

Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure

SUMMARY

This procedure outlines and explains the steps necessary to conduct an audit of vegetation line clearance activities along overhead electric distribution lines, 60/70kV transmission lines, and 115/230kV transmission lines with distribution underbuild as it relates to compliance with PG&E's Vegetation Management (VM) Distribution Routine Patrol Procedure (DRPP), Transmission Routine Patrol Procedure (TRPP), California Public Utilities Commission (CPUC) General Order (G.O.) 95, Rule 35, and Public Resource Code (PRC) 4293.

This audit procedure implements RISK-6301S "QA Audit Standard" and complies with ANSI/ASQC Q10011 guidelines for Auditing Quality Systems.

Level of Use: Informational Use

TARGET AUDIENCE

VM Quality Assurance Specialists (QAS) and Quality Assurance Auditors (QAA); known as the auditor, who perform Vegetation Management electric distribution and local transmission audits.

SAFETY

Safety must be considered at all times. Determine necessary Personal Protective Equipment (PPE) and potential safety issues prior to beginning field work. Obtain as much information as practical concerning safety where work is to be performed. This information should be discussed with local management for clarification.

When working in remote areas: notify local office of where you will be; wear a personal locator beacon or similar device (e.g. SPOT); perform vehicle walk around inspection before driving each time you enter the vehicle.

If a situation is potentially unsafe, discuss this with the VM - QA Program Manager for options and alternatives.

BEFORE YOU START

1. Review Appendix B Flowchart: Audit Procedure - Preparation.
2. Verify the line mileage population query has been updated for the year.

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PROCEDURE STEPS

1 Audit Scope

1.1 DETERMINE audit scope based on the following criteria:

- VM-QA annual authorized work plan
- Geographic area
- Fire Responsibility Area
- Contractor make-up

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- Contractor performance
- Desired sample size

1.2 CONFIRM statistical parameters of audit with the Vegetation Management Quality Assurance Program Manager (VM-QA PM).

1. Compile the last three years Contact and Regulatory compliance audit results for the subject division and type of audit.
 - a. Sustained prior years' audit results may be factored into sampling parameters to either reduce or increase sample size.

2 Sample Preparation

2.1 DETERMINE sample size

NOTE

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

1. Refer to share drive folder [QUAL AS\Information\Circuit Information](#)\Current Year Folder for the Geographic Information System (GIS) line mileage annual query.
2. Tally the number of distribution circuit miles for the sample area using data obtained from the GIS query.
3. Use [Attachment 2: Local Operations Sample Equation & Worksheet](#).
 - a. Calculate a statistically valid audit sample size using agreed upon levels of:
 - Compliance Assumption
 - Estimated Level of Compliance
 - Confidence Rate

2.2 STRATIFY sample

1. Use [Attachment 2: Local Operations Sample Equation & Worksheet](#) to:
 - a. Determine all primary Pre-Inspection (PI) and tree contractors (TC) in sample area.
 - b. Divide into sub-samples based on distribution of contractors.

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- c. Stratify sample mileage into sub-samples that reflect the percentage of line miles for which each contractor is responsible.

2.3 GENERATE Source Side Device (SSD) list

1. Refer to [Attachment 3: Local Operations Sample Generation](#), for detailed procedural information.
2. Access the Sharedrive folder [QUAL_AS\Information\Circuit Information\CircuitSSD.mdb](#) for a current database of SSDs.
3. Filter data for all applicable divisions and circuits.
4. Generate list of all SSDs in sample area.
5. Export data into a Microsoft Excel workbook.
6. Add a Circuit Breaker (OCB) SSD for each circuit.
7. Assign random numbers to the list of SSDs using the Random Number Generator in the Data Analysis Tool pack in Microsoft Excel.
8. Sort sample by randomized number assignment.

2.4 SELECT sample lines using SSD list

1. Complete the following steps for each sample line until the minimum number of sample line miles has been met:
 - a. Begin each sample line at a randomly selected SSD and end where the flow of power ends, either at the end of the line or at another load-breaking device.
 - b. Review each sample line in GIS to determine adherence to sample criteria:
 - SSD is a load breaking device; i.e. fuses, stand-alone switches, and reclosers, not capacitors or sectionalizers.
 - SSD supplies power to overhead conductors (e.g., omit open switches and open solid blade cutouts).

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NOTE

Fire Responsibility Area boundaries are most accurate when viewed at a scale of 1:24,000. Use Google Earth/Street View to determine LRA / SRA boundaries.

- Portion of the line mileage is within the desired Fire Responsibility Area.
- Follow out Underground lines from riser poles to determine if line becomes above ground again without a new SSD.
- c. Confirm forward flow of power (loading) for each sample line using Distribution Asset Reconciliation Tool (DART).
- d. IF the sample includes a device on a pole with multiple SSDs that are numbered,

THEN include the device in the sample (see section 4.4 for patrol instructions),

AND exclude other devices from the sample.
- e. Estimate and record line mileage for portions of each sample line that meets sample criteria.

2.5 GENERATE the Local Transmission sample by using a randomized list of applicable transmission structures, following the directions on Page 5 of [Attachment 3: Local Operations Sample Generation](#).

