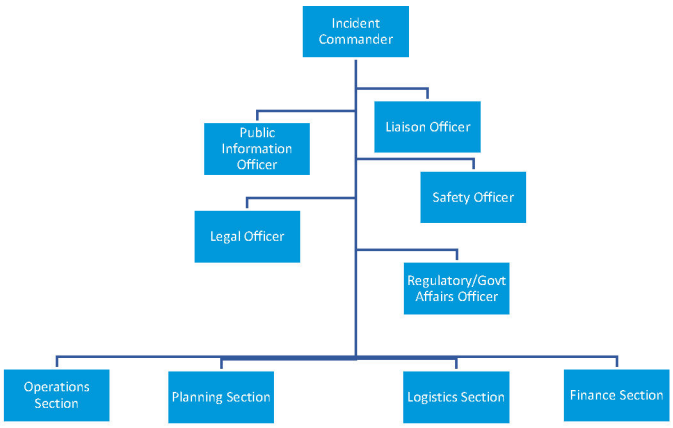
3.3.4. Command and General Staff

CenterPoint Energy fills the following positions within the ICS Command and General Staff, depending upon the nature of the emergency and the Emergency Level. These staff positions comprise the Incident Management Team (IMT). The table below refers to the Command and General staff positions for a Level 2 or Level 1 Emergency.

Position	Primary CNP Staff Title	Emergency Roles and Responsibilities
EOC Manager	Emergency Preparedness & Response Manager	Responsible for managing and overseeing the Emergency Operations Center.
Incident Commander/ Unified Command	VP Distribution Operations and Service Delivery/ VP High Voltage and System Operations	Responsible for the overall management of the incident and guides the incident to resolution as safely, quickly, and completely as possible.
Public Information Officer	VP Corporate Communications, Community Relations, Marketing, & Security	Advises the Incident Commander on information dissemination and media relations, obtains information from and provides information to the Plans Section, and obtains information from and provides information to the community and media. Coordinates between the Command/Response Coordination and the Joint Information Center (JIC).
Liaison Officer	Emergency Preparedness & Response Director	Assists the Incident Commander by serving as a point of contact for agency representatives who are helping to support the operation and provides briefings to and answers questions from supporting agencies.
Safety Officer	VP Safety and Technical Training	Advises the Incident Commander on issues regarding incident safety and works with the Operations Section to ensure the safety of field personnel.
Regulatory and Government Affairs Officer	VP Regulatory Services, Natural Gas	Responsible for providing guidance and discussing regulatory issues impacting the response and coordinates communications with regulatory agencies, public officials, and others.
Legal Officer	VP Associate General Counsel	Responsible for providing guidance and discussing legal issues impacting the response and administering claims.
Operations Section Chief	Director Regional Operations	Responsible for managing all tactical operations for the emergency.
Planning Section Chief	Emergency Preparedness & Response Senior Coordinator	Responsible for overseeing incident-related data gathering and analysis regarding incident operations and assigned resources, facilitates incident action planning Meetings, and prepares the Incident Action Plan (IAP) for each operational period.
Logistics Section Chief	SVP Supply Chain	Oversees the provision of all the incident's support needs, such as ordering resources and providing facilities, transportation, supplies, equipment maintenance and fuel, communications and food and medical services for incident personnel, negotiating leases, maintaining vendor contracts.
Finance Section Chief	VP Financial Planning and Analysis	Oversees staff responsible for recording personnel time, and tracking and analyzing incident costs and considering cost recovery.

The organizational chart below identifies the typical command and general staff for a CEHE emergency response. Depending on the emergency, the groups, branches, and teams may expand or contract to support the goals and objectives of the emergency.



3.4. Incident Organization

CenterPoint Energy uses multiple operations centers at different emergency levels.

Generally, the Emergency Operations Center (EOC) will not activate for an emergency that can be managed at the Department Operations Center (DOC). DOCs are dedicated to a specific department's incident management and response. When CNP's EOC activates, the DOC communicates operational status, resource requests, and logistical needs to the EOC.

3.4.1. Department Operations Center (DOC)

The CEHE Department Operations Center (DOC) is activated whenever the emergency exceeds the capabilities of a CEHE Service Center's operational capabilities and coordination among multiple Service Centers is needed.

3.4.2. Emergency Operations Center (EOC)

The CenterPoint Energy Emergency Operations Center (EOC) is activated when emergency operation coordination exceeds the capabilities of the Department's DOC. The EOC is used when multi-department support is needed for the emergency. In some cases, the EOC may also reduce the burden on incident command during a single department response by managing some operational aspects such as staging sites, etc. The EOC:

- Collects, shares, and disseminates information.
- Supports resource needs and requests.
- Coordinates plans and determines current and future requirements.
- Supports public communications.
- Liaisons with external partners.

- Supports the policy and legal needs of decision makers.

3.4.3. EOC Activation

The Director of EP&R or his/her designee, the on-duty Incident Commander, or CEHE Leadership may activate the EOC. Upon activation, Command and General staff will report to the Emergency Operations Center (EOC). If the primary location is unsafe or otherwise inaccessible, the staff will assemble at an alternate location.

3.4.3.1. EOC Manager

The EOC Manager is responsible for overseeing the Emergency Operations Center. This includes:

- Activate the EOC when necessary.
- Notify the EOC staff of the emergency and the EOC activation.
- Notify the CMC of the EOC activation.
- Conduct briefings and debriefings.
- Approve and oversee the Incident Action Plans (IAPs).

3.5. Situation Reporting

3.5.1. Incident Action Plans

Incident action planning provides a standardized decision-making approach. The Incident Management Team (IMT) will be established for each event and can use incident action planning to collect, analyze, and disseminate information to create and maintain a common operating picture during the response to an emergency. An incident action plan (IAP) documents incident goals, operational period objectives, and the response strategy defined by incident command during response planning. The IAP contains general tactics to achieve the goals and objectives within the overall strategy, while providing important information on the emergency and response. The IAP also facilitates dissemination of critical information about the status of response resources. As the emergency evolves, IAPs must be regularly revised (at least once per operational period) to maintain consistent, up-to-date guidance across the incident management system.

An IAP should include:

- Incident goals
- Operational period objectives
- Response strategies
- Response tactics
- Organization list with ICS chart showing primary roles
- Assignment list with specific tasks
- Critical situation updates and assessments
- Resource status updates
- Safety plan
- Communications plan
- Logistics plan
- Emergency map, if applicable

3.6. Functional Roles and Responsibilities

When the EOC is activated to support a CEHE emergency, CenterPoint Energy relies on Emergency Support Functions (ESFs) to support the core capabilities of response and recovery operations. Not all ESFs are activated during an emergency, and not all of them are activated at the same time. ESFs may or may not be activated or deactivated depending upon the nature of the emergency as well as the response and recovery needs.

Each ESF shall have a primary, secondary, and tertiary representative responsible for the functions of that ESF. The department designated as responsible for the ESF will update the representative contacts on a regular basis in conjunction with the EP&R Department's requirements and within the appropriate management systems.

Emergency Support Function (ESF)	Department Responsible	Responsibilities
ESF #1: Transportation systems and resources	Fleet Services	• Evaluate transportation needs and restore transportation services. • Manage transportation services to support emergency operations.
ESF #2 Communications Systems	Information Technology	• Serve as the lead for the Information Technology (IT)/Communications Unit during EOC activation. • Support communication systems in the EOC and field during an emergency. • Maintain operability of telecommunications and backup emergency communications. • Provide for protection of vital electronic records. • Provide technical assistance in data retrieval and restoration. • Assess the communications infrastructure. Troubleshoot, maintain, and support communication systems.
ESF #3: Critical Infrastructure and key resource restoration	Electric Business	• Pre-identify the critical infrastructure and key resources to support system reliability and service restoration. • Prioritize critical infrastructure. • Pre-identify priority circuits that provide health and human services to community. • Pre-identify critical care customers. • Determine resource needs from staffing internal crews, contractors, damage assessors, and mutual assistance as needed. • Assess activation needs for TEEEF and key equipment depending on nature of event (boats, drones, ATVs, etc.).

ESF #4: Information collection, analysis, and dissemination	Emergency Preparedness & Response	• Staff the Planning Section at the EOC during an emergency. • Coordinate with stakeholders to develop a common operating picture. • Monitor conditions and collect information relative to the emergency event. • Analyze and share information with appropriate stakeholders
ESF #5 Sheltering	Procurement	• Lead the Hoteling coordination at the EOC during an emergency. • Coordinate with departments to support sheltering operations. • Address the hoteling needs of the operations. • Provide frequent reports to the EOC.
ESF # 6: Resource management	Warehouse and Materials Management	• Provide information and status of resources during response. • Evaluate and fulfill resource requests. • Anticipate impact and assess Situation Reports to identify potential resource needs.
ESF #7: Logistics	Procurement	• Secure equipment, supplies, or services. • Maintain a robust and sustainable logistics support capability that is flexible and adaptable to meet unpredictable demands of all hazards.
ESF #8: Direction, control, and coordination	Emergency Preparedness & Response	• Coordinate efforts of CEHE incident management structure with other departments. • Support short- and long-term planning activities. • Ensure goals and objectives are established, tracked, and accomplished appropriately. • Serve as Planning Section Chief in the EOC during an emergency.
ESF #9: Mutual aid	Electric Business	• Follows guidelines of the EEI Mutual Assistance Agreement. • Coordinates with RMAGs, MARC, etc. • Utilizes Resource Allocation Management Program for Utility Professionals (Ramp-Up) to request/respond to utility resource needs. • Resources responding are from investor-owned utility companies and their native contractors. • Non-investor-owned utility contractors may also be acquired.
ESF #10: Emergency Information	Corporate Communications	• Communicate emergency information and updates to customers utilizing the various communications systems and social media outlets.

		• Disseminate emergency alerts and instructions before and after an emergency event to employees. • Capture actions taken by internal and external stakeholders. • Maintain a credible, effective working relationship with the media, ensuring they have access to information. • Organize press conferences.
ESF #11: Government Affairs	Government Affairs	• Provide accurate, timely, and accessible information to local, state, and federal partners as appropriate. • Review regulatory requests and directives and support compliance. • Establish appropriate regulatory staffing required to support the incident. • Assist with resolving regulatory issues as needed. • Coordinate Government Liaisons with local governments to help ensure coordination and collaboration on issues.
ESF #12: Administration and Finance	Finance	• Provide support for the Finance and Administration Section at the EOC during an emergency. • Develop and share guidance for finance and budget personnel during an emergency.
ESF #13: Alert and Notification	Emergency Preparedness & Response	• Implement the Emergency Operations Plan. • Coordinate and liaise with CMC during response period. • Prepare EOC for activation.
ESF #14: Damage Assessment	Electric Business	• Lead damage assessment teams • Report operational information and observed damage to EOC. • Identify any unmet needs that may require immediate attention. • Determine magnitude and severity of damage to structures and infrastructure. • Identify the areas and populations most in need.
ESF #15: Debris Management	Electric Business	• Employ emergency debris clearance. • Lead debris management teams. • Coordinate with stakeholders for the debris removal and/or disposal process.
ESF #16: Food, water, and commodities distribution	Procurement	• Determine anticipated food and water needs and begin the process of obtaining items.

