

EVERSOURCE		TD005	Revision 7
TD PROCEDURE		Maintaining Accurate Distribution System Documentation	
Issue Date:	Effective Date:	Owner Departments: System Operations, GIS Mapping Subject Matter Experts: Christopher D. Keever and Scott Craig and Stephen Lee	Applicability: CT, MA, NH

All changes to TD procedures are controlled by TD 001

“Writing, Revising, and Publishing Transmission and Distribution Procedures.”

This procedure replaces and supersedes the following procedures (in whole or in part), as described in Section 3 “Summary of Changes”:

TD005, “Maintaining Accurate Distribution System Documentation” Rev 5 dated 08/20/2012.

Roll Out Instructions: Prior to initial use of this procedure, each individual using this procedure is required to attend training on this procedure delivered during Bi-Monthly Safety Meeting or similar, including eLearning.

Approvals:

Approval Signature:

Richard C. De Aragon Jr.
Director- System Operations (CT)

Approval Signature:

Paul Dardinski
Director, Electric System Operations

Approval Signature:

Roderick S. Kalbfleisch
Director- T&D Substation Engineering, CT

Approval Signature:

(New Hampshire Approval)

Brian Dickie
Director – Electric System Operations-NH

Procedure applicable only to states for which an approval signature appears above.

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1. INTRODUCTION

1.1 Objective

This procedure provides instructions to ensure that permanent changes to the Distribution System configuration are documented and the Registries used by the System Operations Center (SOC) (ISOC for Eversource New Hampshire [NH]) and other departments are kept current and promptly updated. The processes within this document ensure that:

- System Change Notices (SCN) are initiated prior to beginning the work and should be placed In-Service no later than the next business day.
- System Change Notices will be tracked to ensure that each registry has been updated.
- GIS/Mapping receives prompt and accurate information that allows the timely updating of work order information pertaining to the System's configuration.
- DSCADA (ISOC for NH) receives prompt and accurate information that allows the timely updating of DSCADA registries.
- Distribution Substation Engineering and Design is notified prior to substation modifications and captures distribution system changes that impact substation nomenclature diagrams (i.e. changes to nomenclature).
- The System Operations Center receives prompt and accurate information and will ensure that all registries are temporarily updated (red and green lined) as needed and are kept in sync.
- Through the SCN database, notifications can be provided to additional parties as requested.

1.2 Applicability

This procedure applies to all personnel responsible for field work (e.g., Circuit Owners, Division/Regional Operations, System Projects, Substation Maintenance, Substation Construction, etc.) and pertains to all work by Eversource and Non-Eversource personnel that results in permanent changes to the Distribution System configuration (whether a work order has been created or not). This process is an integral component of both the Design Control and Work Management processes.

This procedure applies to Permanent System Changes to the equipment and apparatus on the Electrical Distribution System that affects switching or switchable points. Permanent System Changes are supported using the processes contained within TD005 while Temporary System Changes are addressed using the Yellow Tag process (CT/WMA) or modeling real time in the OMS (NH).

1.2.1 Training

A qualification for access to the SCN database requires Eversource CT and Eversource NH users of the SCN database to take an initial e-learning training course as well as a refresher course annually. Western MA users will need to take the initial e-learning training course only. If the user fails to complete this required training, they will not be able to enter or edit SCNs in the database until that training is completed.

1.3 References

Unless otherwise specified:

- Forms are available through Lotus Notes Forms Catalog or the Forms Catalog on the NUNet.

Procedures are available in the:

- Lotus Notes Field Documentation Database
- Lotus Notes Regulated Businesses Policies & Procedures database
- Distribution Engineering Standards Bookshelf
- TD 008 Distribution System Protective Work Clearances
- SH-6054 T&D Switching and Tagging

Development References

Documents used to develop this procedure and the process it controls:

- TD 001 “Writing, Revising, and Publishing Transmission & Distribution Procedures”
- AP-2001 Writing and Publishing Policies and Procedures (NH)
- ESCC OP-0003

Supporting Programs and Databases

Programs and databases that support performance of activities directed by this procedure:

- Lotus Notes- Distribution System Change Notice Database
- e-learning module for TD005 (SCN database)
- Lotus Notes – Distribution Clearance Request Database
- Transmission Outage Application (TOA)
- Outage Management System (OMS)

1.4 Discussion

All employees, including the System Operations Center, GIS/Mapping, Distribution Substation Engineering & Design, DSCADA, Division Operations, Maintenance, and System Projects Groups all have joint responsibility for maintaining accurate records of the current configuration of the Distribution System. Any change to the permanent configuration of the Distribution System (referred to in this procedure as a “System Change”) that affects switching or switchable points must be communicated as specified in this procedure. This will ensure the system is operated safely and efficiently.

SCN Initiating Conditions

Any change to the switchable configuration of the system will require an SCN.

Examples where SCNs are required include, but are not limited to:

- Significant/major changes such as the addition, deletion or relocation of line cutouts, switches, regulators, and reclosers
- Addition or removal of network transformers

- Changes to switchable points
- Changing the nomenclature of any switchable device or equipment
- Changes in recloser logic (CT and MA)
- Circuit load swaps
- Circuit voltage conversions
- Line and circuit renumbering and/or change of supply or phasing
- Primary co-generation added to Distribution System
- Modifications to substations that change switchable points
- Primary backbone direct buried or primary conduit/duct system additions, modifications, or deletions.
- Step transformers
- Capacitors under ISOC control (NH)

If it is unclear as to whether a particular condition should require an SCN, the matter should be referred to your supervision.