2.6 PRINT GIS maps for each sample line

1. Distribution Maps must include the following layers:
 - a. Electric distribution devices
 - b. Overhead electric distribution lines
 - c. Fire Responsibility Area boundaries
2. Transmission Maps must include the following layers:
 - a. All structures
 - b. 1.0 mile and 0.5 mile diameter rings
 - c. Overhead electric transmission lines
 - d. Fire Responsibility Area boundaries

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- 2.7 QUERY Vegetation Management (VM) databases for information on each sample location.

NOTE

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

1. Run an advanced search to save OR print reports as needed for the following:
 - a. Safety information: Notify First, Refusals, Bad Dog, etc.
 - b. Access or gate code information
 - c. Location comments
 - d. Major Woody Stems (MWS)
- 2.8 REVIEW and COPY files from local office circuit folders as needed for:
 1. Customer information
 2. Patrol maps
 3. Other pertinent information
- 2.9 CONTACT local operations for additional detailed information as needed.
- 2.10 UPLOAD Waypoints to GPS using BaseCamp, DNR Garmin, Google Maps, etc.
 1. Instructions for BaseCamp can be found in the [QA Sharedrive Job Aid Folder](#)
- 2.11 Create audit plan using the template provided in [Attachment 1: Local Operations Audit Plan](#)
 1. Base estimated field work duration on geography, topography, tree density, and urban interface.

NOTE

Prior history may not be an accurate indicator of daily progress.

- 2.12 SUBMIT audit plan to the VM-QA PM for review and approval.
1. Save approved audit plan and approval email in audit folder.

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3 Opening Meeting

3.1 SCHEDULE an opening meeting with the Supervising Vegetation Program Manager (SVPM) / Vegetation Program Manager (VPM)

1. Notify SVPM / VPM to invite other stakeholders such as PI and TC representatives.
2. Develop an opening meeting checklist using [Attachment 4: Local Operations Opening Meeting Checklist](#).

NOTE

The Local Operations Opening Meeting Checklist represents the minimum questions that should be answered. Local conditions or prior experience may prompt additional questions.

3.2 CONDUCT the opening meeting

1. Discuss purpose and scope of audit
2. Determine methods and frequency of the communication
3. Discuss where data sheets and other information will be stored on QA SharePoint site
4. Request pertinent safety information
5. Address questions or concerns

4 Data Collection

NOTE

Applicability and order of steps may vary depending on actual field conditions.

4.1 INSPECT each distribution sample line until it ends or is disrupted by another load-breaking SSD

1. Inspect sample lines in order.
 - a. Sample lines may be inspected out of order if necessary to reduce travel time.
 - b. Sample lines near the end of the sample should be inspected last.

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2. IF a portion of a sample line is considered unsafe,

THEN discuss with VM-QA PM to seek options and alternatives,

AND note any deviations from the original sample selection in the report.
3. IF portions of the sample line do not meet audit criteria (e.g., crossing Fire Responsibility Area boundaries),

THEN exclude that portion of the line,

AND record a distinctive stopping point such as:
 - Electric facility
 - Road
 - Stream
 - Property line
4. Patrol line segments when the sample SSD is on a pole with shared numbered equipment.
 - IF the sample device shares a pole with other equipment,

THEN treat your sample device as the feeder for the section of line beyond the pole, regardless of configuration.
5. Exclude idle lines from sample.
 - IF the power flow to an end pole is interrupted due to open / pulled fuses,

THEN contact the local Distribution Operator (DO) to determine if the lines are to be re-energized.
 - IF the line is de-energized due to maintenance,

AND the fuse will be closed at the completion of maintenance,

THEN include the line in the sample.

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- IF the line is seasonally idle OR is idle main line,
AND trees are observed that would normally be recorded as a finding,
THEN record the occurrence on a datasheet as an FYI.
- 6. Identify Privately Owned Line (POL) that is part of the sample.
 - IF PG&E is responsible for maintenance of the line,
THEN include the line in the sample.
 - IF PG&E is not responsible for maintenance of the line,
THEN exclude the line from the sample.
- 7. IF a SSD is encountered that is not on the map,
THEN determine if SSD is in the original SSD sample population list.
 - IF the SSD is in the population,
THEN exclude it from the sample line,
AND treat it as separate SSD.
 - IF the SSD is not in the population,
THEN include it as part of the sample line.
- 8. Patrol stand-alone secondary voltage line.
 - IF a secondary line is observed with evidence of significant strain or abrasion
due to vegetation,
THEN record the occurrence on a datasheet as secondary (compliance issue).
 - IF a Facility Protect Tree (FPT) is observed,
THEN record the occurrence on a datasheet as a secondary FPT.

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4.2 INSPECT Local Transmission lines

1. Inspect sample lines in order.
 - a. Sample lines may be inspected out of order if necessary to reduce travel time.
 - b. Sample lines near the end of the sample should be inspected last.
2. IF a portion of a sample line is considered unsafe,
THEN discuss with VM-QA PM to seek options and alternatives,
AND note any deviations from the original sample selection in the report.
3. Inspect in 0.5 mile segments that include the sample structure.
4. Include idle, de-energized, and lower voltage lines in the sample.
5. Identify Privately Owned Line (POL) that is part of the sample.
 - IF PG&E is responsible for maintenance of the line,
THEN include the line in the sample.
 - IF PG&E is not responsible for maintenance of the line,
THEN exclude the line from the sample.