4. Finance

CenterPoint Energy Incident Management Teams (IMT) and all CEHE responding personnel will follow established financial procedures for requesting, receiving, managing, and applying funds for the delivery of emergency response and logistical needs. When the scope and scale of the emergency extends beyond normal financial operational capabilities, or to obtain a timely administrative and financial approval and response, CNP may enact particular emergency financial procedures. This may include:

- Emergency Work Order creations.
- Increases in financial approval limits for key leaders involved in the emergency response.
- Time sheets and work tracking processes.
- Pre-emergency purchases of critical materials or products for response or mitigation efforts.
- Delegation of purchase approvals to key emergency response leaders.

5. Communications

CenterPoint Energy implements the Joint Information System (JIS) during emergencies to organize and provide consistent, coordinated, accurate, accessible, and timely information and updates to the public and stakeholders during an emergency.

Corporate Communications is responsible for leading the JIS operations. This section outlines key communication operations that take place during an emergency.

CEHE maintains liaisons with various first responders and emergency management organizations, as well as third-party assistance agencies and public officials throughout its service area and communicates regularly with these groups regarding the status of electrical emergencies. Additionally, the Company provides required notifications to the PUC, ERCOT, the U.S. Department of Energy, NERC, and the Texas Reliability Entity, as appropriate. These identified liaisons are responsible for communicating with their identified constituents and addressing issues.

In the event of an emergency, the communications team will operate at the Joint Information Center (JIC), a dedicated location to manage the operations of the Joint Information System. The communications team will operate as required until normal schedules can be resumed.

The communications team will set up a base of operations for communications personnel during the emergency. The following items will be set up and tested:

- Phones
- Laptop computers with all needed software, applications and network access
- Printers
- TVs
- Access to system outage maps and situational awareness displays via a large-screen monitor (dashboard)
- CNP Now, the Company's employee communications digital app

Public Information Office personnel will be advised to:

- Pack a bag of personal necessities.
- Bring personal cameras (i.e., smart phones) and chargers.
- Test individual remote access from outside the office to work computers.
- Minnesota and Indiana communications staff are on standby to back up the Houston staff, as necessary.

The team will be responsible for communicating to CNP employees about the activation of the Company's Crisis Communications Plan, Storm Hotline activation and when/where to report to duty.

Under the guidance of the Public Information Officer, the team will also have the responsibility for communicating to our external customers and the media before, during, and after an event.

- Contact with the local news media will be established as soon as deemed necessary.
- Pre-written media advisories and information to alert the public about the length of potential outages, safety tips and how to prepare will be distributed as appropriate.
- As is available during a particular emergency, information on how to track outages and restoration information on demand (e.g., Outage Tracker Web application, Twitter/X feeds or other methods as may be used) will be distributed to news media outlets, emergency management organizations and other stakeholders and posted on our intranet and Internet sites to show number and locations of outages on our system, if necessary, along with information, on the restoration and prioritization process, FAQs, safety tips, etc.
- CenterPointEnergy.com dark site (Web page to be used in the event main website is unavailable) will be updated and verified ready for use.

Duties during emergency

Notification and Call-out - If the Crisis Communications Plan is implemented, decisions will be made including where and when to report for emergency duty, the nature of the emergency and other pertinent information.

Public Communications Manager will be responsible for public information distribution. The team will produce media advisories, news releases and/or other information for public distribution as required to communicate about CEHE's event. The Public Information Officer or a designated person will approve the information.

Information will be collected from the DOC and EOC. The typical information to be collected at least twice a day or as needed includes the following:

- Assessment of system conditions
- Assessment of safety incidents
- Number of customers without service and locations
- Number of restoration crews and their work locations
- Progress of restoration
- Estimates of when service will be restored
- Number of contract crews/mutual assistance and their work locations
- Hazardous or potentially hazardous conditions

- Crew spokesperson updates
- Other updates as appropriate

News conferences may be held, as necessary, at various locations depending on the event and road conditions.

Calls, Social Media inquiries, Monitoring Media, and Control Rumors

The team will be responsible for receiving, logging, referring, and answering, as appropriate, emails received through CNP's media relations email address, media.relations@centerpointenergy.com. Social media will be monitored, captured and responded to as appropriate according to the company's social response decision tree process, with a focus on responding to inquiries relevant to the greatest number of people. Customers submitting service requests via social media may be engaged by the Customer Experience Resolution Team (CERT) supported as needed by a scalable team of trained Online Customer Service staff and/or others as appropriate. The team will also be responsible for addressing rumors and misinformation as appropriate.

Under the Social Media Channel Manager, the social media team will be responsible for managing and monitoring the company's social media channels.

Under the direction of the Social Media Channel Manager, before a storm and beginning Day 1 following a storm the team will perform the following:

- Monitor social media
- Determine hashtags to maximize social media audience reach
- Set up automated monitoring reports for stakeholders as needed

Initial content will provide existing general information and templates for system-wide specific information such as:

- Safety messaging – natural gas and electric – for before, during and after the storm
- Process expectations: how we restore power, what and how often we will communicate
- Resources: supplies to have on hand, where to get help, videos (how we restore power, FAQs, generator tips, etc.)
- System-wide outage counts updated on the same schedule as media advisories/news releases/other public communications
- System-wide estimated times of restoration (ETR) by category of storm until more specific ETRs are available
- "One-to-many" responses to inquiries with system-level information until more granular information is available
- Answers to questions from the field and rumor control

As damage assessment takes place, custom content that leverages the strengths of social media will be added to initial pre-written content:

- CNP-produced news from content created for public officials, employees, mutual assistance crews
- Video coverage of news conferences (e.g., Emergency Operations Center or CNP), messages from executives, etc.

- Videos of crews in action, photos of damage submitted by CNP spokespeople, contract photographer(s) and damage assessors as well as drone videos and photos
- Enhanced outage map with ETR by large sub-areas of system and sub-system-level outage information/ restoration estimates in alignment with outage map
- “One-to-many” responses to inquiries with sub-area ETRs
- Information from crew spokesperson lead reports

Following the transition from damage assessment to creation of work packets and localized restoration, Crew Spokesperson Leaders (CSLs) – at least one per Service Center – will collect and document trends/issues/customer questions as well as field activities from crew leads as reported by crew spokespersons. CSLs participate in Service Area Director calls with DOC and emergency management personnel, communicate throughout the day with service center operations and dispatching, and report to their designated social media team member or external communications writer throughout the day as information is available and at the end of each day in a scheduled phone report. These reports form the basis of neighborhood/service center-level messages to be shared with customers via social media as well as crew spokespeople and other stakeholders. Progress Reports include information such as the following for the service center area:

- Number and location of crews working in the area
- List of key/critical public facilities energized today
- Circuit/substation restoration progress (range of % complete) and Estimated Completion Date
- Potentially hazardous conditions
- Trends, issues, customer questions

For each service center, a Twitter/X hashtag is established to direct customers to more granular outage and restoration information to be provided by neighborhood-level data sources, with service center updates also posted on Facebook. Maps and zip code charts will familiarize customers with the service center for their area.

Under the direction of the Social Media Channel Manager, designated employee ambassadors will share approved Company content with their social networks, including closed networks such as Nextdoor.com and closed Facebook groups.

Employee Communications Manager responsibilities will include creating channels to be used to communicate to employees and will be updated at least twice a day or as needed:

- Email
- Intranet
- Broadcast voice messages
- Electric Employee storm line
- Natural Gas Employee EOP Line, as appropriate
- CNP Now
- Special print and electronic news bulletins, as appropriate
- Digital signs

6. Maintenance and Revisions

Maintenance process for the plan including a method and schedule for evaluation and revision.

6.1. Maintenance and Revisions

The EP&R department is responsible for the maintenance and revision of this plan and annexes.

This plan and its annexes will be reviewed annually and updated and revised as appropriate to incorporate lessons learned from actual emergency situations and exercises or when changes in resources, capabilities, or governance structure occur.

Interim revisions may be made when one of the following occurs:

- A change in CNP site or facility configuration that materially alters the information contained in the plan or materially affects implementation of the Emergency Operations Plan,
- A material change in response resources,
- An incident occurs that requires a review,
- Internal assessments, third party reviews, or experience in drills or actual responses identify significant changes that should be made in the plan,
- New laws, regulations, or internal policies are implemented that affect the contents or the implementation of the plan, and
- Other changes deemed significant.

Plan changes, updates, and revisions are the responsibility of the EP&R department. Suggestions for revisions can be submitted to EP&R through email at emergency@centerpointenergy.com. EP&R will be responsible for distributing any plan changes.

Annexes

Annex A

Extreme Weather Emergencies

Extreme Weather Emergency

Purpose

The purpose of the Extreme Weather Emergency Annex is to provide guidance on preparing for and responding to extreme heat or cold weather situations that could impact CEHE operations.

Scope

There are various situations that could cause an elevated response from CEHE during an extreme weather situation.

- Load Shed as directed by ERCOT
- Widespread outages due to ice-related transformer outages
- Widespread outages due to heat-related transformer outages (also known as a Transformer Tsunami)
-
- High winds, wind shear
- And others

Decision Making

CEHE Operations will use the decision making and activation processes established in the Emergency Operations Plan for extreme weather emergencies. See *Section 3.2* for more information.

Concept of Operations

Load Shed

CEHE's Real Time Operations (RTO) utilizes and maintains a response plan for Load Shed that is directed and coordinated by ERCOT. The RTO Team will utilize the Load Shed procedures along with the EOP as necessary to support this response.

For additional information regarding the load shed plan, please reference *Annex B*.

Equipment Failure

It is the responsibility of the Incident Commander (IC) on duty to monitor the situation and determine if the EOP, or portions of the plan, should be activated.

- Upon activation, the Incident Command structure will be based on the roles identified in the EOP. The IC and support team will make determinations on staffing, resources and materials as necessary.
- In the event of a significant shortfall of materials, staffing, or other issues, the IC has the discretion to activate any needed Emergency Support Functions (ESFs) of the EOP to provide additional support.

Mitigation – Anti-galloping

Since 2015, CEHE has continued system hardening projects to retrofit portions of 69 kV and 138 kV transmission lines with anti-galloping devices to avoid damage from icing conditions.

Proactive Weatherization

CEHE designs its transmission circuits to the then-current edition of the National Electric Safety Code (NESC), which is the industry standard for ice and wind design for coastal and inland areas. The Company's practice for designing all new transmission lines is to utilize Grade B loading requirements. Grade B applies the highest geographically applicable NESC values for wind and ice loading as well as the highest safety overload factors. CEHE also incorporates anti-cascade design features in its transmission lines.

CEHE designs its new substations to conform with the latest version of the NESC wind maps. The Company's practice for new substations and equipment is to utilize 2 wind zones: 140-mph (Coastal) and 120-mph (Non-Coastal), which meets or exceeds the NESC wind load based on the substation's location.

CEHE's equipment specifications and acceptance testing standards include the use of ANSI/IEEE standards, which specify temperature ranges for service conditions covering a wide temperature range. The temperature ranges vary based on type of equipment from -4°F or -22°F to 104°F or 131°F. CEHE equipment specifications specify -22°F for all major substation equipment.

