that were removed.
 - Trees that were facility protected that would not be identified for routine line clearance maintenance.
 - Trees without green growth.
 - Trees along secondary lines or service drop lines.

NOTE

Base and estimated counts are used as a last resort when obtaining tree counts.

- 6.4 IF a tree population cannot be accurately obtained in the field safely or reasonably,
THEN DETERMINE a base or estimated count using satellite imagery (e.g., Google Earth).

7 Record and Analyze Data

7.1 DOCUMENT findings as follows:

1. FLAG findings as agreed upon in the entrance meeting.
2. RECORD the GPS coordinates in decimal degrees (e.g., Lat: 000.00000, Long: -000.00000).
3. TAKE one or more photographs of findings from different perspectives and angles, as described below:
 - a. Best practice: INCLUDE a close-up, a mid-distance photo to provide height and distance perspective, and another photo to identify the immediate surroundings.
 - b. RECORD video when appropriate (e.g., wind is blowing limbs or branches intermittently into a compliance zone).

7.2 RECORD all findings described in Section 5.1. thru 5.18 on [Form RISK-6301P-06-F04, "QAVM Field Findings Record."](#)

1. ONLY group trees onto one entry if all criteria are met:

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Section 7.2.1 (continued)

- Same finding type
- Same species
- Same size class
- Same location in span

NOTE

Circuit and SSD assignment in VM databases can differ from those in GIS.

2. From VM databases, COLLECT all pertinent data related to audit findings.
 3. DETERMINE the corresponding project name for each finding.
 4. COLLECT scheduling data from the VM databases.
- 7.3 SEND via email full details of QAVM tree line contact and Non-Compliance observation(s) to the SVPM/VPM no later than the start of the following business day.
1. Save PDF of the email in communications folder of audit.
- 7.4 RECORD all findings described in Section 5.1 thru 5.18 on [Form RISK-6301P-06-F05 "QAVM SSD Data Collection Sheet."](#)
1. REVIEW supporting documentation as follows:
 - a. IF the finding is a refusal,
THEN REVIEW the appropriate refusal database.
 - b. IF the finding is the result of the Tree Pruning process,
THEN REVIEW the original signed work request.
 2. ANALYZE the data and compile the results on the SSD Data Collection, Cause Analysis Tab.
 3. ASSIGN primary and associated supplemental causes (if applicable) to each non-compliance finding using [Attachment 3, "QAVM Cause Analysis Definitions."](#)
- 7.5 ENTER each tree line contact and non-compliant tree into the Corrective Action Program (CAP) system with the following assignments:
1. ASSIGN the CAP issue to the supervising vegetation program manager (SVPM).



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2. RECORD the CAP issue number in [Form RISK-6301P-06-F06, "QAVM CAP & Attorney Work Product Tracker."](#)
- 7.6 By COB Monday, COMPLETE [Form RISK-6301P-06-F07, "QAVM Mitigation Datasheet"](#) from the previous week.
 1. SAVE the mitigation datasheet to the [QAVM SharePoint site](#).
- 7.7 UPDATE weekly [Form RISK-6301P-06-F08, "QAVM Distribution Weekly Update."](#)
 1. By COB Monday, EMAIL weekly progress to the SVPM/VPM from the previous week using [Form RISK-6301P-06-F08, "QAVM Distribution Weekly Update."](#)
 2. SAVE PDF of email into audit's communication folder.
- 7.8 PERFORM the following steps to complete the [ATTORNEY WORK PRODUCT - QAVM Compliance Information 2012-Ongoing MASTER spreadsheet](#) on the [QAVM SharePoint site](#).
 1. ENTER all tree line contact and non-compliance findings into [Form RISK-6301P-06-F06, "QAVM CAP & Attorney Work Product Tracker."](#)
 2. ENSURE that all tree line contact and non-compliance from the previous week are copied and pasted onto the [ATTORNEY WORK PRODUCT - QAVM Compliance Information 2012-Ongoing MASTER spreadsheet](#).
 3. By the end of the day Monday, ENTER completion dates for all open findings in the [ATTORNEY WORK PRODUCT - QAVM Compliance Information 2012-Ongoing MASTER spreadsheet](#) based on Corrective Action Program (CAP) issue closure.
- 7.9 IF VM operations personnel DISPUTE the finding,