4.3 OBSERVE vegetation line clearance conditions while inspecting sample line

1. Consider the following when observing vegetation along sample line:
 - Tree to line proximity
 - Tree growth
 - Tree movement
 - Conductor sag
 - Conductor sway
2. Treat primary neutral conductors as high voltage.

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3. Identify conductors with Raychem OR tree wire.
 - IF there is significant abrasion to the Raychem or tree wire,

THEN follow the Transmission and Distribution (T&D) Vegetation Hazard Notification Procedure,

AND record the finding on the datasheet as a contact.
 - IF there is significant strain (without abrasion) on the Raychem or tree wire,

THEN follow the T&D Vegetation Hazard Notification Procedure,

AND record the finding on the datasheet as FYI.
 - IF a tree with Tree Wire is considered non-compliant if is observed on bare wire,

AND does not show signs of strain or abrasion,

THEN record the finding on the datasheet as FYI.
4. IF a tree is in contact or evidence of contact is identified,

THEN follow the T&D Vegetation Hazard Notification Procedure,

AND record the finding on a datasheet as contact.
5. IF a non-compliant tree is identified,

THEN notify operations per communication agreements made during opening meeting,

AND record the finding on a datasheet as non-compliant.
6. IF a tree is identified that may become non-compliant within 90 days of VM-QA observation,

THEN record the finding on a datasheet as "90 day".
 - IF the audit is in State Responsibility Area (SRA) AND it is near the end of fire season where the 90 day category does not apply,

OR may be non-compliant with G.O. 95, Rule 35 before the beginning of the next estimated fire season.

THEN determine if tree may be non-compliant with PRC 4293 at the beginning of the next estimated fire season,

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- IF the estimated date of non-compliance is before the planned tree work completion date,

THEN record the finding on a datasheet as "May Not Hold" (MNH).

7. IF an undocumented MWS is identified,

THEN record the finding on a datasheet as MWS,

AND record conditions relevant to the MWS exemption form.

NOTE

Per agreements with CALFIRE, no new MWS exemptions are allowed in SRA response areas. Trees not having an existing MWSE are to be considered as non-compliant even though they may meet exemption criteria.

8. IF a FPT is identified,

THEN record the finding on a datasheet as FPT.

- IF any overhanging limb is found on transmission,

THEN record the finding on a datasheet as FPT.

9. IF a finding is identified in a riparian area,

THEN record a comment on the datasheet to identify it as a riparian area.

- IF the tree is listed for work

THEN review ITS during Root Cause Analysis to determine if riparian review timeline was a factor.

10. IF a finding 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 a datasheet as FYI.

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4.4 DOCUMENT findings

1. Record findings on the appropriate LRA / SRA datasheet
 - a. Refer to share drive folder [QUAL_AS\VegMan\QUAL_AS\CHK_LSTS](#) for current datasheet.
 - b. Refer to [Attachment 5: Distribution Datasheet Information](#), for an explanation of each field on the datasheet.
 - c. Complete all datasheet fields for each location with findings.
2. Flag findings
 - a. Write the type of finding on the flagging if multiple issues are identified at the same location.
 - b. Record the date and auditor initials or LAN ID on the flagging.
3. Record GPS coordinates in decimal degrees (Lat: 000.00000, Long: -000.00000).
4. Take several photographs of findings from different perspectives and angles.
 - a. Include close up, a mid-distance photo to provide height and distance perspective, and another photo to identify the immediate surroundings.

NOTE

Do not limit photography to one or two photos. Take several pictures from each perspective to ensure you have captured the issue and surrounding vegetation and area. Record video when appropriate (i.e. wind is blowing limbs or branches intermittently into compliance zone).

4.5 VERIFY tree population for each sample line.

NOTE

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

1. Count all trees that will need to be worked to maintain compliance within the next two years (three years for fast growing individuals).
2. Include any trees that have been pruned for utility line clearance in the past, as determined by VM-QA assessment at time of audit.

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3. Tally brush for each group of stems in the spans counting as one unit (regardless of volume).

NOTE

This is different from the method that the Operations team uses.

- 4.6 EXCLUDE the following from the count:

1. Trees that have been removed.
2. Trees that have been facility protected that would not have been identified for routine line clearance maintenance.

NOTE

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

- IF a hand count is not obtainable due to safety concerns,
THEN determine a base or estimated count.

3. Base and estimated counts can be generated for each sample line from the VM website <http://www/vms/Trees/CircuitSumT.asp>.

- 4.7 RECORD data for all sample lines reviewed

1. Document sample line sections and audit date on map.
2. Complete SSD Data Collection Form.
 - a. Refer to share drive folder [QUAL_AS\VegMan\QUAL_AS\CHK_LSTS](#) for a current version of the SSD Data Collection Template.