- CEHE installs heaters in substation transformer and breaker control cabinets.
- CEHE's substation control cubicles are climate controlled.
- CEHE utilizes antifreeze for cooling its station service backup generation equipment, and the equipment is oriented in a manner that avoids water and ice buildup on components which could inhibit operation.
- CEHE utilizes station service voltage transformers (SSVTs) in new substation installations, which have been retrofitted to key transmission substations where the station service feed is provided by local distribution providers.
- CEHE installs weep holes in substation buses to avoid water and ice buildup.

Transmission Routine Maintenance

CEHE maintains the integrity of existing transmission structures, wires, and rights-of-ways in a variety of ways, including a five-year cycle transmission line inspection and rehabilitation program that is coordinated with the transmission vegetation management program. Approximately twenty percent of the transmission system is ground inspected each year. Any line component or vegetation conditions identified that will likely cause a failure or a circuit outage within a critically short period of time are mitigated as necessary.

Substation Routine Maintenance

CEHE performs periodic station checks on applicable equipment to verify pressures and levels for Sulfur Hexafluoride (SF6), oil, nitrogen levels, transformer and breaker cabinet heaters, alarms, and supporting circuitry. Station checks are scheduled monthly for 345kV and select 138kV substations. Station checks for the remaining substations are scheduled every 2 months.

CEHE performs additional substation equipment and protection system maintenance according to manufacturer recommendations or in accordance with NERC maintenance interval requirements, generally whichever is more frequent.

Distribution Routine Maintenance

CEHE maintains a distribution wood pole inspection and rehabilitation program based on an average 10-year cycle. Any line component identified that will likely cause a failure or a circuit outage within a critically short period of time is addressed, as necessary.

"As You Go" Inspections

A large amount of CEHE operations personnel are in the field daily. This includes line worker, crew leaders, service consultants, and engineers. As personnel perform their daily business, they are trained to observe the condition of overhead and ground facilities and report any unusual conditions.

Summary of Operations

Preparedness and Response Checklist

The following checklist should be consulted to assist in preparing CEHE personnel and resources during a weather emergency.

Direct Service Center Responsibility

- ☐ Secure personnel roster and update emergency contact information
    - Need employee's name, department, title, location, work number, cell number and emergency contact information (Leaders, make sure that you and all employees have updated information in system. Admin to print out a hard copy.)
- ☐ Discussion with employees about preparing their homes and families. Allow employees time to secure home and prepare for EOP, typically ½ day
    - Remind Employees to stock up on special foods needed and medication.
    - Employees need to fuel their personal vehicles.
- ☐ Identify Storm Riders
- ☐ Review Service Center Roster
- ☐ Review Staging Site Rosters
- ☐ Management Meeting to discuss EOP plans, expectations, and reporting functionality
- ☐ Supervision meets with all personnel to share EOP plans and expectations
- ☐ Pick-up debris
- ☐ Empty the dumpsters
- ☐ Secure the yard – Secure/Clean/Restock the vehicles

- ☐ Secure equipment located outside of the service center and remove potential flying debris hazards
- ☐ Review evacuation plans - Baytown, Galveston, and South Houston.
- ☐ Review Cut & Clear and Back feeding SOP
- ☐ Check Service Center for essential supplies (non-perishables, toiletries, stationary, etc.)
- ☐ Check Satellite phones
- ☐ Check on the availability of spare lap top computers and ensure they have the latest updates
- ☐ Secure Gatorade, water, snacks, etc. for crews
- ☐ Update Cyber Keys – make sure to obtain additional batteries
- ☐ Notify FCCs and hold refresher FCC training
- ☐ Ensure sufficient Hand-Held Radios for the FCCs.
- ☐ Establish ramp-down plan

Service Center Coordinate with Support Groups

- ☐ Fuel tanks are filled – coordinate with Fleet
- ☐ Fuel all trucks and stock with material
- ☐ Face trucks toward the dock
- ☐ Check circuit reconfigurations
- ☐ Have a discussion with trouble board about important circuits on work tag at landfall
- ☐ Secure additional food stock in the case of an emergency
- ☐ Have discussion with facilities about boarding windows at the service centers pre-landfall

Service Centers Monitor/ Support Groups Responsibility

- ☐ Test service center generator and make sure back-up generators are topped off
- ☐ Test all generators and pumps - ***Need to do prior to mock drill each year and before every storm***
- ☐ Distribution Control to disable loop sectionalizing schemes (will be done automatically - Cypress, Greenspoint, Humble)
- ☐ Secure caterers at the service centers
- ☐ Secure rental vehicles
- ☐ Secure lodging

- Check availability/condition of cots – –if storeroom supply is insufficient, request storeroom to get more from Central
- Shots – In the event of contaminated rising water
- Service Center Security – Guards stationed at the gates
- Distribution Project Management to secure the poles that have been dropped off in the field

Transmission Operations Checklist

Manager/Supervisor Responsibility

- Secure personnel roster and update emergency contact information
  - Need employee's name, department, title, location, work number, cell number and emergency contact information (Leaders, make sure that you and all employees have updated information in system. Admin to print out a hard copy)
- Discussion with employees about preparing their homes and families. Allow employees time to secure home and prepare for emergency activation, typically ½ day
  - Remind Employees to stock up on special foods needed and medication.
  - Employees need to fuel their personal vehicles
- Identify Storm Riders as necessary
- Management Meeting to discuss EOP plans, expectations, and reporting functionality
- Supervision meets with all personnel to share EOP plans and expectations
- Secure the yard – Secure/Clean/Restock the vehicles
- Review evacuation plans for South Houston.
- Check Satellite phones
- Check on the availability of spare lap top computers and ensure they have the latest updates.
- Secure Gatorade, water, snacks, etc. for crews
- Update Cyber Keys – make sure to obtain additional batteries.
- Ensure sufficient Hand-Held Radios
- Establish ramp-down plan

Ops Supervisor Coordinate with Crews

- Fuel tanks are filled – coordinate with Fleet
- Fuel all trucks and stock with material
- Face trucks toward the dock
- Assign HDLM trucks to take home to expedite patrols
- Secure additional food stock in the case of an emergency
- Have discussion with facilities about boarding windows at the service centers pre-landfall

Manager Monitor/ Support Groups Responsibility

- Secure caterers at the service centers
- Secure rental vehicles
- Secure lodging

- Check availability/condition of cots – if storeroom supply is insufficient, request storeroom to get more from Central
- Shots – In the event of contaminated rising water
- Service Center Security – Guards stationed at the gates

As referenced previously, the Company utilizes four emergency activation levels, designed to ensure sufficient resources are available to effectively respond to any type of emergency impacting CEHE's service territory. The alert levels may be activated, based on need, during a variety of event types. Please see *Section 3.2* for additional details regarding the Company's response to emergency events.

Annex B

Load Shed

Load Shed

Purpose

Firm Load Shed is the controlled action of shedding firm system load to mitigate operating emergencies due to insufficient generating capacity and to avert cascading outages, voltage collapse, underfrequency issues, system equipment damage, and general grid collapse.

In accordance with NERC Standards TOP-001-5 R1, ERCOT Protocols, and ERCOT Operating Guides, CEHE operates to maintain the Reliability and Integrity of the CEHE Bulk Electric System (BES) during normal and emergency conditions. System Controllers shall have the responsibility and decision-making authority to take the actions needed, up to and including shedding firm load. CEHE is required to implement ERCOT directives to maintain grid reliability by utilizing the available load management programs combined with the automatic and manual firm load shed programs.

Scope

CEHE utilizes the following load reduction and controlled load shedding programs.

- Conservation Voltage Reduction (CVR)
- Summer and Winter Load Management Programs (Commercial and Residential)
- Under Frequency Load Shed (UFLS)
- Under Voltage Load Shed (UVLS)
- Manual Load Shed
- Curtailing all non-essential load within Company facilities
- Appealing through the media that all customers voluntarily reduce load

Decision Making

CEHE Operations will use the decision making and activation processes established in the EOP for emergencies involving load shed. See *Section 3.2* for more information.

Concept of Operations

CVR: CVR is a reduction of power consumption resulting from a reduction of voltage. At the direction of ERCOT, CEHE System Controllers will regulate the output voltage of a power transformer by altering the number of turns in one winding.

Load Management Programs: The Load Management Program is an agreement between the Project Sponsor (a qualifying customer or its sponsoring energy services company) and CenterPoint Energy to curtail electric loads on notice. At the direction of ERCOT, CEHE will notify the Project Sponsors to fulfill their commitment.

UFLS: CEHE's UFLS program is intended to arrest severe frequency declines and to facilitate the operation of the ERCOT interconnection as a single island during severe under-frequency events. The UFLS scheme is an automatic program that when there is a system disturbance and the frequency drops to a pre-selected level, then selected loads are shed.

UVLS: CEHE's UVLS program is intended to arrest severe localized voltage declines. The UVLS scheme is an automatic program that when there is a system disturbance and the voltage drops to a pre-selected level for a pre-determined time, then selected loads are shed.

Manual Load Shed: Manual load shedding is the process of manually removing pre-selected loads from a power system to maintain system integrity.

During an ERCOT declared EEA Level 3, CEHE System Controllers shall manually shed load when directed by ERCOT consistent with timeframes established in the ERCOT Nodal Operating Guides, Section 4 Emergency Operations. CEHE has pre-defined Distribution feeders identified in advance based on various criteria.

CEHE System Controllers shall manually shed load if a condition warrants such action, including but not limited to safety, equipment damage, and regulatory or statutory requirements.

Priorities for restoring shed load to service:

When directed by ERCOT to shed load, or if an automatic program is activated, System Controllers shall only restore loads when given the approval to do so by ERCOT. System Controllers may rotate loads to limit the amount of time customers are affected based on the cause of the load shed event.

When an event occurs within the CEHE service territory in which a System Controller sheds load, it is the discretion of CEHE, in coordination with ERCOT, to restore this load.

Critical Load Customers

CEHE maintains a registry of critical load customers, which includes two lists: a list of critical load public safety customers, critical load industrial customers, and critical natural gas facilities and a list of chronic condition residential customers and critical care residential customers. The list of critical load public safety customers, critical load industrial customers, and critical natural gas facilities is managed by the Company's Distribution Accounts group, and the list for chronic condition residential customers and critical care residential customers is managed by the Company's Revenue Protection. The registry of critical load customers is an electronic database located in a secured area within the Company's corporate information technology architecture. The registry is updated as necessary but, at a minimum, annually.

The registry of critical load is updated as customers are approved through the application process. Approved Critical natural gas facilities are tracked for awareness during load shed and restoration planning. To ensure that the critical load registry is accurate, the Company's personnel interact with various local government and area representatives to review and validate the information.

The critical load registry is used to develop circuit prioritization. When a critical load customer is initially added to the registry, the Company circuit serving that critical load is included in that critical load customer's record. Within the critical load registry, reports can be extracted by circuit, and this information is then utilized in an annual circuit prioritization process. In addition, both the Company's Outage Management System and the Geographic Information System depict critical load accounts. The Company assists critical load customers by restoring power after an unplanned outage in a systematic way that takes critical loads into account.