THEN the following actions must be taken:

 1. The VPM or higher-level VM operations team member must NOTIFY via email the QAVM representative by the end of the day, two business days after the date of discovery of non-compliance.
 2. Within two business days of the dispute notification, the VPM or higher-level VM operations team member must MEET the QAVM representative on site.
 3. The VPM or higher-level VM operations team member must ENSURE that a proper measurement can be obtained (e.g., hot stick or bucket truck and pole pruner with compliance distance marked with electrical tape).

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Section 7.9 (continued)



WARNING

Measuring tools are used to provide a reference. Minimum approach distance must be observed.

4. IF tree is trimmed before QAVM representative and the VPM or higher-level VM operations team member meet to review the tree,

THEN finding will be upheld.
5. QAVM representative and the VPM or higher-level VM operations team member must REACH an agreement on site to uphold or change the finding.
6. IF QAVM representative and the VPM or higher-level VM operations team member cannot reach an agreement in the field,

THEN the following steps must be PERFORMED:
 - a. Within 24 hours of the field meeting, VM operations personnel must COMPLETE [Form RISK-6301P-06-F09, "QAVM Finding Dispute Form"](#) to PROVIDE any evidence to the QA Supervisor.
 - b. Within one business day of receiving the information, the QA Supervisor must DECIDE.
7. IF the QAVM Finding Dispute Form is not received by the QA Supervisor within 24 hours,

THEN the finding stands.
8. IF a contact tree finding is determined to be a non-compliance finding,

THEN RECLASSIFY AND UPDATE on the QAVM Mitigation Datasheet AND QAVM Field Record Sheet.
 - a. INCLUDE date of dispute, original finding type, and original measurement in the comments on the QAVM Field Record Sheet.
 - b. UPDATE the [ATTORNEY WORK PRODUCT - QAVM Compliance Information 2012-Ongoing MASTER spreadsheet](#).
9. IF a non-compliance finding is measured and found to be in compliance,

THEN RECLASSIFY AND UPDATE on the QAVM Mitigation Datasheet AND QAVM Field Record Sheet.



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Section 7.9 (continued)

- a. INCLUDE date of dispute, original finding type, and original measurement in the comments on the QAVM Field Record Sheet.
- b. UPDATE the [ATTORNEY WORK PRODUCT - QAVM Compliance Information 2012-Ongoing MASTER spreadsheet](#).

7.10 RECORD sample line sections audited on the field map, INCLUDE the following:

- HIGHLIGHT OR CROSS OUT the completed audit route.
- RECORD signature.
- RECORD LAN ID.
- RECORD date audit completed.
- RECORD total tree population count and mileage.
- RECORD separate tree populations and mileage for each HFTD area.
- RECORD total number of findings and approximate locations on the field map.
- RECORD differences between mapped conditions and field conditions that affect sample mileage.

7.11 ADDING OR REMOVING sample locations based on actual field mileage, REPEAT Steps 6.1 through 6.4 to INSPECT each sample location until meeting the minimum sample line mileage.

1. ADD/SUBTRACT audit mileage based on field conditions (e.g. cut jumpers, new construction, etc.)

7.12 ANALYZE the data.

1. USE objective analysis to convert data into useful information.
2. IDENTIFY patterns in the data that will indicate how well the area under focus complies with the audit standards.

8 Verify Corrective Action from Prior Audit

8.1 REVIEW the prior audit's published report and CAP entry AND COMPARE corrective/preventive actions with current audit cause analysis.

8.2 RECORD the implementation as follows:

1. IF the number of occurrences due to a particular cause is appreciably lower,

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Section 8.2.1 (continued)

THEN RECORD the item as being successfully implemented.

2. IF the number of occurrences due to a particular cause is not appreciably lower OR is higher,

THEN RECORD the item as not being successfully implemented.

9 Conduct an Exit Meeting

NOTE

It is recommended that a rough draft of the audit report be created (see Section 10, "Compose an Audit Report," below) before the closing meeting when possible.