NOTE

The following samples do **not** require an SCN:

- Overhead transformers (except step transformers)
- Primary Line Extensions
- Secondary
- Radial fuse size changes
- Reconductoring
- Capacitor not on backbone
- Changing Network Vault Tops
- Lightning arrestors

Specific System Change Notices Requirements

- In general, a System Change Notice should correlate to the amount of system change planned to be executed in one day. One SCN is required for each device change. For all nomenclature changes that are a part of a conversion, one SCN is required for each device.
- For load swaps or conversions that affect a large number of devices that will be impacted simultaneously, one SCN is acceptable.
 - If work planned for a single SCN gets completed in multiple days, the person responsible for the work (Project Manager, Line Supervisor, Construction Representative) should notify the ESCC/SOC, DSCADA, and Mapping by an mutually acceptable means so that daily progress can be recorded. The SCN should not be completed until all work has finished.

General System Change Notice Requirements

- An accurate detailed sketch or drawing must be provided with each System Change Notice showing deletions and additions.

- If unplanned permanent system changes are performed for which an SCN was not previously initiated, the SDL or other person responsible for the System Change (e.g., System Projects, Substation Maintenance) shall contact the SOC/ESCC Shift Supervisor/Designee to initiate an Emergent SCN describing the change.

2. INSTRUCTIONS

2.1 Processing System Change Notices for Planned Work

NOTE

This process is implemented by the use of the “Distribution System Change Notice” Lotus Notes database.

The Yellow Tag program is used to implement and track non-permanent changes(CT/WMA) and temporary changes are documented in OMS (NH)

Owner

- 2.1.1 IF the work being performed involves any of the following (Permanent System Change), GO to step 2.1.2 and INITIATE a System Change Notice:
- Significant/major changes such as the addition, deletion or relocation of line cutouts, switches, and reclosers.
 - Addition or deletion of network transformers
 - Switchable points
 - Nomenclature of any switchable device or equipment
 - Recloser logic
 - Circuit load swaps
 - Circuit voltage conversions.
 - Line and circuit renumbering and/or change of supply source or phasing.
 - Primary co-generation added to Distribution System
 - Modifications to substations Primary direct buried or primary conduit/duct system additions, modifications, or deletions.
 - Step transformers
- 2.1.2 No later than two weeks prior to the scheduled start of work, INITIATE an SCN in the Lotus Notes System Change Notice database.
- 2.1.3 **For CT and NH only:** For work that will be implemented in multiple phases, a Configuration Meeting will be initiated by the SCN Owner/Writer and held prior to any work being performed or switching for said work can be written.
- 2.1.4 **For NH only:** In case of emergent work, immediately notify the ISOC Shift Supervisor or Designee with the details. The ISOC Shift Supervisor or Designee will initiate an SCN. The SCN process will continue at section 2.1.8.
- 2.1.5 ENSURE an accurate detailed sketch or drawing is included with each System Change Notice

NOTE

An SCN must be entered in the SCN database and be in the Approved status before a Switching Request can be processed in the Distribution Clearance Request database or TOA.

*GIS/Mapping Field Technician,
DSCADA Group
Supervisor SOC or Designee (Western
MA)*

- 2.1.6 When a notification is received that an SCN has been “Submitted for Review,” OPEN the form in the Lotus Notes database and PERFORM the following:
- a. REVIEW the changes specified.
 - b. ENSURE the information provided is complete.
 - c. REQUEST clarifying information if required.
 - d. If all of the necessary information is provided, APPROVE the SCN.

Owner

- 2.1.7 Upon completion, PERFORM the following:
- VERIFY the SCN contains all of the system modifications performed and required information of the work completed in the field.
 - In the System Change Notice Lotus Notes database, SELECT one of the following:
 - “Work Completed as Specified”
 - “Work Completed with Deviations”

NOTE

Protection & Controls will receive notification for all SCN’s where “Are Protection & Control Changes Needed” and “Work in Substation” is checked when the SCN is initiated. Also refer to OP-0003 App E and G

- If “Work Completed with Deviations” was selected, ENTER the deviations in the area provided.
- ENSURE that System Change Notices are placed “In-Service” the same day the work is finished.
- If work is performed off hours, ENSURE the ISOC is made aware of the change at the completion of work being performed AND placed In-Service no later than the next business day.

*Distribution Substation Engineering
Design Nomenclature Coordinator*

- 2.1.8 If a notification is received that an SCN is in the “In-Service” status AND affects distribution substation drawings (i.e., change to primary circuit nomenclature), OPEN the form in the Lotus Notes database and PERFORM the following:
- a. REVIEW the changes to the system.
 - b. UPDATE the substation nomenclature diagram.

DSCADA Group Technician

- 2.1.9 If a notification is received that an SCN is in the “In-Service” status, OPEN the form in the Lotus Notes database and PERFORM the following:

- a. REVIEW the SCN for deviations.
- b. UPDATE the DSCADA one-line screen by the end of the next working shift, or as directed by the System Operations Center Manager.
- c. COMPLETE the SCN in the Lotus Notes database.
- d. If a Configuration Review is desired select Request Configuration Review button, PERFORM the applicable action:
 - SELECT “Review Required” and enter the reason why the SCN was selected.