Critical Load, Critical Care Residential and Chronic Condition Residential customers are notified when they are approved to be in the Registry of Critical Load Customers. Critical Care Residential and Chronic Condition Residential customers receive notification by mail reminding them to reapply for inclusion in the Registry of Critical Load Customers. Since a load shed event is an emergency order from ERCOT based on a shortfall of electricity being generated, electric utilities, including CEHE, must comply with this orders within short, specific periods of time and do not have the information to be able to notify individual customers if they may lose power, when they may lose power or how long the load shed event may last. However, we will work to keep our customers informed about the situation through local media outlets, social media, and direct communications.

Customer Service conducts formal training on aspects of serving Critical Load Customers for all Customer Service Representatives. Operations and Engineering personnel are trained to refer customers inquiring about acquiring Critical Load, Critical Care Residential, or Chronic Condition Residential customer status to their Retail Electric Provider and the electric portion of the CNP website.

Annex C

Pandemic and Epidemic

Pandemic and Epidemic

Purpose

CNP, like many other businesses and governmental entities, has developed business continuity plans in response to uncontrollable events and natural disasters. One area of increasing concern has been the possible need to conduct operations over a number of weeks or months with a substantially reduced workforce and without the ability to call or rely on outside contractor assistance. This more recent requirement has been based on the realization that a world-wide infectious disease or a pandemic could strike unexpectedly.

CNP, drawing upon governmental and scientific sources, as well as its own experience in responding to natural disasters affecting its service area, has developed detailed plans in preparation of a possible pandemic. The response activities can apply to other similar catastrophes that might cause large scale workforce absenteeism.

Scope

This Pandemic Preparedness Annex addresses CEHE's actions to prepare for, respond to, and recover from a pandemic/outbreak event. This annex may be applied and adapted for any disease that is declared a public health emergency or a pandemic. Due to the significant differences between diseases, this annex is designed to broadly describe the prevention, response, and recovery actions that apply to any disease and address considerations for crisis action plans.

Decision Making

CEHE Operations will use the decision making and activation processes established in the EOP for Pandemics. See *Section 3.2* for more information.

Concept of Operations

CEHE has three main objectives for the Pandemic Preparedness Annex:

1. **Educate** employees on how to be personally prepared for a potential infectious epidemic. Employees should understand their roles and responsibilities in support of the company's response activities and continue to have the opportunity to work in a safe and healthy environment.
2. **Respond** in an appropriate manner to any such threat and attempt to limit the spread of infection, thereby protecting our workforce as much as possible. The annex will identify critical corporate and infrastructure energy delivery functions and devise methodologies for continuing such tasks without undue interruption.
3. **Maintain** essential services to the community and protect the enterprise and safety of our customers through coordinated efforts with various governmental authorities represented in our area and business footprint.

Key elements

Since we live and work in a highly mobile and global economy, an outbreak of a pandemic infectious disease may provide little lead time before operations are affected. CEHE will continue to encourage education of its employees, customers, and other business partners as to how they can prepare for such an epidemic.

Employees

A high priority will be to protect our workforce from the threat of illness by:

- Emphasizing a clean and healthy working environment,
- Coordinating our activities with federal, state and local public health authorities to assist in making available vaccinations and other medications to our employees, and
- Stressing the need for the sick or those potentially exposed/impacted to remain away from the workplace.

An important deterrent against the spread of infectious disease is the isolation of personnel where practical and the use of temporary “physical distancing”. Families should stockpile necessary provisions to be self-sufficient within their homes. However, during a pandemic event some sheltering in place may be required for a lengthy period of time, perhaps weeks, since travel and daily shopping may be limited. In addition, schools and day care will likely be closed during community outbreaks, placing an additional need for food, water and other essentials within the home. While ensuring that families are reasonably secure and protected, CEHE employees will also need to focus on supporting the business services upon which our communities heavily rely.

Management

Each manager and supervisor should develop and maintain business process alternatives and business continuity plans with the expectation that a significant portion of their staff may be unavailable or away from usual work locations. For this to be an effective and sustainable plan during an actual infectious outbreak, it will be essential to retain the active participation of all available employees and contract personnel regardless of their normal job duties or work locations.

Crises Management Committee (CMC) Notification

If an incident shows potential for escalation to a pandemic, the CMC will be notified via the notification process outlined in the CRP.

Critical company functions

Unlike the disasters contemplated by some of the company’s other business continuity plans, a pandemic typically does not significantly damage or destroy company facilities or directly affect service to customers. Well into the outbreak, it is expected that our electric utility facilities and gas utility facilities will be operating normally. Should such a disaster affect our service territories, it is not about the equipment itself, but rather the skilled workers that operate that equipment and the multitude of support personnel that assist in delivering CEHE’s services.

Further, it will not only be important to maintain service to critical institutions such as hospitals, fire and police stations and government health organizations, but to our customers in general

who may have increased needs of critical infrastructure entities. CEHE's Pandemic Preparedness Plan Team, in conjunction with others within our organization, is charged with maintaining a current list of important company functions and ensuring that detailed response plans are in place to continue operations with a reduced workforce. The following work type levels are utilized by this annex to describe those important business, service, and support activities.

Level 1– Business activities that must continue uninterrupted, even in the face of significant workforce absenteeism, in order to maintain appropriate service delivery levels, public safety and corporate financial integrity. Work activities that fall into this critical category may have to be modified so that any absenteeism experienced will not:

- cause disruptions to service according to current emergency plan restoration priorities; or
- impact functions that maintain safety.

Level 2– Business activities that could be delayed for as much as a week without serious business or service consequences. This delay should not:

- jeopardize the supply chain and inventory levels,
- seriously impact company infrastructure, including:
    - voice, data, and information systems
    - inter-company billings
    - transportation systems
    - payroll processing
- place the company in a serious adverse position relative to contracts, laws, or regulations or
- materially impact the financial stability and/or cash flow of the company.

Level 3– Non-critical business functions that could be delayed indefinitely and rescheduled based on available workforce. Personnel associated with activities in this category could be redeployed as needed to perform Level 1 or Level 2 type work.

Strategies

The strategies outlined below are generally based on a pandemic threat like those monitored by the World Health Organization (WHO). WHO uses phased alerts to inform world health authorities and governments of the changing status of influenza pandemic threats as well as other health-related public threats.

Interpandemic Period
Phase 1: No new virus subtypes have been detected in humans. A virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered low.

Phase 2: No new virus subtypes have been detected in humans. However, a circulating animal virus subtype poses a substantial risk of human disease.

Pandemic Alert Period
Phase 3: Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact.

Phase 4: Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans.

Phase 5: Larger cluster(s) but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans but may not yet be fully transmissible (substantial pandemic risk).

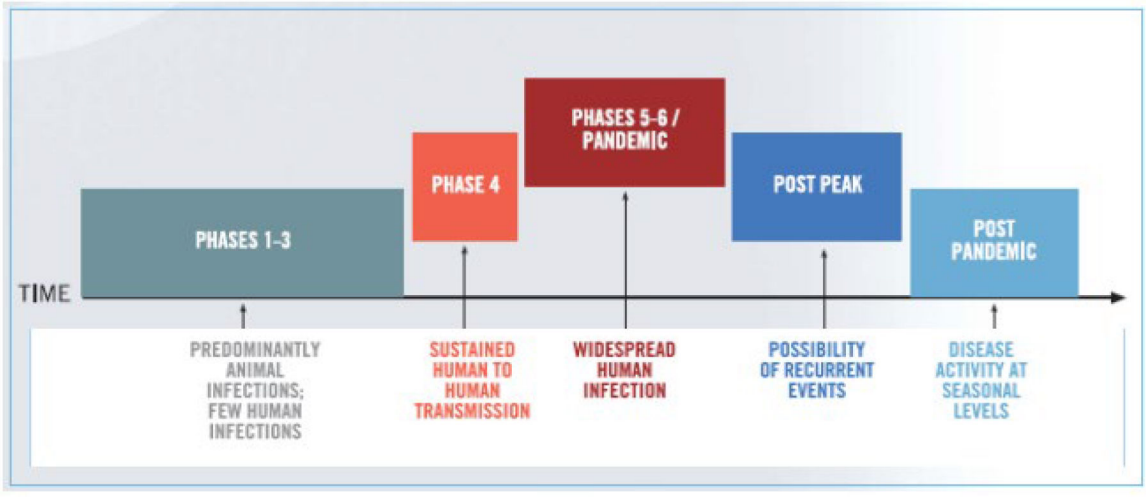
Pandemic Period

Phase 6: Pandemic: New virus is spreading rapidly within human populations around a significant portion of the globe causing serious health concerns. It is worth noting that a pandemic may affect multiple countries, as well as the population within a country, to varying degrees during any of these alert phases as the infectious disease spreads.

Recovery Period

Once the pandemic wave has passed, CEHE will begin recovery of its workforce and develop schedules for completing work that may have been temporarily delayed. The possibility for additional infectious waves must also be considered; therefore, recovery activities should be prioritized as to importance.

Generally, an important activity during the Interpandemic period is the review of key areas, functions and personnel that are vital to a sustained delivery infrastructure and corporate financial integrity. During Pandemic Alert period, CEHE will be focused on employee education, departmental contingency planning, workplace health and safety, and response activity practice. Beginning with the Pandemic Period, CEHE may need to limit employee business travel and discourage other nonessential outside travel. The timing of these and other response activities will be based on information from various authoritative sources such as the Centers for Disease Control (CDC), as well as management's assessment of the nature of specific pandemic threats.



Communication

Accurate, timely and objective communication with all CEHE stakeholders has been identified as a key element to the effectiveness of the Pandemic Preparedness Annex.

Coordination with employees at all levels of the organization, as well as contractors, suppliers, customers, regulatory agencies, news media and the public may prove critical to the level of success we have as a company and community leaders in quickly responding to a pandemic should it occur. Described below is an outline of some of the communication strategies that will be employed in our preparedness efforts.

Communication plan

- Maintain effective communications with all stakeholders
- Coordinate activities with federal, state and local authorities
- Sustain a knowledgeable and confident workforce
- Respond appropriately as threats materialize to protect and reassure our employees

Employees

CEHE's employees are our most valuable assets. The company will endeavor to maintain a healthy and safe work environment and emphasizes the vital role and responsibility of the employee in CEHE's response activities should a highly infectious disease affect our service territory. This requires an understanding of the issues by all involved, communication of our Pandemic Preparedness Annex, discussion with the employees about their roles and responsibilities and practicing response activities as appropriate for each work group to sustain confidence in the effectiveness of the plan.

Therefore, several types of employee communication will be used as appropriate to the audience and situation.

Individual preparation

- Brief email messages about the issues and their national and local importance.
- Listings of useful web sites for self-exploration and education.
- Web access to the Pandemic Preparedness Annex.
- Executive updates at employee meetings and/or through electronic messages to provide current information and respond to questions.
- Emails and posters encouraging seasonal flu vaccination and vaccination to address new viruses for all family members, personal hygiene and social etiquette.
- Education and preparation storyboards for computer-based employee education.
- Special reports and voice mail broadcast messages as necessary.

Departmental Preparation

- Presentation planning material for staff and safety meetings.
- Custom communication for first responder personnel as needed.
- Instructional material for telecommuting and teleconferencing from home.
- Website and Pandemic Hotline with current information and work instructions.