- 9.1 SCHEDULE an exit meeting with the SVPM/VPM within one week of completing the field audit.
- 9.2 DEVELOP an exit meeting presentation including the following:
 - Facility Safety requirements.
 - Audit Summary.
 - Audit Results.
 - Observations.
 - Trends.
 - Invitation to complete Post-Audit Survey.
- 9.3 SUBMIT the draft exit meeting presentation to QM and QAVM personnel for peer review.
- 9.4 CONDUCT exit meeting.
- 9.5 COMMUNICATE the information is preliminary and may change pending further analysis.
- 9.6 RECORD invites and attendees in the final presentation.
- 9.7 FACILITATE review of exit meeting materials.
 1. PROVIDE opportunity for VPM to review all the audit materials AND to provide the Lead Auditor with any issues, comments, or recommended changes within seven days.

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Section 9.7.1 (continued)

- a. IF VPM determines there are issues,
THEN discuss for resolution.
- b. IF VPM determines there are **no** issues,
PROCEED with the report.

9.8 NOTIFY the SVPM of any open non-compliance CAP issues.

10 Compose an Audit Report

10.1 PERFORM the following steps to draft the audit report:

1. INCLUDE the following topics, or others, as applicable:
 - Audit Results.
 - Executive Summary.
 - Notable Observations.
 - Results within High Fire Threat District Areas.
 - Audit Scores per Contractor.
 - Multiyear Compliance Trending.
 - Line Compliance Assessment – Cause Evolution.
 - Field Findings Summary.
 - Prior year corrective/preventative action assessment.

10.2 SUBMIT the audit report to QAVM personnel for peer review.

1. CHECK the report to ensure that the following categories of information are correct:
 - Relevancy
 - Clarity
 - Accuracy
 - Punctuation

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Section 10.2.1 (continued)

- Spelling
- Grammar

10.3 UPDATE the audit report as necessary.

10.4 NOTIFY VM operations personnel of any changes made to the report since the closing meeting.

10.5 SUBMIT the audit report to the QA Supervisor for review and approval.

10.6 Upon approving the audit report, the QA Supervisor must perform the following tasks:

1. FILL OUT the signature page.
2. SUBMIT the audit report to the Quality Assurance manager for review and approval for publishing.
3. NOTIFY Lead Auditor that the report is ready for publishing.
 - a. QA Supervisor and Lead Auditor work together to determine if any preventive and/or corrective actions are necessary.
 - b. IF there are no findings and no corrective action is necessary,
THEN no CAP is created.
 - c. IF corrective actions are necessary,
THEN the Lead Auditor will initiate a CAP Issue to document the completion of the audit, AND
 - (1) UPLOAD the QAVM Mitigation Datasheet to the CAP Issue.
 - (2) CREATE the CAP Issue actions.
 - (3) PROVIDE the CAP Issue number to the QA Supervisor.
4. PUBLISH the audit report package by emailing the CAP Issue number and link to the SharePoint site where the report is stored for the following personnel:
 - The VM operations regional manager.
 - The VM operations senior manager.
 - The VM quality manager.

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Section 10.6.4 (continued)

- The SVPM.
- The VPMs.

11 Conduct a Post Report Meeting

11.1 ASK the SVPM whether a post-report meeting is needed.

11.2 IF a post-report meeting is needed,

THEN PERFORM the tasks below;

1. SCHEDULE AND CONDUCT the post-report meeting with the SVPM/VPM within two weeks of the report being published.
2. ENCOURAGE the SVPM/VPMs to INVITE the inspection and tree contractors to the post-report meeting to ENSURE that all relevant information is shared.

11.3 CONDUCT the post-report meeting to address the following issues:

1. PRESENT a summary of findings.
2. DISCUSS trends, significant findings, and cause analysis issues.
3. PROVIDE positive feedback when appropriate.
4. GIVE stakeholders the opportunity to ask questions and become familiar with the
5. QAVM Audit Procedure.