NOTE

See section 2.2 for a description of the Configuration Review and the requirements at Eversource CT, Western MA, and NH.

GIS/Mapping Field Technician

2.1.10 If a notification is received that an SCN is in the “In-Service” status, OPEN the form in the Lotus Notes database and PERFORM the following:

- a. REVIEW the SCN for deviations.
- b. Update normal state of registries with changes from SCN.
- c. By the end of the next business day, ENSURE the System Diagram(s) and operating records that are the source data for the System Operations Centers registries are updated.
- d. In the SCN database, IDENTIFY and RECORD the registries that have been updated.
- e. If a Configuration Review is desired select Request Configuration Review button, PERFORM the applicable action:
 - SELECT “Review Required” and enter the reason why the SCN was selected.

2.1.11 When a notification is received that an SCN is in the “In-Service” status, OPEN the form in the Lotus Notes database and REVIEW the changes to the system.

CT and NH - Distribution Operations
Specialist
SOC (SOC and ESCC for NH) Engineer or
Designee

2.1.12 If CT or NH, PERFORM the following:

- a. ENSURE the following registries are updated, current, and consistent:
 - GIS
 - X-Maps
 - DSCADA

- OI's
 - Area Switching Diagrams (ESCC)SubStation One Lines Station Orders and Line Ops
- b. In the SCN database, IDENTIFY and RECORD the registries are in SYNC.
- c. If a Configuration Review is desired select Request Configuration Review button, PERFORM the applicable action:
- SELECT "Review Required" and enter the reason why the SCN was selected.

Western MA - Supervisor SOC or Designee

2.1.13 If Western MA, PERFORM the following:

- a. ENSURE the following registries are updated, and current:
- Mimic Board
 - OI's
- b. Request update to applicable substation Operating Instructions
- c. In the Lotus Notes database SCN tool, select "ISOC Review Complete"
- d. If a Configuration Review is desired select Request Configuration Review button, PERFORM the applicable action:
- SELECT "Review Required" and enter the reason why the SCN was selected.

NOTE

- When the SCN is completed, notification for all backbone SCN's will go to the corresponding circuit owner.
- Permanent OMS changes may not be available for up to 3 business days from when an SCN is placed into In-Service status.

2.2 Configuration Review

Owner

- 2.2.1 If a notification is received that a Configuration Review is required for a SCN, PERFORM a Configuration Review of the system change to verify the following:
- the changes conform to the system design requirements
 - the system is configured as required
 - the registries represent what was actually built in the field

2.2.2 If any discrepancies are noted, **PERFORM** any appropriate actions to ensure that the configuration of the Distribution System are as required and that the registries accurately reflect what is in the field and any modifications are documented properly.

2.2.3 When the Configuration Review is complete, then **SELECT** Review Complete.

NOTE

- If the Lotus Notes database is not functioning, capture the data that needs to be entered and do so when the system becomes available. Follow the emergent process if the work has been completed or the normal process for all planned work.

3. SUMMARY OF CHANGES

Changes to TD Procedures are controlled by TD 001 “Writing, Revising, and Publishing Transmission & Distribution Procedures.”

Revision 0 – Effective date - 12/09/02

- Initial release

Revision 1– Effective date - 08/04/04

- Revised to reflect the consolidation of the SOCs.
- Change 1 performed August 10, 2004 to correct fax machine number on page 6, section 2.1, step a, Eastern Region.

Revision 2 – Effective date - 08/12/05

- Changed the name of the document to better reflect its purpose and content.
- Revised the System Change Notice process to better align the Design Control and Work Management processes.

Revision 3 – Effective Date - 01/01/07

- Added the WMECO organization as an approver and user of the document and incorporated the WMECO SOC Shift Supervisor as a performer.
- Added the following items to the list of when an SCN is required:
 - Direct Buried additions, modifications, or deletions where switching is required
 - Changes to switchable points
- Added step 2.1.3 to ensure an accurate detailed sketch or drawing, (a reference to a STORMS Work Request may be substituted as long as it contains a sketch or drawing in the document section), is included with each System Change Notice.
- Added a NOTE prior to step 2.1.7 to remind the Field personnel that a lead person from one of the groups shall assume the responsibility of “Lead Construction Person” and ensure the specified steps are performed as soon as possible after the device is placed in service. Also added a new bullet to the sequence to ensure that CASCADE is updated.
- Added the requirement to print the words “EMERGENCY WORK” in large letters at the top of the SCN Form at step 2.2.3.
- Added the applicable WMECO GIS/Mapping information to step 2.2.4.
- Added two new definitions, Lead Construction Person and Design Control and Configuration Control Review.
- Added the appropriate steps in subsection 2.1 and 2.2 to select specific SCN’s for the Design Control and Configuration Control Review and added new subsection 2.3 to provide guidance for the Design and Configuration Control Review.
- Added Section 2.3 to provide guidance for WMECO Design Control and Configuration Review process.