Other stakeholders

CEHE will continue to coordinate its pandemic preparedness plans with its outside stakeholders, including suppliers, contractors, federal, state and local governments and emergency management offices, and regulatory agencies, to clarify roles and responsibilities, verify current contact information and assess and revise response strategies and activities as appropriate.

Educational Resources

This annex is based on a foundation of employee knowledge and understanding of the issues, as well as their dedication and support in executing response activities both at home and work. In that regard, employees should occasionally check for and familiarize themselves with current information on CEHE's intranet website.

The following additional websites also provide excellent background information on pandemics, personal and family preparation and current news articles:

- Centers for Disease Control http://www.cdc.gov/
- World Health Organization http://www.who.int/topics/influenza/en/
- University of Minnesota's Center for Infectious Disease http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/index.html
- American Red Cross www.redcross.org/news/ds/panflu

Annex D

Wildfire

Wildfire

Purpose

The purpose of the Wildfire Annex is to provide actions and strategies to support CEHE's response toward wildfires.

Scope

The scope of this Annex covers actions and strategies to prepare for, mitigate against, respond to, and recover from wildfire incidents directly or potentially impacting CEHE. This Annex depicts CEHE's coordination and communication to support an organized and comprehensive approach to managing wildfires. This Annex will also reference the enterprise Public Safety Power Shutoff (PSPS) procedures.

Decision Making

CEHE Operations will use the decision making and activation processes outlined in Figure 1 for Wildfire emergencies. The Incident Commander (IC) or highest ranking CEHE officer has the authority to initiate a PSPS.

Concept of Operations

Mitigation

Vegetation Management and Equipment inspections

CEHE performs periodic maintenance, including clearing trees and other vegetation and removing dried limbs and other vegetation management debris away from the conductors and equipment on its approximately 1,600 circuits. Proactive vegetation management takes place on a cyclical basis. For 35kV voltage and some selected 12kV circuits, vegetation management is performed about every three years, while the remaining 12kV circuits are trimmed on an approximate five-year basis. Unplanned tree clearing maintenance may be performed at other times based on locations identified by area operations personnel or as reported by customers.

Additionally, a proactive hazard tree inspection program is performed along the main feeder portions of circuits in areas with tree species that traditionally experience higher mortality rates. Other circuit feeders may be included during times of drought or infestations.

Periodic transmission circuit and Right-of-Way (ROW) tree clearing maintenance is performed on a five-year cycle basis with the facilities' inspections performed the quarter following the vegetation work. CEHE also performs an annual inspection of the whole transmission system to identify hazardous trees or other vegetation issues that need immediate attention.

When weather conditions indicate elevated drought conditions and High Fire Danger Risk as defined by the Texas A&M Forest Service, additional enhanced inspections may be performed in selected areas as warranted by conditions or situations conducive to increased tree mortality or risk exposure. These inspections include the evaluation of vegetation growth within and adjacent to transmission and distribution ROWs and equipment condition inspections.

Additionally, when advance notice of hazardous fire conditions is issued by the local Fire Marshal and the condition could involve transmission ROWs and facilities, mowers are dispatched to reduce brush within the ROWs. In addition, herbicide contractors apply fire

retardants to the base of the company's towers and structures to mitigate or reduce potential fire damage.

Disabling of Automatic Reclosing

When weather conditions indicate extreme drought conditions and Very High Fire Danger Risk as defined by Texas A&M Forest Service along with Red Flag warnings issued by the National Weather Service, work tags are issued for all affected circuits located within the area rated with a Very High Fire Danger rating. These work tags result in disabling of automatic reclosers to limit repeat operations of a distribution feeder and reducing the likelihood of a power line fault as source of fire ignition. Once red flag conditions expire, work tags are removed and automatic reclosing is enabled. Table 1 provides an action item checklist.

Public Safety Power Shutoff

To help mitigate the risk of wildfire ignition by company-owned assets, CEHE has developed a Public Safety Power Shutoff (PSPS) program. The objective of the PSPS program is to keep communities safe during wildfire-related weather conditions by proactively de-energizing CEHE facilities in areas that meet certain thresholds. PSPS threshold conditions are defined by several metrics, including, but not limited to: Wind Speed; Relative Humidity; Fuel Models; and asset data.

PSPS must be considered if the following conditions are met:

- A Red Flag warning declared by the National Weather Service.
- Relative humidity levels below 30%.
- Forecasted sustained winds above 19 mph and wind gusts in excess of 45 mph, depending on location and site-specific conditions, such as temperature, terrain and local climate.
- U. S. Drought Monitor status above (D2) Severe Drought.
- Wildland Fire Potential Index (WFPI) above 80.

PSPS may be considered even if not all of the above conditions are met.

The checklists in Table 1 and Table 2 outline the steps taken toward a PSPS initiation.

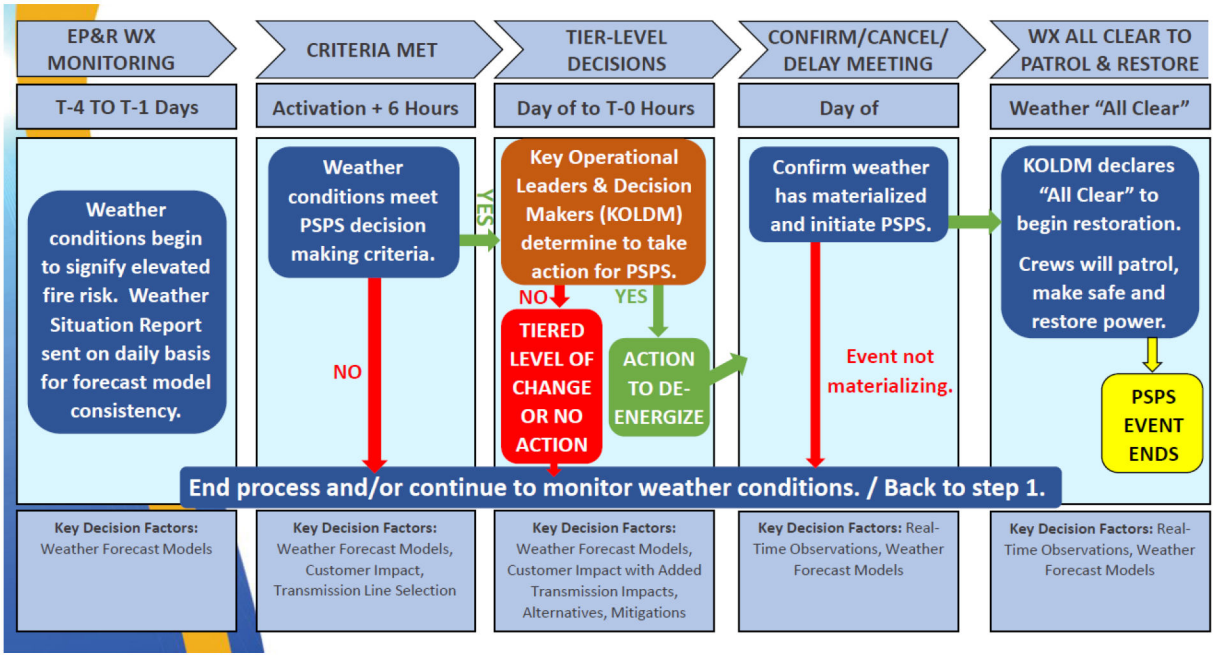
Monitoring and Response

EP&R is responsible for monitoring for wildfire activity and notifying CEHE leadership when conditions begin to signify an elevated fire risk.

Once weather conditions meet an elevated fire risk, EP&R will begin sending situational awareness information via the Weather Monitoring Report to CEHE and CNP leadership.

This approach enables leadership to evaluate and determine the type of response needed. The response is scalable from the mitigation actions outlined above to a PSPS. Below is the decision-making matrix for a PSPS.

Figure 1. PSPS Activation Decision Tree



Coordination

Before, during and after a PSPS event, internal and external stakeholders will be engaged to allow for coordination, communication and notifications, as appropriate.

Communications Objective

The objective of PSPS is to help keep customers safe by temporarily shutting off power in identified high-risk service areas during dangerous weather conditions and to prevent CEHE's electric system from becoming a potential source of ignition.

The primary objectives of this communications plan are: 1) collect information about the event and the progress being made to return the situation to normal conditions; and 2) communicate this information in a timely and accurate manner to customers, employees, management, governmental officials, and other key stakeholders through several tools and channels.

Messaging of campaign

- Primary Messaging – Public Safety Power Shutoff is a tool to help protect our communities during high wildfire risk conditions.
- Secondary Messaging – Weather and other factors influence PSPS decisions and may change where and for how long customers are affected. CEHE provides tools and resources for insight into the factors that could trigger a PSPS event, as well as for learning about what the company is doing to prevent wildfires.

Stakeholders

- Customers (residential, business, industry) (note that due to the competitive market construct in Texas, CEHE does not necessarily have complete or updated customer contact information for all impacted customers (*i.e.*, if the Retail Electric Providers do not provide that information to CEHE and the customers have not signed up for Power Alert Service); CEHE will communicate to customers using the information it has at the time)
- Retail Electric Providers
- First responders (police, fire, etc.)
- Regulators
- Government Officials
- Investors/Board of Directors
- Employees
- Media
- Community Advocates (NGOs, Environmental, etc.)

CEHE Wildfire Communications

CEHE's wildfire communications plan is driven by a set of strategies and tactics that engage and inform stakeholders before, during and after a wildfire. This is consistent with CEHE's longstanding approach to its severe weather and hurricane-related communications.

The foundation of CEHE's advance planning is ongoing communications via traditional and social media and the company's website, as well as the tools and channels used to engage and inform the company's nearly 9,000 employees. Communication themes would include preventing the development of wildfires; being aware of the status of wildfires and wildfire risks in various area; the importance of heeding to the advice of emergency officials regarding wildfire risks; preparing an emergency plan and kit in the event of a wildfire; emphasizing the importance of a plan for customers who may have life-threatening medical conditions and difficulties in evacuating; and signing up for emergency notification systems and alerts. Importantly, this phase of ongoing communications would also include information and engagement to stakeholders about PSPS (e.g., what it is, why is it used, etc.)

During a wildfire event and a potential evacuation, CEHE will turn its focus to proactive communications and outreach to stakeholders about the situation and its impact on customer safety, operations, support for first responders and emergency personnel, the effects on customers' service, and support for community relief and recovery. In addition to the tools and channels highlighted above, the company will leverage more sources and resources to inform and engage the public, including a cadence of scheduled news conferences, participating in media briefings with elected officials, regulators and first responders, and utilizing customer outreach channels such as Power Alert Service, outbound phone campaigns and emails, each as appropriate to the particular situation. CEHE communicators would also be positioned in all appropriate offices of emergency management and response command centers to coordinate communications and messaging. In the event that CEHE implements PSPS, CEHE will provide communications about that, as well (e.g., what it is, why it used, areas impacted, expected duration, etc.).