11.4 CONDUCT post-audit activities.

1. REQUEST VPM to complete Audit Survey
 - a. Lead Auditor EMAILS request to participate in the survey.
 - b. Lead Auditor FOLLOWS UP as needed to obtain responses.

12 Close the Audit

12.1 ENSURE that all CAP items are closed AND mitigation dates are entered into the Attorney Work Product Spreadsheet stored on the [QAVM SharePoint site](#).

12.2 PERFORM the following steps to PREPARE AND FILE the audit documents:

1. COMPLETE [Form RISK-6301P-06-F10, "QAVM Post Audit Records Checklist."](#)

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2. FILE a completed copy of the checklist in the audit folder.
3. FILE hardcopies of all pertinent documentation in the local QAVM office.
4. STORE all electronic information in relevant locations.
5. ENSURE that PDF versions of the published report are uploaded to the [QAVM SharePoint site](#).
6. RETAIN all audit documents per PG&E standards.

END of Instructions

DEFINITIONS

CAP: The enterprise-wide Corrective Action Program used to identify and manage issues. QAVM uses the Electric Corrective Action Program (CAP) to manage audit findings.

Causal analysis: A structured investigation that aims to identify the true cause of a problem, and the actions necessary to reduce or eliminate recurrence.

Compliance: Fulfilling the requirements stated in laws and regulations (e.g., G.O. 95, Rule 35 and [PRC 4293](#)).

Corrective action: The action necessary to correct non-compliance and to prevent recurrence of future non-compliance.

Fire Responsibility Area: An area that is a local responsibility area (LRA), state responsibility area (SRA), or federal responsibility area (FRA). Boundaries determine what laws and regulations may apply in each area at different times of the year.

High Fire Threat District: Areas as defined in [G.O. 95, Rule 21.2-D](#).

Idle line: One or more spans of overhead conductors and the associated structures, equipment, and facilities that are de-energized. Idle lines can range from service to a single customer to an entire line section.

Lead Auditor: An auditor who is a PG&E employee or a contractor.

Oil Circuit Breaker (OCB): The section of line between the substation and the first load-breaking source side device.

Primary neutral: A conductor that is located above the yellow "High Voltage" label on a pole. Typically, this conductor does not carry voltage. However, when there is an unequal load on the phases, the primary neutral acts as a balancer and creates the potential for voltages up to phase-to-ground levels (e.g., phase-to-ground voltage for 12 kV is approximately 7.5 kV).

Private Owned Line (POL): Private lines are defined as distribution main or line extension facilities, or service facilities that are not owned, operated and maintained by PG&E.

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Quality Assurance Auditor (QAA): An auditor who is a contractor.

Quality assurance representative: Either a Quality Assurance Auditor, Quality Assurance Specialist, or Quality Assurance Supervisor.

Quality Assurance Specialist (QAS): An auditor who is a PG&E employee.

Raychem: A protective sleeve that is exempt from regulatory compliance according to [PRC 4293, Section 1257](#) and [G.O. 95, Rule 35, Exception Number 1](#).

Sample line: The line segment to be audited. Starts at the SSD determined during the preparation phase of the audit and extends to the load-side of the SSD.

Source side device (SSD): Load-breaking device used as start and stop reference points during the audit.

Tree wire: An insulated conductor covered with a high abrasion resistant, usually non-metallic, outer covering, designed and manufactured to carry electrical current for installation on overhead pole lines or other similar overhead structures, according to [14 CCR Section 1251](#).

A protective wire covering that is exempt from regulatory compliance according to [PRC 4293, Section 1257](#) and [G.O. 95, Rule 35, Exception Number 1](#).

Vegetation management databases: Internal web-based data storage related to PG&E vegetation line clearance work. Databases include information specific to scheduling, field inspection, work requests, etc.

IMPLEMENTATION RESPONSIBILITIES

It is the responsibility of the QA Supervisor to ensure that all auditors read and understand the content of this utility procedure.