- 4.8 COMMUNICATE progress to the SVPM / VPM

1. Communicate compliance findings daily via phone or email.
2. Email weekly status updates using [Attachment 6: Local Operations Weekly Update](#).
3. Post findings on Google Maps.
 - a. Refer to [Attachment 7: Google Tools Setup Instructions](#), for step-by-step instructions.
4. Submit copies of datasheets to the SVPM / VPM.

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- a. Use frequency and method agreed upon at opening meeting (weekly at minimum).
- 4.9 INSPECT each sample location using the guidelines in Sections 4.1 through 4.10 until the minimum sample line mileage has been met.
 1. Add or remove sample locations based on actual field mileage.
- 4.10 CONDUCT Procedure Assessment / Desk Audit
 1. A procedure assessment is done to evaluate proper implementation, records keeping, and overall compliance with written procedures such as Mapping, Major Woody Stem Exemption, etc.
 2. The project sample for the Procedure Assessment should be a sample drawn from the circuits being reviewed in the field.
 3. Perform database research in VMD and the VM Webpage to gather background information prior to checking records at local offices.
 4. Visit local office(s) and review project files.
 5. Conduct interviews as necessary to aid in data collection for the Desk Audit Spreadsheet.
 6. For procedure assessment details the auditor will refer to [Attachment 8: Local Operations Desk Audit Checklist Job Aid](#).
- 5 Closing Meeting**
 - 5.1 SCHEDULE a closing meeting with the SVPM / VPM
 1. Conduct meeting within one week of completing field audit and desk audit work.
 2. Notify the SVPM / VPM to invite other stakeholders such as PI and TC.
 - 5.2 CONDUCT closing meeting
 1. Communicate that this is preliminary information and may change pending further analysis.
 2. Present a summary of the findings.

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6 Data Analysis

NOTE

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

- 6.1 COLLECT all pertinent data located on the “data analysis” side of the datasheet related to audit findings using VM databases
- 6.2 DETERMINE the corresponding project name for each finding
- 6.3 COLLECT scheduling data from the Project Management Database (PMD)
- 6.4 REVIEW supporting documentation

1. Determine if the finding or location has been a refusal.

NOTE

Special notes made by TCs are not always recorded electronically and may only be found on the original signed work request.

- IF the finding is the result of a TC process,
THEN review the original signed Work Request.
 - IF a finding meets MWS exemption criteria,
THEN verify that all applicable documentation has been completed.
2. Refer to VM Major Woody Stem Exemption Procedure.
- 6.5 ASSIGN primary and associated secondary and tertiary root causes (if required) to each non-compliance finding using the approved [VM-QA Root Cause Analysis Definitions](#)
 - 6.6 ANALYZE the data and compile results
 1. For an example spreadsheet refer to [Attachment 9: Findings Analysis Spreadsheet](#).

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7 CAPA Completion Verification (Prior Year)

7.1 For field compliance findings, the Auditor will REVIEW the last audit findings and compare corrective / preventive actions with current audit root causes.

- IF numbers of occurrences due to a particular root cause have appreciably declined,
THEN record the item as being successfully implemented.
- IF the number of occurrences due to a particular root cause have NOT appreciably declined or has risen,
THEN record the item as NOT being successfully implemented.

8 Reporting

8.1 DRAFT the report

1. Populate the report template with information from SSD Data Collection Sheet and desk audit spreadsheet.
2. Document Good Controls and Weak Controls where multiple occurrences of a singular topic are observed.
3. Refer to previous reports and data collection to note trends.
4. Populate the Corrective Action / Preventive Action (CAPA) Request with the information from the report.
5. For the CAPA Request in a standalone document, refer to [Attachment 11: Corrective Action / Preventive Action Request](#).
 - a. Refer to [Attachment 10: Local Operations Report Template](#) for formatting examples.

8.2 SUBMIT report to VM-QA group for peer review

1. Reviewers check for:
 - a. Relevancy
 - b. Clarity
 - c. Accuracy

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- 8.3 UPDATE report as necessary
- 8.4 SUBMIT report to the VM-QA PM for review and approval
- 8.5 Once approved, SIGN the report signature page
 - 1. Send report signature page to VM-QA PM.
- 8.6 SUBMIT hard copies of the completed datasheets and the signed SSD Data Collection Form to VM-QA PM.
 - 1. VM-QA PM signs the report AND submits it to the Director for review and signature.
 - 2. Once approved, the VM-QA PM ATTACHES cover letter and CAPA Request to the report.
 - a. Refer to [Attachment 12: Report Cover Letter](#), for a template.
- 8.7 VM-QA PM PUBLISHES the report package by sending copies to the following:
 - 1. SVPM
 - 2. VM Operations N/S Program Manager
 - 3. VM Operations Senior Manager
 - 4. VM Operations Manager
 - 5. VM Governance & Support Manager
 - 6. Director

9 Post Report Meeting

- 9.1 SCHEDULE post report meeting with the SVPM / VPM.
 - 1. Conduct meeting within two weeks of the report being published.
 - 2. Encourage SVPM / VPM's to invite PI and TC to the post report meeting to ensure all relevant information is passed.
- 9.2 CONDUCT post report meeting:
 - 1. Present a summary of findings.
 - 2. Discuss trends, significant findings and root cause issues.