After the fire has been safely contained, CEHE would focus on continuing support for first responders and emergency personnel, while increasing the amount and frequency of communications to stakeholders related to restoring electric operations back to normal as safely

as possible. During this phase, CEHE would continue many of the communication and outreach efforts above, including media briefings with elected officials, regulators and first responders. At the same time, CEHE would utilize additional strategies, such as deploying its community outreach and engagement vehicle into impacted communities to address questions and concerns, as well as supporting recovery efforts with employee volunteers and donated supplies.

Customer Service

Communicate with our customer service teams the communications timeline so we can be prepared for potential increase in call volume and/or social responses and have a common message across all fronts.

- Utilize IVR messaging to communicate key messages and be able to answer questions before getting through to an agent.
- Create an internal education program for all agents to make sure they are aware of key messages.
- Pre-approved social care messages or Save replies for our social care team to use as a base message to work from. This helping ensures what they say will align with our other communications.

Restoration

When PSPS conditions have passed, the IC will give approval to begin patrolling affected infrastructure. Re-energization timelines and plans are then formulated based on patrol findings. The PSPS program considers risk of all overhead electric assets in both Transmission and Distribution across the entire service territory, with primary focus on those that pass through high-fire risk areas.

Tiered Level of Action / PSPS Activation

The following checklists are for a tiered approach leading up to a Public Safety Power Shutoff (PSPS), if necessary related to wildfire dangers.

Table 1. PSPS Tiered Action Checklist

	Operations	Task	Assigned to	Date Completed
Enter Drought / High Fire Danger Risk				
☐	Transmission / Distribution	Begin evaluating heightened/targeted vegetation management, increased maintenance and inspections.		
Extreme Drought / Red Flag				
☐	Distribution	Issue work tags for all affected circuits in area based on substation		
☐	Distribution	Bypass all hydraulic reclosers		
☐	Transmission	Heightened/targeted inspections		
☐	Transmission / Distribution	Analyze potential switching scenarios		
Activate Public Safety Power Shutoff (PSPS)				
☐	Transmission / Distribution	Review additional criteria to determine heightened risk factors and proactively de-energize, based on leadership decision.		

Active Fire Situation Actions

Table 2. Active Fire Situation Action Checklist

	Operations	Task	Assigned to	Date Completed
Reported Fire				
☐	Transmission / Distribution	Dispatch crews to affected areas		
Verified Fire				
☐	Transmission / Distribution	Coordinate response with Regulatory and Government Relations		
☐	Transmission / Distribution	Crews remain onsite to coordinate emergency responders' requests with appropriate control group		
☐	Transmission / Distribution	Control group determines risk to public/equipment is great enough or close enough to warrant de-energizing		
☐	Transmission / Distribution	Equipment showing signs of being affected by active fire (operations)		
☐	Transmission / Distribution	Develop switching plans for affected lines		
Activate PSPS				
☐	Transmission / Distribution	De-energize based on onsite command personnel		
☐	Transmission / Distribution	Execute switching plans for affected areas		

Recovery Operations

CEHE is committed to timely, well-coordinated restoration and recovery activities; and while each incident has unique facts and circumstances, CEHE's post-incident restoration approach empowers teams to rebuild and recover from a disaster safely, efficiently, effectively, and consistently. Community support and rebuild activities will be determined based on CEHE's analysis of the wildfire impact.

Table 3. Restoration Checklist

	Operations	Task	Assigned to	Date Completed
No Fire, No PSPS, Circuit Lock Out				
☐	Transmission / Distribution	Fully inspect line / circuit prior to re-energizing		
No Fire, PSPS activated proactively				
☐	Transmission / Distribution	Follow standard re-energization protocols		
☐	Transmission / Distribution	Inspect any line / circuit and their right of ways prior to re-energizing		
Active Fire, PSPS activated				
☐	Transmission / Distribution	Inspect affected equipment to determine if any repairs are necessary		
☐	Transmission / Distribution	Make repairs / clean identified equipment		
☐	Transmission / Distribution	Evaluate and address any vegetation removal needs		
☐	Transmission / Distribution	Re-energize		
☐	Transmission / Distribution	Evaluate / inspect similar areas based on cause of fire		

Annex E

Hurricane

Hurricane

Purpose

This annex provides a framework for the emergency activation for both a system-wide and partial system hurricane response. Hurricane events that may cause disruption to the area's electric service are varied and unpredictable as to severity and portion of the system affected.

To activate the plan, clear communication must be provided to all personnel involved in the planning, response and recovery phases supporting the restoration of electric service.

CEHE leadership, or authorized designees, shall follow the activation and response procedures for hurricanes based on the established emergency activation levels established in the EOP. See *Section 3.2* for more information.

Scope

This annex is for hurricane response and operations for CEHE.

Decision Making

CEHE Operations will use the decision making and activation processes established in the Emergency Operations Plan for Hurricane emergencies. See *Section 3.2* for more information.

Concept of Operations

Pre-Storm Preparation

Hurricane Drill

To promote familiarity with the Plan, a general hurricane drill exercise takes place annually. When possible, this exercise coincides with the State Hurricane exercises to provide increased realism.

EOP Storm Roster

The Employee Storm Roster (ESR) is a web-based application that has been developed in house in SAP to help:

- Manage emergency assignments for Company personnel
- Manage and track mutual assistance and contract personnel
- Manage lodging facilities required during a storm event

A process is in place to manage the assignment of personnel as employees are hired, transferred or leave the Company. Employees are encouraged to log into ESR at any time to update and review their emergency-related information as needed. Employees can access ESR by clicking on the "Employee Storm Roster" button on the Company's internal website.

Hurricane Vacation Policy

During Hurricane Season (June 1st through November 30th), when a Level 1 Emergency event is declared, no vacation requests will be approved for Operations staff in CEHE and Houston Gas who serve in Storm Rider and First Responder roles, including critical support functions.

Furthermore, vacations already scheduled during the restoration period may be cancelled by management, and no new vacation requests will be authorized.

If a non-operations employee has a planned vacation, but an emergency event is declared prior to the start of that vacation, the employee is expected to talk to his or her emergency leader and direct supervisor. The emergency leader and the employee's direct supervisor have the discretion to allow the employee to take the vacation as planned or deny the time off based on the criticality of his or her emergency role.

If an employee is already on vacation and out of town at the time the Company declares a Level 1 Emergency event, the employee is not expected to immediately return to fill his/her emergency role. Upon returning from vacation the employee is expected to immediately report for emergency duty in the designated role. If the vacationing employee is in town, he or she is expected to return to work immediately to fulfill his or her emergency assignment, and any unused vacation may be rescheduled after the Company returns to normal operations.

If the employee is denied the time away from work and suffers financial loss directly associated with the vacation, such as airline tickets, hotel/condo rental, tour or cruise expenses, he or she shall submit a request for reimbursement to the Company's designated Human Resource Manager, within 10 days after being relieved of emergency duties. The request will be reviewed by management and a decision made within 30 days after the final day of the emergency event.

Employee Responsibilities

If the Company has an emergency activation because of a threat to the continuation of electric service to our customers, employees may be called upon to change job assignments prior to and/or during service restoration. There will be a plan for employees to be released for final emergency preparation prior to an emergency event and lodging planned for "First Responders" with established criteria will be communicated by local management.

Business continuity during an emergency is critical. All employees, whether in their normal job or an emergency assignment, are essential to successful service restoration. The Company values the role each employee plays in serving the needs of our community. Employees are expected to:

- Understand their roles and responsibilities.
- Understand that the primary reporting relationship during the emergency is to the assigned emergency chain of command. Daily assignments during the emergency will be determined by the emergency leader and employees may be asked to take on different assignments as needs change during the service restoration process.
- Participate in the annual emergency exercise, training, and other planning activities as required.
- Make the necessary personal pre-storm preparations to be ready and available to perform the emergency assignment.
- Establish storm plans with their families in advance to ensure employees are prepared to report as directed and to fully execute their assignments during the emergency.
- Maintain a hard copy of important phone numbers, including emergency operations contacts, immediate supervisor, CNP Storm Mailbox (which provides general information during the emergency) and the HR Hotline (which provides employee assistance).

- Be aware that employees in “Day 1” assignments will not be allowed to leave the greater Houston area once an emergency response is activated for a hurricane (72 hours or less until storm landfall).
- Make their management aware of any special needs that may impact their ability to report to duty for the emergency assignments, in advance of the emergency activation.
- Understand that employees are ultimately responsible for their own personal safety and that of their families and take appropriate actions to ensure a safe and timely execution of their roles and responsibilities in the emergency.
- Maintain current contact information in Employee Service Roster (ESR) and ensure their emergency leader and immediate supervisor have the most current information.
- Notify immediate supervisor and emergency leader throughout the year and during emergency assignment, if necessary, of any change in personal needs or responsibilities that may affect their ability to fulfill their emergency assignment. Examples could include: change in residence, phone numbers, or fitness for duty.
- Establish and maintain contact with immediate supervisor and emergency leader in the event of an emergency activation and throughout the active period.
- Recognize emergency assignments will require working extended hours with shifts ranging from 10 to 16 hours per day, seven days a week. Some assignments require long periods of exposure to all weather conditions, walking several miles a day, standing for hours, or taking vehicles off road.
- Recognize that failure to report to duty as scheduled or failure to fully execute the emergency assignment may subject employees to disciplinary action, up to and including termination of employment.

INITIAL STORM ACTIVATION

Basis of activation

The Company will use the activation process established in the Emergency Operations Plan for hurricane response. See *Section 3.2* for more information.

Regardless of the Emergency level declared, employees must be prepared to respond. Employees should connect with their supervisor and know their emergency role if any level of an emergency is activated. If necessary and called upon, management will release their employees from their normal responsibilities to assist in the emergency response. Since emergency events can change quickly, employees should be prepared to escalate response when necessary. Employees will be contacted by their emergency leader and provided with instructions on where to report. For those who do not currently have a role, the Incident Command team will make assignments after determining where assistance is most needed.

Evacuation and Re-Entry Procedures

In the event of a storm, the Galveston, South Houston, and Baytown Service Centers evacuate in conjunction with activation of the evacuation plans of Harris and Galveston Counties. The Galveston Service Center evacuates to the South Houston Service Center, and the Baytown Service Center evacuates to the Humble Service Center. All CNP personnel that live in evacuation zones and that also have Day 1 or Day 2 emergency assignments will be offered lodging by the Company, so that they can be readily available for duty immediately after a storm. The Company has worked with local emergency officials and the State of Texas Phased

Re-entry Plan to obtain written permissions and to facilitate/expedite the movement of restoration resources into evacuated areas for the purpose of restoring power.

Toll Road Procedures

A key route utilized to access portions of the Company's service area is the Harris County Toll Road system. The following procedures have been put in place to address usage:

The Security Branch Director will contact the Harris County Toll Road Authority (HCTRA) to obtain approval from Harris County Commissioners Court for a specific start and end time that restoration vehicles can utilize the toll roads "toll" free. Providing license plate information is imperative to this process.