GOVERNING DOCUMENT

[Utility Standard RISK-6301S, "Quality Assurance Audit Standard"](#)

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

[California Public Utilities Commission \(CPUC\) General Order \(G.O.\) 95, "Rules for Overhead Electric Line Construction," Rule 35](#)

[California Public Resources Codes \(PRCs\) 4293 - 4296](#)

[North American Electric Reliability Corporation \(NERC\) Reliability Standard FAC-003-4, "Transmission Vegetation Management"](#)

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Records and Information Management:

Information or records generated by this procedure must be managed in accordance with the Enterprise Records and Information (ERIM) program Policy, Standards, and Enterprise Records Retention Schedule (ERRS). REFER to [GOV-7101S, "Enterprise Records and Information Management Standard"](#) and related standards. Management of records includes, but is not limited to:

- Integrity
- Storage
- Retention and Disposition
- Classification and Protection

REFERENCE DOCUMENTS

Developmental References:

California [PRC 4293](#)

[CPUC G.O. 95, Rule 35](#)

PG&E Inspection Contracts - Specification No. 4851

PG&E Tree Trimming Contracts – Specification No. 5404

[Title 14 - California Code of Regulations Article 4 sections 1250-1258](#)

[Utility Procedure TD-7102P-01, "Distribution Routine Patrol Procedure \(DRPP\)"](#)

[Utility Procedure TD-7103P-09, "Vegetation Management Hazard Notification Procedure"](#)

APPENDICES

Appendix A, Audit Procedure – Authorization and Communication”

Appendix B, “Audit Procedure – Preparation”

Appendix C, “Audit Procedure – Data Collection”

Appendix D, “Audit Procedure – Reporting”

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ATTACHMENTS

[Attachment 1, "QAVM Distribution Audit Plan"](#)

[Attachment 2, "QAVM Distribution Sample Generation"](#)

[Attachment 3, "QAVM Cause Analysis Definitions"](#)

[RISK-6301P-06-F01, "QAVM Distribution Audit Sample Equation"](#)

[RISK-6301P-06-F02, "QAVM MWS Template"](#)

[RISK-6301P-06-F03, "QAVM Audit Preparation Checklist"](#)

[RISK-6301P-06-F04, "QAVM Field Findings Record"](#)

[RISK-6301P-06-F05, "QAVM SSD Data Collection Sheet"](#)

[RISK-6301P-06-F06, "QAVM CAP & Attorney Work Product Tracker"](#)

[RISK-6301P-06-F07, "QAVM Mitigation Datasheet"](#)

[RISK-6301P-06-F08, "QAVM Distribution Weekly Update"](#)

[RISK-6301P-06-F09, "QAVM Finding Dispute Form"](#)

[RISK-6301P-06-F10, "QAVM Post Audit Records Checklist"](#)

DOCUMENT REVISION

This utility procedure supersedes Utility Procedure TD-7104P-01, "Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure," Rev.2, Published 08/28/2015.