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3. Provide positive feedback when appropriate.
4. Give stakeholders the opportunity to ask questions and become familiar with the VM-QA audit procedure.

10 Corrective Action / Preventive Action Request (CAPA)

- 10.1 The Corrective Action / Preventive Action component of the audit is comprised of two individual parts, described below.

1. Corrective Action - Fix what was found
2. Preventive Action - Put controls in place to prevent the deficiency or non-conformance from happening again:
 - a. There are potentially three levels of Preventive Action that the auditor needs to take into account when determining the necessity for Preventive Action. Starting with the highest level and working down:
 - **Tier 1** - The Process Overall Assessment was deemed Unsatisfactory. A thorough plan will be required to address the entire implementation of the process including all sections and elements. If multiple Process sections are unsatisfactory, the entire process should be addressed.
 - **Tier 2** – One or More Process Sections were deemed Unsatisfactory, however the Overall Assessment was deemed Satisfactory or Action Suggested. The plan must address each of the Unsatisfactory sections including all of the individual elements within that section. If multiple procedure elements within a section are unsatisfactory and present high or moderate risk, the process section should be deemed unsatisfactory.
 - **Tier 3** - A Procedure Element(s) has a High Risk (Red) and is performing poorly (Red). However the Process Section has been deemed Satisfactory or Action Suggested. Any procedure element that is Red/Red must be included in the plan.

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NOTE

The Tiers above are what should be considered the minimum. The local areas always have the discretion to go above and beyond and tackle any other elements or sections. Oftentimes, depending on the score levels, it might be better to approach the issue at the Process level.

10.2 Preventive Action is required based on the type, severity, and number of observations (see section 9.1).

- IF the VM Operations Manager agrees with the proposed CAPA plan,

THEN the VM Operations Manager approves the CAPA plan for implementation by Operations.

11 QA CAPA Completion Verification

11.1 REVIEW approved CAPA plan on QA SharePoint site.

1. Record major milestone dates into Outlook calendar for follow up.

11.2 REVIEW the field data sheets located in the QA SharePoint site and audit folder for field compliance findings.

- IF all field compliance observations are signed off,

AND include associated Work Request number in accordance with HN criteria or mandated five day turn around date,

THEN record item closed.

11.3 SET Outlook reminder for two weeks prior to due date to review CAPA completion status including associated records for Process findings.

- IF progress is not being made on CAPA plan,

THEN notify responsible SVPM of status and due dates.

12 Audit Closure

12.1 When all action items are closed out in the CAPA, PREPARE an audit closure letter and store in audit folder on QA shared drive.

12.2 NOTIFY QA-PM that all items are closed out and audit is ready for closure.

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13 Audit Documentation

13.1 FILE audit documents

1. Complete the VM-QA Audit Records Checklist.
 - a. Refer to share drive folder [QUAL AS\VegMan\QUAL AS\CHK LSTS](#) for the most current version of the Audit Records Checklist.
 - b. File a completed copy in the audit folder.
2. File hardcopies of all pertinent documentation in local VM-QA office.
3. Store all electronic information on the VM-QA Share Drive.
[\\concord01\VegMan\QUAL AS](#)
 - a. Delete draft copies from the share drive AFTER the report has been published AND the CAR has been approved.
4. Post PDF versions of the published report and approved CAR on the [VM-QA SharePoint site](#).
5. Retain all audit documents for 7 years.

END of Instructions

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DEFINITIONS

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 and to prevent recurrence of future non-compliance.

Corrective Action/Preventive Action Request (CAPA) – A formal document noting audit findings and requesting resolution.

DART – Software containing all electric distribution facility information.

Fire Responsibility Area – Areas that are 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.

GIS – PG&E's Geographic Information System. <http://gisweb/gis/>

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

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 unequal load on the phases, the primary neutral will act as a balancer, and creates the potential for voltages up to phase to ground levels; e.g. phase-to-ground voltage for 12kV is approximately 7.5kV.

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

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

Raychem - A protective sleeve that fulfills exemption criteria, similar to tree wire.

Root Cause Analysis – A structured investigation that aims to identify the true cause of a problem, and the actions necessary to reduce or eliminate recurrence.

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

Source Side Device (SSD) – Load breaking device. Used as start and stop reference points during the audit.

Tree wire – A protective wire covering that is exempt from regulatory compliance according to section 1257; Exempt Minimum Clearance Provisions –PRC 4293 and G.O. 95, Rule 35 exception number 1. Insulated jumpers resulting from raptor protection are to be treated the same as tree wire.

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Vegetation Management Databases – Internal web-based data storage related to PG&E's vegetation line clearance work. Databases include information specific to scheduling, field inspection, work request, etc.

IMPLEMENTATION RESPONSIBILITIES

It is the responsibility of the VM-QA Program Manager to insure all auditors have read and understand the content of this procedure.