Revision 4 – Effective date - 07/29/09

- Language clarification for what requires the creation of a SCN.
- Addition of Divisional Director approval throughout CL&P.
- Removed references to GIS/Mapping location for Central, Western, Eastern
- Pre-staged switching instructions for network substations
- Add Distribution Substation Engineering and Design Group throughout TD
- Change Distribution Clearance Administrator to Distribution System Operator.

Revision 4 – Editorial Update - 10/21/09

- Deleted “Maplog3” from the reference on page 4.
- Updated Step 2.2.4 and Attachment 5 with the correct contact numbers.

Revision 5 - Effective Date – 08/20/12

- Total rewrite
- Change to TD-005 procedure approvers.
- Clarify types of work that constitute putting in an SCN and what do not require and SCN
- Removal of Attachments 2, Instructions for Initiating a System Change Notice
- Removal of Attachment 3, System Change Notice Lotus Notes Process
- Removal of Attachment 4 – Sample Lotus notes System Change Notice
- Removal of Attachment 5 – Initiating an SCN with Lotus Notes not functioning
- Removal of Attachment 6, System Change Notice Process
- Create a TD-005 Process Flow diagram
- Removal of NU Distribution clearance request forms and System Change Notice forms
- Remove references to T-2 review
- Removal of pre-staged switching instructions for network substations
- Removal of Red-lined Operating diagrams and permanent maps.
- Change the timeframe for that Sys diagrams and operating records in SOC are updated when SCN is in “In-Service” status
- Add the update of normal state registries
- Change the Business Process Flow
- Clarify definitions
- Add/remove and clarify roles and responsibilities
- Clarify the types of work that constitutes the input of an SCN
- labeling changes for clarification
- additional notifications to various groups to engage and make aware of modifications to the system both planned and emergent
- Add Emergent work to the SCN process.
- Add the SCN Cancellation process
- Rename DC&C Review to Configuration Review and update the process for WMECO and CL&P
- Update Summary of Changes
- Renumbering of sections due to removal of sections

Revision 6 - Effective Date – XX/XX/16

- Updated for the addition of New Hampshire (NH) as a user.
- Updated approvers and SMEs.
- Updated company names to align with NH
- Updated titles to be relevant for NH
- Clarification of switchable devices
- Note in Section 2.1.13 Change from “EDS” to “OMS”

Attachment 1 Definitions

(Sheet 1 of 1)

Completed

- **CT and NH** – When the Operations Specialist or designee select SOC Review Complete (reference 2.1.12)
- **Western MA** – When the GIS, DSCADA and SOC have signed off that their respective registries have been updated.

Configuration Meeting – A meeting scheduled with the SOC to discuss large scale, multi-phase changes to the distribution system. Initiated by the SCN owner and completed prior to submitting switching requests. The changes and scope of work and submittal of SCN's will be discussed in detail.

Configuration Review – Comparison of the registries to the field condition.

DSCADA – Distribution Supervisory Control and Data Acquisition.

ESCC - Electric System Control Center

Emergent SCN - Notification of unplanned work that has resulted in a permanent change to the switchable configuration of the distribution system.

Job Designer – The Job Designer is a Field Technician, Field Tech Specialist, or Project Coordinator assigned to a job who is responsible for the design phase of the project, and for documenting any as-build changes that have occurred during construction as reported by the line crew.

Owner – The “SCN Qualified Person” designated to request and be responsible for a System Change Notice. The Owner is the point of contact for all information related to the SCN. The Owner will be the Lead Construction Person, FSL/Construction Supervisor (Field Supervisor – Lines), SDL (Supervisor- Distribution Lines), Project Foreman, DSSE (Distribution Supervisor Substations and Equipment), unless otherwise defined by local management. Since steps may be performed by several groups working together, a lead person from one of the groups shall assume the responsibility of “Owner” and ensure all of the outlined steps are performed as specified in this document.

Primary Co-Generation - Generator connected to the primary distribution system.

SCN Qualified Person - Individual who has successfully taken and passed TD005 initial and annual refresher training.

Redlined – A markup that reflects the real-time field condition on the SOC registry.

System Change Notice (SCN) – A process used to initiate and document changes to the Distribution System configuration. The process includes the notification of the appropriate personnel.