DOCUMENT APPROVER

██████████, Manager, Electric Operations Quality Assurance

DOCUMENT OWNER

██████████, Manager, Electric Operations Quality Management Support

DOCUMENT CONTACT

██████████, Quality Assurance Supervisor, Quality Assurance

Quality Assurance Vegetation Management Distribution Audit Procedure

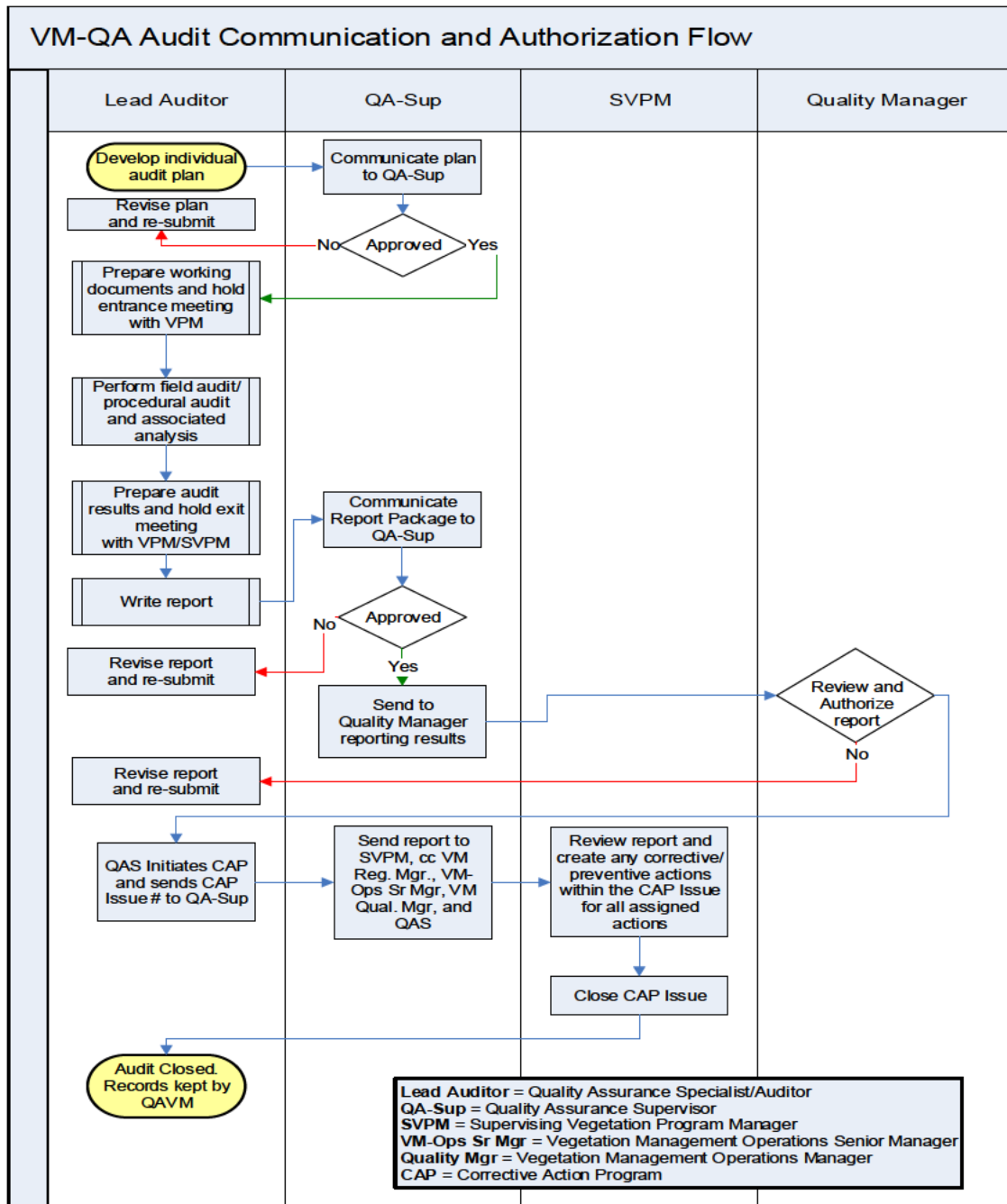
REVISION NOTES

Where?	What Changed?
Throughout document	Major rewrite. Fixed hyperlinks, removed obsolete attachments, added new attachments and forms, captured changed process elements (e.g., addition of CAP, removal of CAPA, removal of DART, changed "QA-PM" to "QA Supervisor", changed QAS/QAA to "Lead Auditor" etc.). Changed section headings to actions (e.g., "Data Analysis" to "Record & Analyze Data"). Edited for closer alignment with GDM program documentation requirements.
Attachment 1	Update from old Attachment 1
Attachment 2	Updated from old Attachment 3
Attachment 3	New Attachment for Cause Analysis Definitions
Form 1	Updated from old Attachment 2
Form 2	New Form for MWS Template
Form 3	New Form for Audit Preparation Checklist
Form 4	New Form for Field Findings Record
Form 5	New Form for SSD Data Collection Sheet
Form 6	New Form for CAP & Attorney Work Product Tracker
Form 7	New Form for Mitigation Datasheet
Form 8	Updated from Attachment 6
Form 9	New Form for Finding Dispute Form
Form 10	New Form for Post Audit Records Checklist

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Appendix A, Audit Procedure – Authorization and Communication