GOVERNING DOCUMENT

Vegetation Management Quality Assurance Standard

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

California Public Utilities Commission General Order 95, Rule 35, rev 2012

California Public Resource Code Section(s) 4292 - 4296

North American Electric Reliability Corporation Reliability Standard FAC-003-3

REFERENCE DOCUMENTS

CPUC G.O. 95, Rule 35

California PRC 4293 and 4293

Title 14 - California Code of Regulations Article 4 sections 1250-1258

PG&E Vegetation Management Distribution Patrol Standard

PG&E Tree Trimming and Pre Inspection Contracts

VM- T&D Vegetation Hazard Notification Procedure

[VM-QA Finding Dispute Process](#)

[VM-QA Root Cause Analysis Definitions](#)

[VM-QA Audit Records Checklist](#)

VM-QA Datasheet- Rule 35 & PRC 4293

VM-QA SSD Data Collection Form – Rule 35 & PRC 4293

RISK-6301S, "QA Audit Standard"

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UO Guideline G12600, "Vegetation Management Quality Assurance (VM-QA) Procedures"

APPENDICES

Appendix A: Audit Procedure - Authorization & Communication

Appendix B: Audit Procedure - Preparation

Appendix C: Audit Procedure - Data Collection

Appendix D: Audit Procedure - Reporting

ATTACHMENTS

[Attachment 1: Local Operations Audit Plan](#)

[Attachment 2: Local Operations Sample Equation & Worksheet](#)

[Attachment 3: Local Operations Sample Generation](#)

[Attachment 4: Local Operations Opening Meeting Checklist](#)

[Attachment 5: Distribution Datasheet Information](#)

[Attachment 6: Local Operations Weekly Update](#)

[Attachment 7: Google Tools Setup Instructions](#)

[Attachment 8: Local Operations Desk Audit Checklist Job Aid](#)

[Attachment 9: Findings Analysis Spreadsheet](#)

[Attachment 10: Local Operations Report Template](#)

[Attachment 11: Corrective Action/Preventive Action Request](#)

[Attachment 12: Report Cover Letter](#)

DOCUMENT REVISION

VM-QA Distribution Audit Process, 2014

DOCUMENT APPROVER

, Manager, Vegetation Management Governance & Support

Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure

DOCUMENT OWNER

██████████, Supr. Program Manager, Vegetation Management Quality Programs

DOCUMENT CONTACT

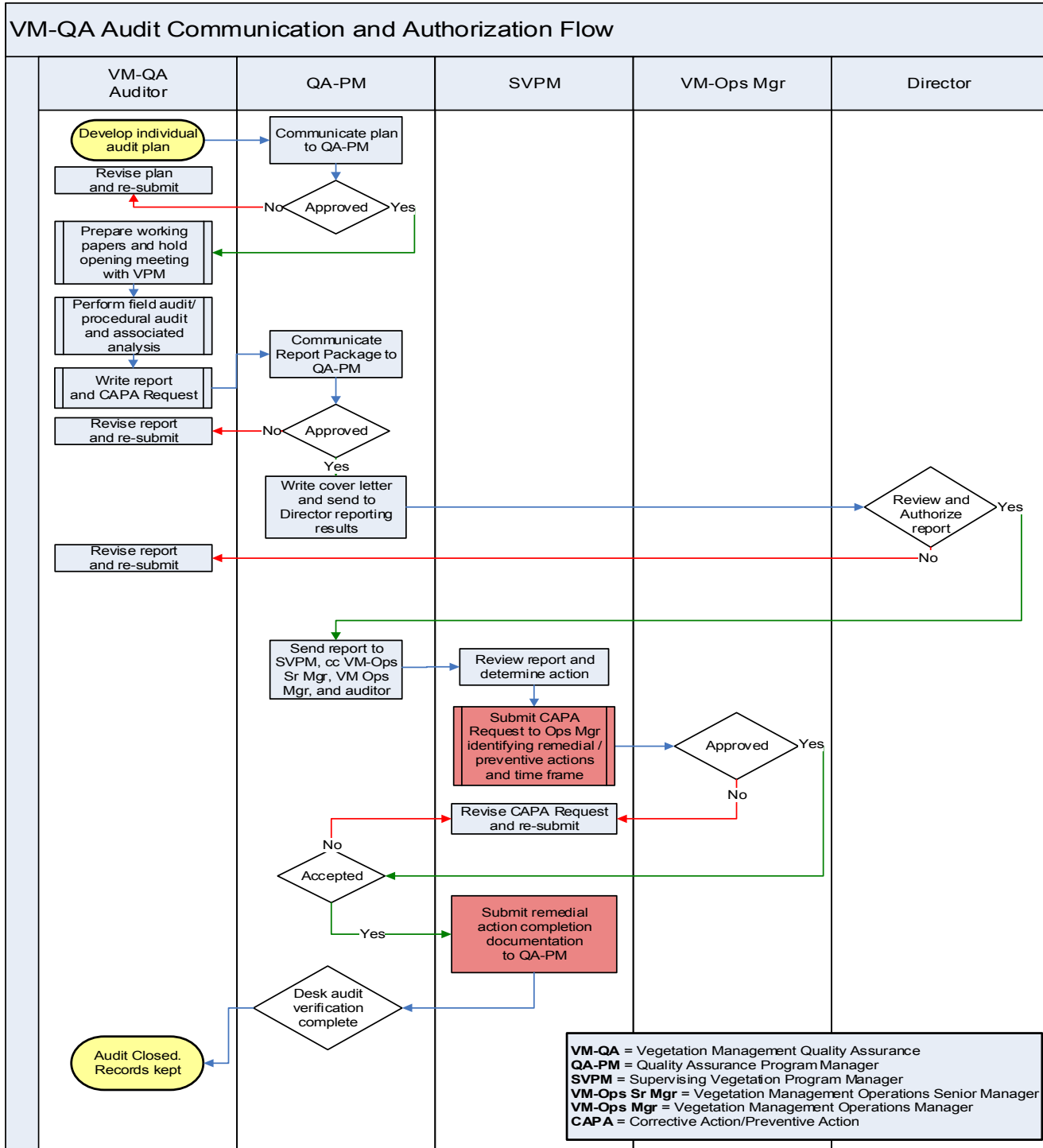
██████████, Quality Assurance Specialist, Vegetation Management