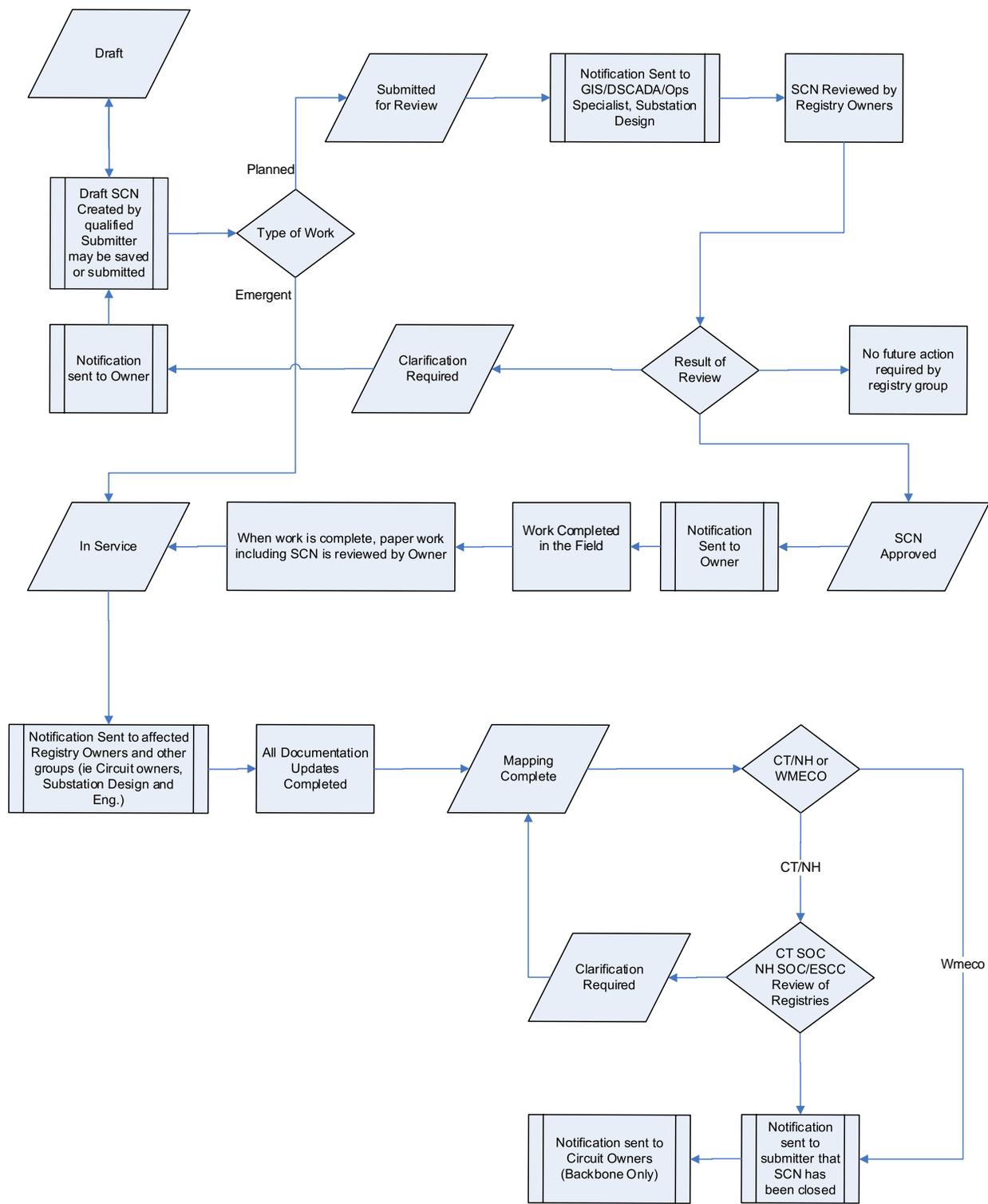
System Diagrams and Operating Records – GIS, normal state X-Maps, and related mapping products.

System Operations Center (SOC) – The central operations/dispatching locations located in Berlin and Springfield.

Systems Operations Centers Registries – The registries that need to be maintained up to date and in sync with one another are: X-Maps, GIS, DSCADA, OMS or Western MA wallboard.

Attachment 2 System Change Notice Process

TD-005 Process



CO-1031 Update to Primary and Secondary Circuits in the GIS, and Miles of Line Database

I. Purpose

To ensure the GIS is updated with primary and secondary circuits, including overhead and URD, and the Miles of Line records are updated in the Pole Mile Revision Access database.

II. AREAS/PERSONS AFFECTED

Electrical Operations
Field Engineering

III. POLICY

It is policy of Eversource New Hampshire to maintain an accurate record of the primary and secondary circuits, underground and overhead, and the Miles of Line.

IV. DEFINITIONS

Field Tech Specialist / Field Technician – Resource designing work and providing a marked-up map of the job to the Map Designer.

ISOC – Integrated Systems Operations Center is the organization that performs the role of system operations dispatch.

GIS – The geographic information system used to capture and represent primary and secondary circuits, including connectivity, phasing, equipment and locations, on the Eversource New Hampshire distribution system.

Job Designer – During the design phase, the Job Designer for routine and complex work is usually a Field Technician, Field Tech Specialist, or Project Coordinator.

Crew Supervisor – Resource in System Engineering responsible for creating, updating and/or electronically modifying the GIS.

Tablet Steward – The local supervisor Electrical Operations responsible for ensuring that all tablets in their supervision are kept up to date.

Priority One and Priority Two GIS Updates:

PRIORITY ONE	PRIORITY TWO
* System area voltage conversions including all associated changes	Routine transformer installation and upgrades
* System open point changes	Single customer line extensions

CO-1031 Update to Primary and Secondary Circuits in the GIS, and Miles of Line Database

PRIORITY ONE	PRIORITY TWO
* New switch installation including switches, reclosers, inline disconnects, disconnects, mainline fuses	Customer counts
* Switch removals including switches, reclosers, inline disconnects, disconnects, mainline fuses	Reconductoring
* New circuits out of a substation	Road jobs
Any device either added or modified, such as a motor operator, voltage sensing equipment or radio controls, under the jurisdiction of the ISOC.	* Capacitor bank, Regulator, Recloser, or Step Transformer installation/upgrade
	* Fault indicators
	Fuse upgrades
	Motor operator installation not under the jurisdiction of the ISOC
	Voltage sensing not under the jurisdiction of the ISOC
	Multiple customer line extensions
	Route number changes
	Load phase swaps

NOTE: Any Priority 2 updates that present a safety issue shall be upgraded to a Priority 1 update.