In the event of a storm:

- Fleet will send a list of the license plate information for any rental vehicles to Corporate Security as soon as possible.
- Fleet will send a list of the license plate information for Houston-area fleet vehicles and trailers.
- Service Area Managers will provide a list of the license plate information for any emergency responders needing access to the toll roads and submit it to the Security Branch.
- Check-in Support at the staging sites will gather CNP personnel license plate information and submit it to Corporate Security.
- During check-in of mutual assistance crews at staging sites:
- Check-in Support will verify any license plate information provided on the rosters and attach CNP decals near the back license plate (such as on the bumper below license plate or on the tailgate above license plate) on each non-CNP vehicle.
- If license plate information is not provided, Check-in Support will record license plate numbers and the state issued for mutual assistance vehicles and trailers.
- Site administrators will send these lists to the Security Branch via fax or email.
- The Security branch will send the license plate information to HCTRA for entry into their system to automate the "No Fine" process.
- Any violation notices issued during the time frame approved by Commissioner's Court should be sent to Corporate Security via fax or email within five days of the invoice date stated on the notice. Corporate Security will then send the notice to HCTRA for dismissal.

Activation Phase Descriptions

The following table describes points for which CEHE has designated specific storm preparation activity. This table describes the parameters required to determine when each of these points has been or will be achieved. These phases are based on When StormGeo identifies a location as "Positive" for a hurricane risk. A notification of this risk will be made by adding a notice atop the TropicsWatch web page and communicating through the monitoring and alert processes established in the EOP.

Phase	Description
1 - Hurricane risk indicator is positive	**Weather Monitoring Report distributed by EP&R**
2 - The worst case scenario for 39 mph winds reaching this location is < 120 hours and the probability of 58 mph winds impacting this location is > 8%	**Communication to employees** The Public Information Officer (PIO) sends out company-wide communications to employees to tell them to prepare home and family for a storm, know their emergency assignment, etc. The PIO also keeps employees clearly informed of developing storm conditions. **Functional managers verify and report emergency readiness** Make an early ID of shortfalls and take corrective actions as necessary (roster, supplies, personnel, facilities, ice machines, telecommunications, generators, etc.). **Branch director's leaders initiate communication with emergency-assigned employees** Keep emergency assigned employees clearly informed of developing storm conditions and notify them to begin preparations for manning their emergency assignments. Confirm information for emergency team members.
3 - The worst case scenario for 39 mph winds reaching this location is < 96 hours and the probability of 58 mph winds impacting this location is > 15%	**EP&R implements storm updates using email and text messaging systems** EP&R commences tracking of storm and periodically communicates position of storm to CNP personnel using the email and text messaging systems. The purpose of this action is to keep CNP personnel updated on direction/intensity of storm.
4 - The worst case scenario for 39 mph winds reaching this location is < 72 hours and the probability of 58 mph winds impacting this location is > 20%	**Emergency Level is determined, if applicable.** **The Resource Acquisition group contacts Regional Mutual Assistance Groups (RMAG's) as needed to set up mutual assistance conference calls.** CEHE is a member of the S.E.E., the Midwest, and the Texas RMAG's. Contact these groups as needed to initiate Mutual Assistance Conference Calls. **Logistics alerts staging site owners** Staging site managers make preliminary contact with the staging site owners to notify them of our possible intent to activate our contracts with them.

Phase	Description
	Logistics section makes lodging arrangements This action is taken in preparation to accommodate CEHE personnel that are storm riders and first responders that must evacuate according to the Harris County Office of Emergency Management. These activities continue as more zip codes are evacuated. The Lead Hotel Coordinator should book hotel space based as CNP head count determined. **PIO activates the Joint Information Center (JIC)/activate storm hotline** **Finance submits a request for cash to Treasury** **Logistics section secures food beginning 48 hours after the landfall** Operations section secures enough food to feed personnel at all emergency operating sites until the caterers have had a chance to arrive and set up. **Operations evacuates service centers in storm surge areas** Operations will conduct Galveston, South Houston, and Baytown Service Center evacuations in conjunction with evacuation plans for Harris and Galveston counties. Baytown Service Center will evacuate to Humble Service Center. Galveston Service Center will evacuate to South Houston Service Center. **Logistics tops off CNP fuel tanks and secure additional fuel and fuel tanks** Logistics coordinates fuel deliveries to top off underground fuel storage tanks and facility backup generator fuel tanks. They also secure temporary fuel tanks and fuel products for service centers, offsite parking and staging sites. **Communications Unit executes cell relay/DCE extensions to maximum days** **JIC sends communications to Texas market regarding possibility of interruptions regarding meter data** **Operations assesses the operability of production IG devices** **Communications Unit considers securing satellite telephone rentals**

Phase	Description
	Communications Unit will evaluate the need of rental satellite telephones for the staging site supervisors. **Communications Unit considers securing portable voice radio rentals** Communications Unit will evaluate the need for rental of portable voice radios to supplement CNP's normal inventory.
5 - The worst case scenario for 39 mph winds reaching this location is < 66 hours and the probability of 58 mph winds impacting this location is > 25%	**EP&R established Briefing call cadence and initiates calls. These calls will continue through the remainder of the phases.** **Logistics alerts material and logistics suppliers** The Logistics sections provide these suppliers with advance notice to begin making their preparations to supply CEHE with storm restoration materials. They alert suppliers of the coming need for tents, trash, cars, food, laundry, etc. They also alert materials suppliers for poles, transformers, wire, insulators, hardware etc. **Logistics begins relocation of storm stock** The Logistics section delivers the remaining emergency material and bedding to service centers in advance of evacuations. **Logistics analyzes emergency inventory levels** In preparation for the Special Material Release presentation to the section chiefs, the Logistics section will prepare to make preliminary recommendation for purchase quantities based on current inventory levels and storm strength projections. Logistics will continually monitor and evaluate material requirement needs for the Special Material Release as the storm approaches in preparation for the final Special Material Release recommendation at 6 hours prior to landfall. **Resource Acquisition participates in the RMAG Conference Call** The Resource Acquisition group participates in a conference call for each RMAG that calls were set up with. The purpose of these calls is to determine the number of first wave line and tree trimming resources that are available from these RMAG's. Mutual Assistance utilities can provide line crews, damage assessors, material handlers, and staging site management teams, along with various other personnel.

Phase	Description
6 - The worst case scenario for 39 mph winds reaching this location is < 60 hours and the probability of 58 mph winds impacting this location is > 25%	**Conduct operations conference call** Branch directors, SADs, and service center operations conduct conference call to determine preparation progress. **Section chiefs assess special material release** Purchasing presents results of assessment to section chiefs and recommends Special Material Release quantities, values, and timing. **Section chiefs assess preparation** Section chiefs update command staff on preparation progress.
7 - The worst case scenario for 39 mph winds reaching this location is < 54 hours and the probability of 58 mph winds impacting this location is > 25%	**Activate the Emergency Operations Center (EOC)** Prior to activation CNP performs the following on a routine basis: • Ensure all systems and equipment at the EOC are functioning properly • Obtain supplies as needed; set up rooms as planned • Set up computers, telephones, Satellite TV access • Test communications • Ensure that the EOC phone number rings at that location. **The Public Information Officer issues employee communication regarding employee evacuation of storm surge area.** **Resource Acquisition group participates in RMAG Conference Call #2** The purpose of this call is to further refine the available resource numbers. **Test radio communications at EOCs and DOCs** Telecom visits each operations center and tests its radio for operational performance.
8 - The worst case scenario for 39 mph winds reaching this location is < 48 hours and the probability of 58 mph winds impacting this location is > 30%	**Logistics updates logistics and material suppliers** The Logistics section provides these suppliers with updated information to assist them in their preparations to supply CEHE storm requirements. **Logistics updates staging site owners**

Phase	Description
	Staging site managers make update calls to staging site owners. They verify the availability of facilities previously agreed upon. **Resource Unit pre-positions local tree and line contractors** The Resource Unit allocates all local contractor resources to the service centers in accordance with the plan, to enable contractors to provide immediate response for priority service work. **Fleet Services branch secures rental vehicles** The Fleet Services group within the Fleet Services branch secures rental vehicles to meet emergency storm needs. Based on severity of storm, Fleet will contact potential users of rental vehicles to determine pre-and post-storm needs and to make arrangements to obtain needed vehicles.
9 - The forecasted time of arrival for 39mph winds for this location is < 36 hours and the probability of 58 mph wind impacting this location is > 50%	**Conduct operations conference call** Distribution Operations branch managers, SADs, and service center operations conduct a conference call to determine progress of preparation. **Logistics section activates logistics (suppliers, caterers, etc.)** At the direction of Operations, the Logistics section engages logistics suppliers to execute CEHE emergency logistics needs. **Logistics prepares for employee refueling (if necessary)** The Fleet Services group within the Logistics section sets up employees for access to the automated fueling system. Distribute instructions and recording forms in case of fuel system by-pass and temporary fuel tanks. **The PIO communicates with employees regarding emergency show up time** **Operations activates staging sites as required** Operations begins activating staging sites. They continue to update staging site owners if we will use or not use their facility. **Section chiefs assess Special Material Release** Purchasing presents updated recommendations for the Special Material Release based on evolving storm and material availability data.

Phase	Description
10 - The forecasted time of arrival for 39 mph winds for this location is < 30 hours and the probability of 58 mph winds impacting this location is > 60%	Emergency Operations Center conducts briefing call Potential topics to cover: • actual or expected storm category • storm condition • emergency level • type of event • damage projection • time of impact • duration of event • emergency timeline status • plan for recovery • progress of preparedness • communications Operations sends select crews and staff home The Operations section releases crews to prepare their homes for storm. They rotate crews, sending half the first 4 hours and the second half the next 4 hours.
11 - The forecasted time of arrival of 39 mph winds for this location is < 24 hours and the probability of 58 mph winds impacting this location is > 60%	**Operations restricts Galveston and/or Baytown access** Once Harris and Galveston Counties have been evacuated and restrictions put in place by government entities, CEHE service area management representing the service areas in the perspective counties identifies and follows the process for re-entering restricted areas. **Resource Acquisition participates in the RMAG Resource Division Conference Call** The call will be necessary if more than one utility is impacted by the Storm event. The impacted utilities will divide the available resources based on the expected outage counts and amount of damage. Resource Acquisition initiates efforts to secure additional resources outside of S.E.E., Texas and Midwest RMAGs This effort should be initiated if additional resources are still required after exhausting the available resources of the three RMAG's we are members of. The Resource Acquisition group arranges additional conference calls with RMAG's that are more distant from our area but could still provide resources if necessary.

Phase	Description
12 - The forecasted time of arrival of 39 mph winds for this location is < 18 hours	**Operations suspends normal operations** The Operations section notifies day crews to start when safe, then begin work the next day, working from 5 am to 9 pm. **Operations puts night crews and critical operations personnel in place** Operations rolls trouble shooters and third-shift employees, with a support employee, to the night shift (5 pm to 9 am) to ride out the storm and continue to work that shift throughout the restoration. **Emergency Operations Center conducts briefing call**
13 - The forecasted time of arrival of 39 mph winds for this location is < 6 hours	**Section chiefs assess Special Material Release and approve placement of order** The Supply Chain group presents final recommendations for the Special Material Release based on evolving storm and material availability data. **Supply Chain notifies vendors of Special Material Release** The Supply Chain group places the Special Material Release approved by section chiefs.
14 - Sustained winds fall below 39 mph	**Operations branch directors conduct operations conference call** The Operations branch directors, SAD's, and service center operations conduct a conference call to determine the impact too their facility, equipment and ability to operate. They also report any initial damage assessment. Activate helicopters and Unmanned Aerial Vehicles (UAVs) The Operations Section Chief communicates with Transmission, Substations, and Distribution regarding the need for helicopters and the number needed by each group. Establish landing sites, number of passengers flying, and estimated duration (number of days/hours). Activated when wind is on our shore. **Resource Acquisition participates in RMAG Conference Call #3** Resource Acquisition updates the Resource Request from previous conference calls. They also determine assigned resources and request additional resources outside of S.E.E. if needed.