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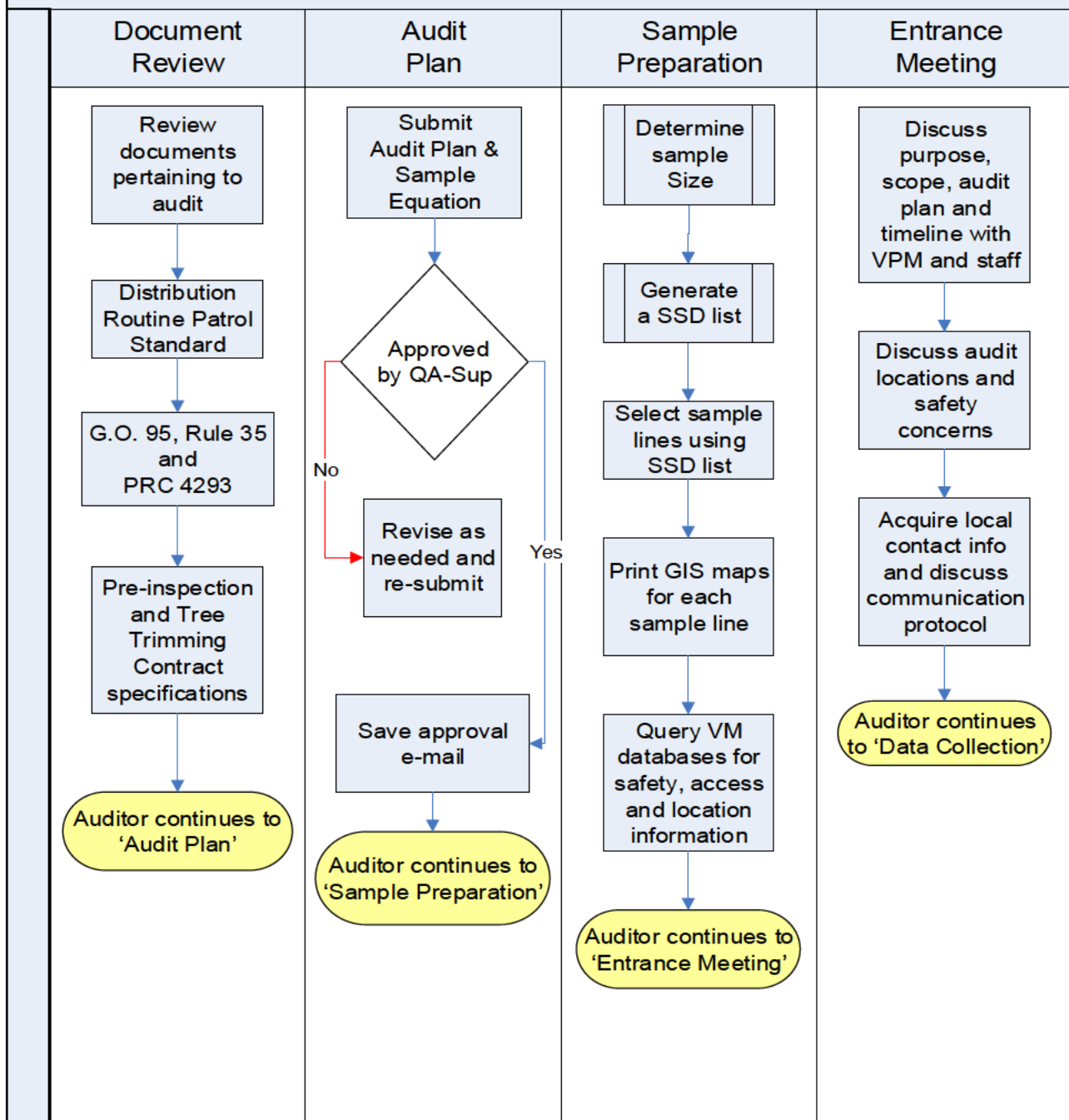