* If actions are on circuits included in system one-lines, the changes must be properly communicated with the ISOC.

V. EMPLOYEE SAFETY & HEALTH HANDBOOK

No Should a copy of this procedure be inserted into the functional area's safety & health handbook?

VI. OVERVIEW

The Map Designers are responsible for maintaining updates in the primary and secondary circuits in the GIS to reflect each of the items documented in the Priority One and Priority Two table (refer to Section IV. *Priority One and Priority Two GIS Updates* definition).

The Job Designer will ensure all map updates are properly prioritized utilizing the appropriate requirements in STORMS.

- The Job Designer will ensure all "Priority One" are designated in STORMS, e.g. 694, 894. In addition updates shall be sent to the Map Designer prior to the physical work in the field, in accordance with the TD005 process. "Priority One" updates shall be completed in the GIS within one (1) business days of completion of line work.
- The Job Designer will ensure all "Priority Two" are designated in STORMS, e.g. 892, etc. and updates are sent to the Map Designer once the

CO-1031 Update to Primary and Secondary Circuits in the GIS, and Miles of Line Database

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requirement 699 is completed in STORMS. "Priority Two" updates shall be completed in the GIS within thirty (30) business days of completion of line work.

DRAFT

CO-1031 Update to Primary and Secondary Circuits in the GIS, and Miles of Line Database

VII. PROCEDURE

A. Map Designer Responsibilities

RESPONSIBILITY

Map Designer

ACTION

1. Will have the responsibility to update, maintain, and revise the GIS based on information provided by the Job Designer.

B. Job Designer Responsibilities

RESPONSIBILITY

Field Technician
 Field Tech Specialist
 Project Coordinator

ACTION

1. Will designate "Priority One" and "Priority Two" jobs using the appropriate STORMS requirements.
2. Will include a copy of all sketches showing additions and deletions in the job package.
3. Upon completion of the job in the field, the changes will be verified and/or corrected in the job package.

C. Tablet Steward Responsibilities

RESPONSIBILITY

Local Electrical
 Operations Supervisor

ACTION

1. The local supervisor responsible for ensuring that all tablets in their supervision are kept up to date on a monthly basis.

VIII. CO-1031 REVISION HISTORY

Revision Number	Date	Reason
Rev 0	11/14/03	Original issue
Rev 1	4/30/04	Added Map Upgrade Schedule (Priorities Table) Appendix 1 Map Updating Cycle added
Rev 2	10/15/07	Priority 3 in table removed. Appendix 2004 Primary and URD Map Updating cycle removed. Instead, full AWC releases will be made when 60% of the maps in an AWC have had changes to them.
Rev 3	12/21/07	Alphabetized definitions and included Miles of Line definition. Revised responsibility and added Appendix I.
Rev 4	4/26/12	Annual review, no edits needed. Updated revision date.
Rev 5	7/8/13	Revised Appendix I to provide updated instructions on the initial install.
Rev 6	XXX	Revised document to account for the GIS and

CO-1031 Update to Primary and Secondary Circuits in the GIS, and Miles of Line Database

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		reorganization.
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IX. APPENDIX

Appendix I - Pole Mile Revisions Using MS Access

DRAFT

OP-xxxx NH GIS Quality Assurance

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I. PURPOSE

To establish procedures for NH GIS Quality Assurance

II. AREAS/PERSONS AFFECTED

This procedure applies to:

- GIS
- Field Engineering
- System Operations Center
- Engineering
- Customer Service

III. POLICY

It is the policy of GIS to ensure accurate and timely data capture of all changes in the electric system.

IV. DEFINITIONS

Daily System Checks – As part of the daily process of updating the Outage Management System (OMS) with changes from GIS, the OMS system runs a series of electronic checks.

OMS Electronic Checks: Circuit Connectivity and loops with circuits.

SOC Notices: When major equipment is added to or removed from the Electric System, the SOC sends a notice to a group that includes the GIS Technician. This notifies the GIS Technician of the timing to enter or remove information into GIS.

Field Checks – As Crews, Field Technicians, Engineers and others are in the field and discover discrepancies between GIS and field condition, they have a tool on their tablet to electronically report the error to the GIS Technician to correct in GIS.

GIS Entry Checks - As part of the process of entering changes into GIS, the GIS Technician runs a series of electronic checks:

QA / QC Checks: Data Integrity, Connectivity, Attribute Accuracy, and Geometry.
Circuit Validation: Circuit Connectivity

Monthly SOC Updates – On a monthly basis, the SOC distributes updated paper one line diagrams, which the GIS Technician uses to check for accuracy in GIS.

Weekly System Checks – On a weekly basis, the GIS Department runs additional checks:

OP-xxxx NH GIS Quality Assurance

Distriview: Distriview is a system analysis program. This runs automatically each week and generates reports on connectivity accuracy, and critical attribute accuracy.

GIS Department Queries: The GIS Department runs queries that check for attribute accuracy and timelines.

V. EMPLOYEE SAFETY & HEALTH HANDBOOK

No	Should a copy of this procedure be inserted into the functional area's safety and health handbook?
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VI. OVERVIEW

All changes to the electrical system are submitted to the GIS technician either through the STORMS work management system or directly from engineering.