REVISION NOTES

Where?	What Changed?
All	Changed Distribution to Local Operations where applicable, Added language and instructions to include Local Transmission components. Changed VPM/Forester to SVPM/VPM, Changed CAR to CAPA,
Intro	Revised/ Updated Applicable Documents
Section 2.4	Additional suggestions to aid in sample line selection included
Section 4.1	Added language to clarify how to treat idle line in Section 5
Section 4.1	Language changed to include patrolling of secondary line in Section 8
Section 4.1	Removed VM QA Riparian procedure from Section 11 and added language about ITS
Section 4.4	Added suggestion for recording video where appropriate in Section 4
Section 4.10	Procedural Audit added
Section 6	Removed requirements for separate tree crew population
Section 8.1	Instructions for new report template/CAPA added
Section 8.7	Report distribution list updated
Sections 10 & 11	Updated to give detailed information on CAPA
Attachment 3	Updated to include screenshots
Attachment 7	Updated to reflect new Google Map making procedure
Attachment 8	New Attachment to include Procedural Audit
Attachment 10	New Report Template
Attachment 11	New Corrective Action Format

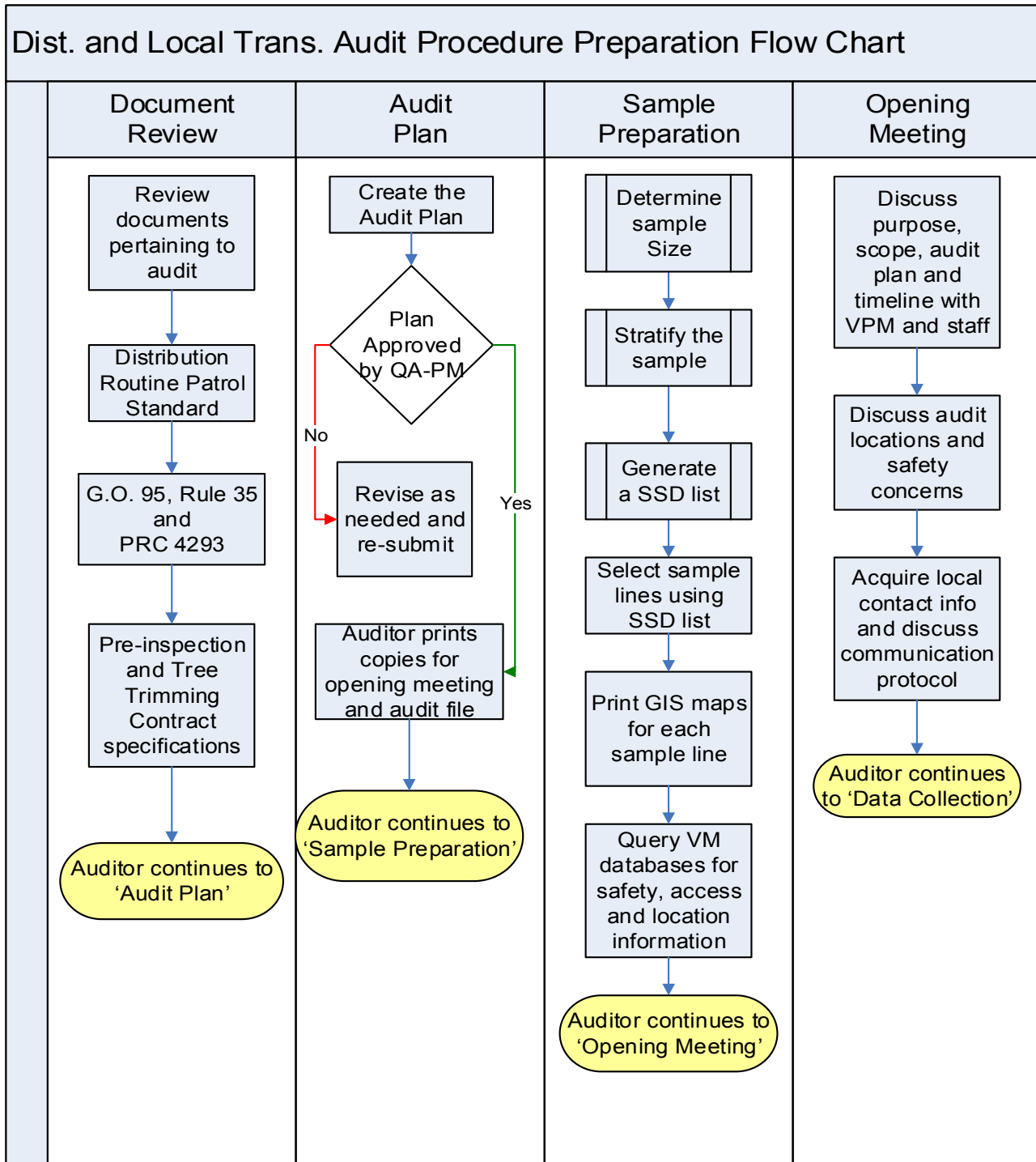
Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure

Appendix A: Audit Procedure – Authorization & Communication



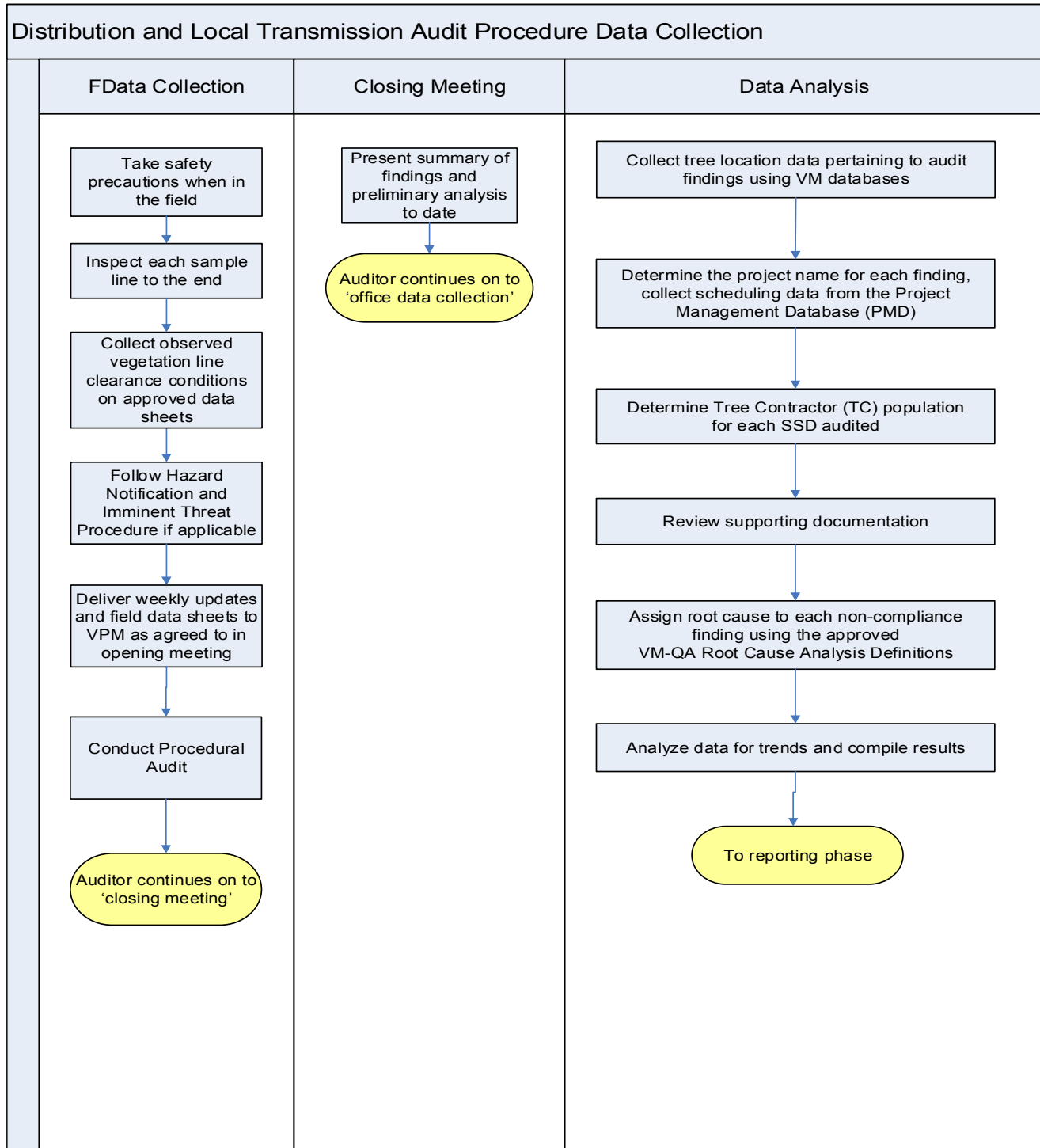
Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure

Appendix B: Audit Procedure – Preparation



Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure

Appendix C: Audit Procedure – Data Collection



Vegetation Management Quality Assurance Distribution and Local Transmission Audit Procedure

Appendix D: Audit Procedure – Reporting

Distribution and Local Transmission Audit Procedure Reporting Flow Chart