Quality Assurance Vegetation Management Distribution Audit Procedure

Appendix B, Audit Procedure - Preparation

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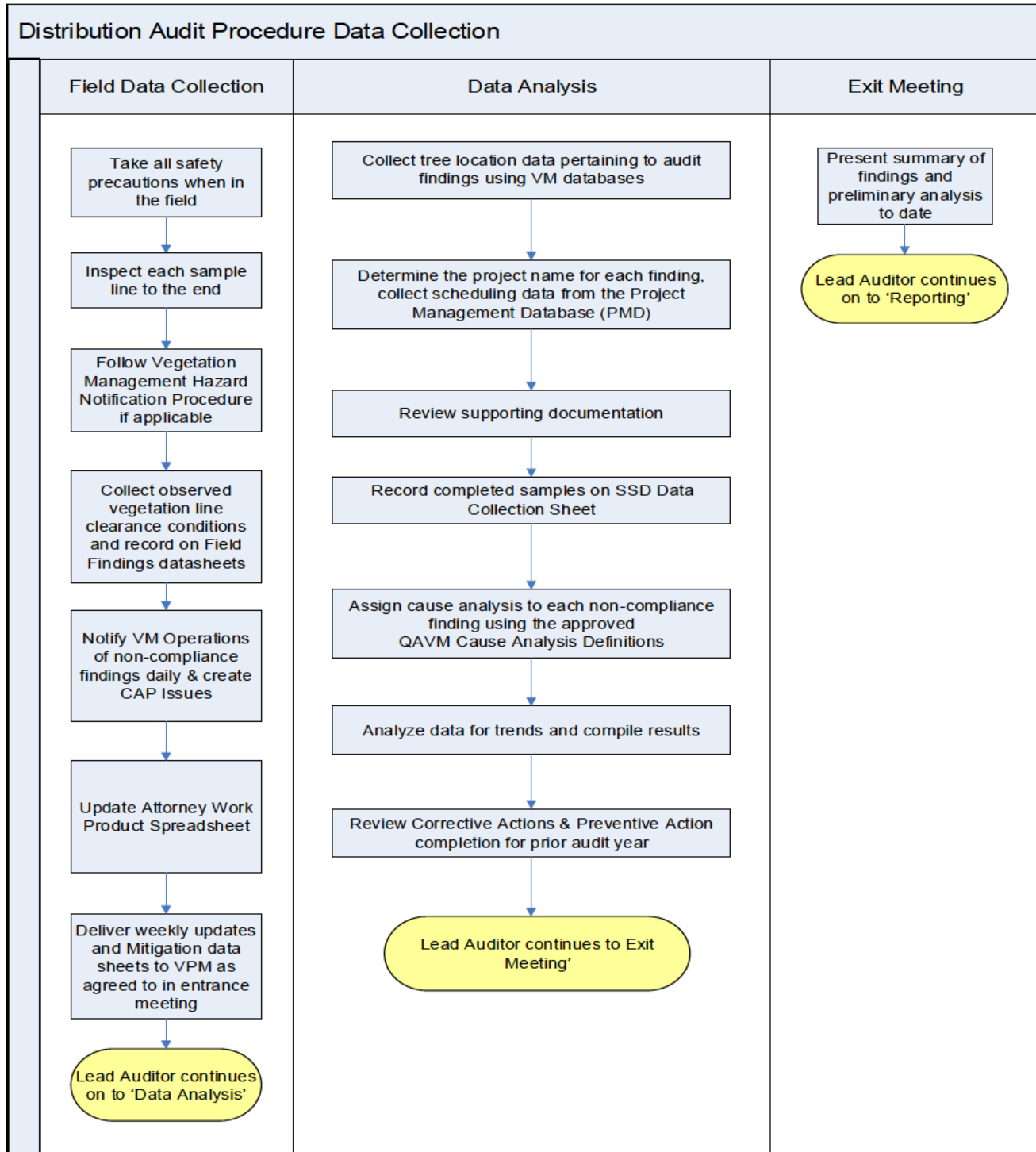
Distribution Audit Procedure Preparation Flow Chart



Quality Assurance Vegetation Management Distribution Audit Procedure

Appendix C, Audit Procedure – Data Collection

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Appendix D, Audit Procedure - Reporting

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