The GIS technician captures the changes in the GIS system. There are numerous quality checks within the GIS department and additional input from SOC notifications and field visit.

VII. PROCEDURE

Step-by-step instruction to accomplish the task.

A. Capture Electric System Changes in the GIS System

<u>RESPONSIBILITY</u>	<u>ACTION</u>
GIS Technician	1. Enter Electrical System changes into the GIS 2. Validate the circuit 3. Complete the entry into the GIS system

B. Daily – Assure Changes in OMS are Accurate

<u>RESPONSIBILITY</u>	<u>ACTION</u>
SOC	1. Issue General Information Notices for major new equipment additions and removals 2. Communicate any errors found to GIS Department
GIS Department	3. Enter any changes from General Information Notices into GIS System 4. Resolve any error communicated by SOC and make corrections in GIS System

OP-xxxx NH GIS Quality Assurance

C. Weekly – Assure That System Analysis and Quality Assurance Queries Are Run

RESPONSIBILITY

GIS Department

ACTION

1. Assure that Distriview Circuit Analysis is run on all circuits on a weekly basis
2. Assure that appropriate Quality Assurance Queries are run on a weekly basis
3. Resolve any errors and make corrections in GIS System

D. Monthly – Provide One-Line Updates For The Electric System

RESPONSIBILITY

SOC

GIS Department

ACTION

1. Issue updates to one-line diagrams for major equipment on the electric system
2. Resolve any GIS System errors and make corrections in the GIS System

E. Update GIS System Based On Reviews and Field Visits

RESPONSIBILITY

Engineering
 Field Engineering
 SOC

GIS Department

ACTION

1. Communicate any errors discovered in the GIS System to the GIS Department
2. Resolve any errors and make corrections in the GIS System

VIII. AP-2001 REVISION HISTORY

<u>Revision Number</u>	<u>Date</u>	<u>Reason</u>
Rev 0	08/30/2016	Original issue

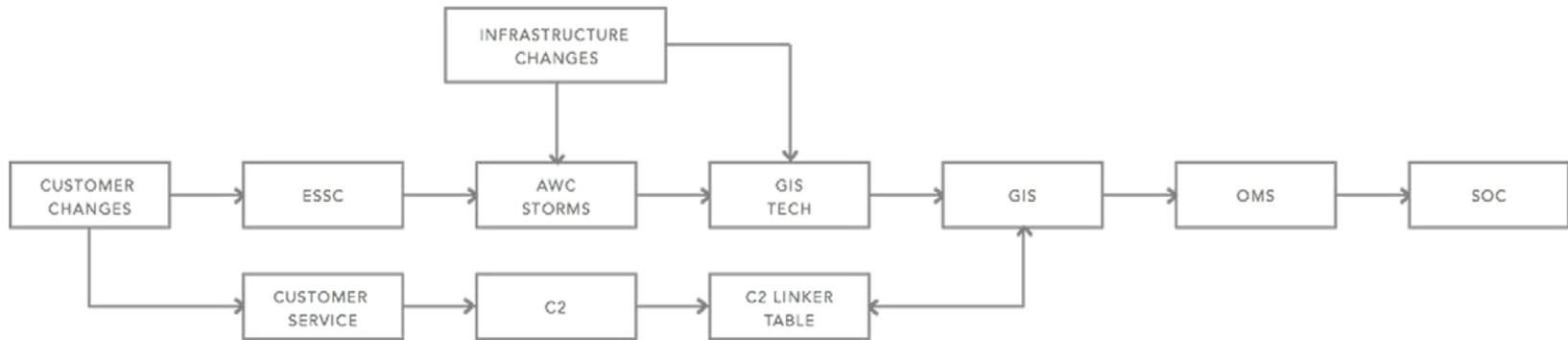
IX. APPENDIX

Appendix I – Electric System Change Process
 Appendix II – STORMS Work Request Process
 Appendix III – GIS Quality Assurance Process

OP-XXXX Electric System Change Process

Appendix I
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Electric System Change Process



ESSC – ELECTRIC SERVICE SUPPORT CENTER

C2 – CUSTOMER CENTRAL (DATA SYSTEM)

AWC – AREA WORK CENTER

GIS – GEOGRAPHIC INFORMATION SYSTEM

OMS – OUTAGE MANAGEMENT SYSTEM

SOC – SYSTEM OPERATION CENTER

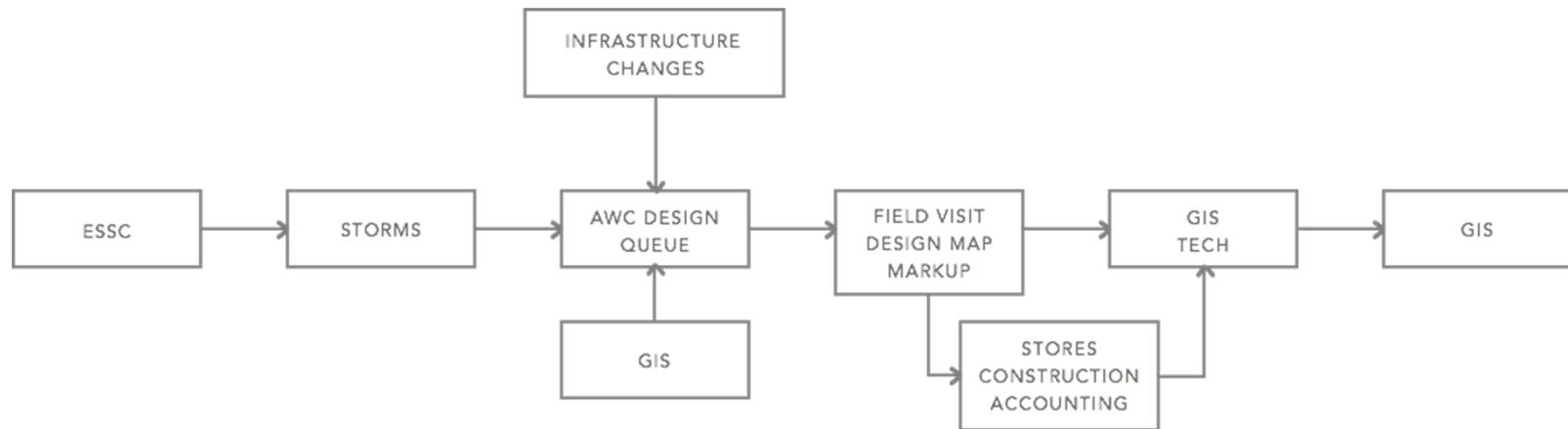
STORMS – SEVERN TRENT OPERATIONAL RESOURCE MANAGEMENT SYSTEM

INFRASTRUCTURE CHANGES – INCLUDES RELIABILITY ENHANCEMENTS, LOAD RELATED CHANGES, SYSTEM ENGINEERING CHANGES

OP-XXXX STORMS Work Request Process

Appendix II
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STORMS Work Request Process



ESSC – ELECTRIC SERVICE SUPPORT CENTER

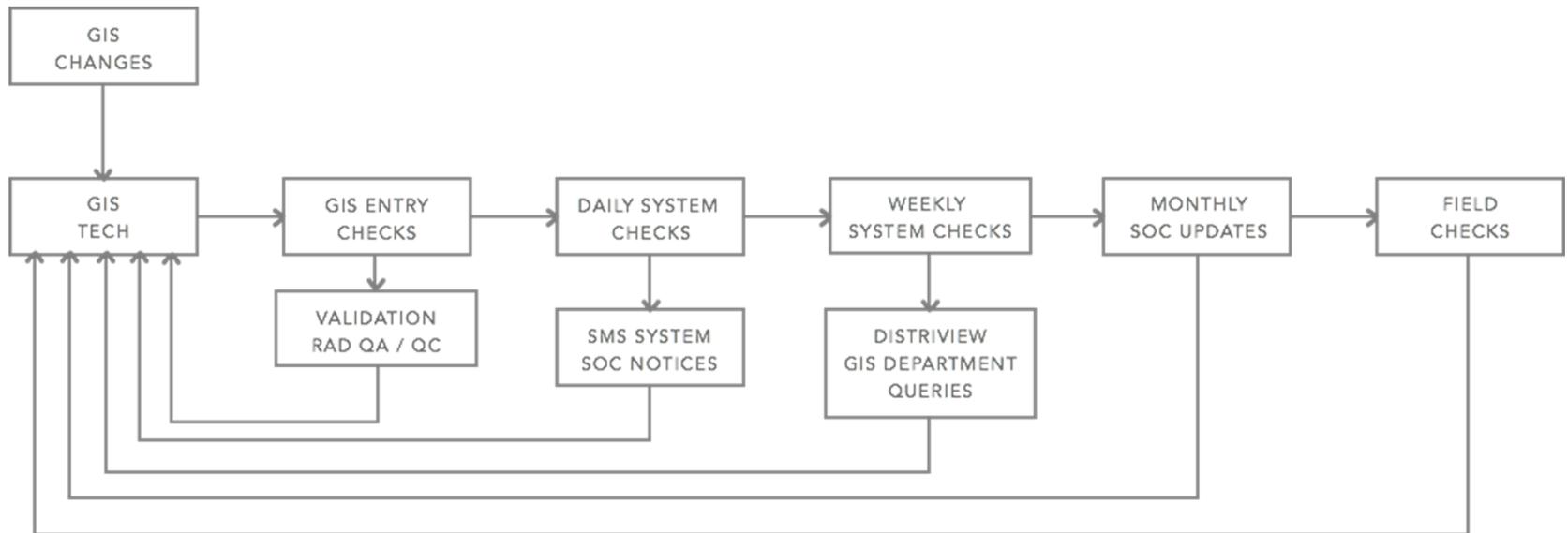
AWC – AREA WORK CENTER

GIS – GEOGRAPHIC INFORMATION SYSTEM

STORMS – SEVERN TRENT OPERATIONAL RESOURCE MANAGEMENT SYSTEM

INFRASTRUCTURE CHANGES – INCLUDES RELIABILITY ENHANCEMENTS, LOAD RELATED CHANGES, SYSTEM ENGINEERING CHANGES

GIS Quality Assurance



OMS SYSTEM SOC NOTICES – INCLUDES TROUBLE RELATED
INFRASTRUCTURE CHANGES (STORM WEATHER EVENTS, POLE ACCIDENTS)