Phase	Description
	Update the employee storm hotline PIO updates information and instructions on the employee storm hotline. Resource Acquisition continues to maintain contact with responding resources and keep them updated as they travel to our territory. **Operations sets up staging sites** The Staging Site Managers within Operations report on the progress of staging site setup to the Operations Section Chief. Operations Section Chief will provide updates to other Section Chiefs as needed. **Security director activates security and traffic control** The director of Security, in the Logistics sections, works with local authorities to provide access for CEHE personnel conducting restoration activities to storm-damaged areas. The director also provides security and traffic control for service centers and staging sites. EOC conducts briefing call This is the first scheduled briefing update after landfall. The call may cover updated versions of the topics mentioned previously and should include goal and objective setting and issues. **Logistics** Based on the latest resource count, the Hotel Coordinator will begin contacting hotels and reserving rooms for incoming mutual assistance and contract crews. These activities will continue through the duration of the incident.

Operations Centers

CNP will use the Emergency Operations Center (EOC) and Department Operations Centers (DOCs) to coordinate the response and operations for a hurricane. See *Section 3.4* for more information.

Incident Command Structure

Based on the emergency level for the hurricane response, CEHE will use the incident command structures outlined in this EOP and the CNP Crisis Response Plan.

The EOC and DOCs will follow the activation processes established in the EOP.

Distribution Department Operations Center

The Director of Distribution Operations will be responsible for establishing a Distribution Department Operations Center (DOC) in the Greenspoint Service Center, 2nd Floor. The Operations Branch Director will staff and assign personnel as appropriate to the Distribution DOC to ensure:

- Accurate and comprehensive assessment and evaluation of system conditions
- Initiation of corrective measures
- Effective organization of restoration activities
- Efficient prioritization of all resources
- Written summaries regarding available information will be prepared and provided to the Incident Commander, command staff, and EOC in accordance with the ICS Planning Process.

To facilitate tracking system status and restoration progress, information will be maintained on a master system map in the Distribution Department Operations Center (DOC). Personnel to maintain this map will be provided according to the staffing list. Contingent on availability of the supporting systems, Situational Awareness will be used to track restoration progress and prioritization of restoration.

Official reports shall be available by approximately 9:00 am daily. This schedule allows for releasing the most accurate information. The status of restoration assessment and progress shall be communicated to the EOC via the scheduled periodic briefing calls. Staffing requirements will be based on 16-hour shifts with adjustments as deemed necessary by the Incident Commander. Access to the DOCs shall be limited to assigned duty employees, interface personnel, and appropriate Company officers.

Underground Department Operations Center

The Major Underground Director, or their designee, will be responsible for establishing a Department Operations Center (DOC) at the Harrisburg Service Center. The Major Underground Manager will staff and assign personnel as appropriate to the Harrisburg Service Center in order to assure accurate and comprehensive assessment and evaluation of system conditions, initiation of corrective measures, effective organization of restoration activities, and efficient prioritization of all resources. The Major Underground Department Operations Center (DOC) reports up through Operations Section Chief.

Transmission and Substation Department Operations Center

The Transmission / Substation Branch Director, or their designee, will be responsible for establishing the Transmission and Substation Department Operations Center (DOC) at EC/DC. Personnel will be assigned as necessary to ensure:

- Accurate and comprehensive assessment and evaluation of system conditions
- Initiation of corrective measures
- Effective organization of restoration activities
- Efficient prioritization of all resources

Status of restoration assessment and progress shall be communicated to Operations Section Chief per the update schedule as determined by the Incident Commander. Staffing

requirements will be based on 16-hour shifts as deemed appropriate by the Incident Commander and with adjustments as conditions warrant. Access to these evaluation centers shall be limited to assigned duty employees, interface personnel, and appropriate Company officers and staff.

Summary of Operations

Evacuation and Re-Entry Procedures for Facilities Located in Hurricane Evacuation Zones

While Brazoria, Fort Bend, Galveston, South Houston, Baytown, Harrisburg and Baytown are the facilities in Hurricane Evacuation Zones, our plan is to have all facilities with evacuation and re-entry procedures to follow.

Evacuation Procedures

Galveston:

- Evacuate all equipment – partner with logistics on best place to relocate
- Evacuate all fleet
- Evacuate all storm-rider personnel

South Houston, Baytown, Brazoria:

- Evacuate all fleet
- Evacuate all storm-rider personnel

Bellaire, Fort Bend, Sugar Land, Spring Branch, Harrisburg, Humble, Greenspoint, Cypress, Katy:

- Evacuate all storm-rider personnel
- ** Maintain very minimum staffing – possibly perform emergency switching immediately following storm. Will likely require union volunteers or management with previous line skill experience.
- Equipment remaining in yards should be secured.
- Consider relocating transformers and critical equipment inside of warehouse or on elevated dock area.
- Consider installation of anchors installed adjacent to pole racks to enable poles to be strapped down. Initial recommendation would be Galveston, Brazoria, Baytown, and South Houston.
- Fleet could be relocated to staging site locations, i.e. Pasadena Fairgrounds, Fort Bend Fairgrounds, Sam Houston Horse Track, etc.
- Remind employees that storm-riders will be relocated to evacuation sites. Due to space limitations, storm-riders should make prior arrangements for family members and have plans to safely evacuate their family members elsewhere.
- Discussing ability to utilize neighboring utilities staging sites as evacuation site for storm-rider employees and limited fleet.
- Look into mobilization of sleeping trailers for storm-riders.
- Catering can be arranged for these staging site/evacuation sites.
- Should utilize buses, if possible, to transport storm-riders to evacuation sites.

- Focus should be on employee evacuation and safety.
- Very small contingency of employees should remain, and focus should be on avoiding a system-wide blackout.
- May want to consider a handful of line skills to remain for emergency switching, immediately following the event. Would likely have to consider union volunteers or possibly management with line skill experience.
- Send out EOP preparation checklist to Dist. Ops. Leadership

Re-Entry Procedures

All Locations:

In the State of Texas, municipal and county chief elected officials (mayors and county judges) are responsible for deciding the specifics of the reentry process. As a result, reentry processes may differ among counties or municipalities. Because of this, the state reentry strategy is designed to operate in tandem with varied local response and recovery efforts and to support associated requirements.

Each local jurisdiction has the authority to determine who receives credentials and how that process occurs. The purpose of credentialing is to ensure and validate the identity and attributes of an individual. An effective credentialing solution enables a local incident commander to request, receive and use personnel from outside their jurisdiction.

Credentialing should take place before an incident occurs. Some incidents, however, may require the activation of a just-in-time process for validating, issuing, and tracking credentials.

The US Department of Homeland Security (DHS) has developed a National Incident Management System (NIMS) Guideline for the Credentialing of Personnel. The processes laid out by DHS are voluntary and do not override the authority of local officials or states to manage response operations.

Once Incident Command has determined it is safe for CEHE personnel to return for assessment, crews will follow re-entry procedures determined by local and state officials.

- Communicate to all internal and external workforce the importance of safe work practices.
    - Be aware of high-water areas and monitor current weather conditions. Be prepared for severe weather.
- All centers continually assess and monitor high water areas for mobility and restoration purposes.
- Review operational status of all service centers and facilities.
- All centers with possible accessibility issues develop mobility plans.
- Continue to evaluate possible resource requirements.
- Develop and execute an external communications plan. (Public Affairs, Regulatory, Government Affairs)
- Review any outstanding fleet resource needs.

Review individual service center plans to restore service to facilities vital to public safety, health, and welfare.

Annex F

Cyber Security

Cyber Security

Purpose

Cyber incidents are not unlike operational incidents. When a user or operation identifies or believes a cyber incident is occurring or has occurred, their first responsibility is to contact CNP Cyber Security to initiate actions, procedures, and/or practices to stabilize any impact to business or operational systems which may jeopardize employee or public safety, result in consequences to employee or customer information, or interrupt of business continuity. It is incumbent upon the user to contact Cyber Security to initiate the procedures outlined in the Cyber Incident Response Plan (CIRP) immediately upon the initial incident detection.

Cyber security programs at CNP are enforced through Information Technology (IT) Security policies and procedures that identify:

- Authorized and unauthorized actions within CNP on technology systems.
- Assigned organizational responsibilities.
- Acceptable levels of risk.

When CNP's IT Security policies and procedures are violated, a cyber incident may occur. To detect, respond, and manage violations, incident response policies and procedures should be used to minimize risk and facilitate recovery from a violation.

The purpose of CNP's CIRP is to provide a structured, systematic incident response process for all company information technology systems, including third party services and/or systems to: identify, escalate, and respond to Information Security incidents. The CIRP is intended to:

- Assist CNP and third-party personnel to recover from different levels of Information Security Incidents quickly and efficiently.
- Define the business, IT, and/or control systems incident process and step-by-step guidelines creating a consistent, repeatable incident response process.
- Mitigate and/or minimize the loss or theft of information or disruption of critical infrastructure.
- Provide consistent documentation of activities related to actions taken during incidents.
- Synthesize knowledge and experience into preventative security measures.
- Reduce overall exposure for CNP.
- Decrease the total time to reach incident resolution by initiating an effective and efficient response to Information Security Incidents.

Provide for business understanding and participation in the IT incident response and incident management processes in order to establish a more effective strategy and response to future Information Security Incidents.

Scope

The standards and guidelines contained in this document define CNP's CIRP that applies to:

- The fundamental information actions and tasks needed for IT personnel to provide incident response services to CNP's control system and/or related IT systems.
- All CNP business groups, divisions and subsidiaries and their employees, contractors, vendors and business partners.

- All computer systems, computing devices, control systems, and networks connected to the CNP network.
- Incident notifications that are automated (i.e., – system notification) or manual (i.e., – employee notification, external party notification).

Decision Making

CEHE Operations will use the decision making and activation processes established in the Crisis Response Plan for emergencies involving cyber security. See the Crisis Response Plan for more information.

Concept of Operations

To efficiently and effectively respond to an Information Security Incident, the groups responsible for investigating, containing, remediating and returning the systems back to normal are outlined in the CIRP with their roles and responsibilities during an Information Security Incident.

Unavailability of critical personnel can arise at any time, because Paid Time Off ("PTO"), illness, accidents and unforeseen events are inevitable. To avoid a single point of failure, backup arrangements for personnel should be made in advance. Members of the CIRT should not be allowed to have the same day off. The lack of critical personnel may arise during the time just before and after business hours. During that time most of the critical team members may be commuting to or from home. They may be reachable but may have a difficult time performing specific actions. This can be avoided by having team members "stagger" their business hours.

For these reasons, each Business Unit must prepare and maintain a list of primary and secondary contacts and provide it to the Corporate Cyber Security Department on a regular basis.

The CenterPoint Energy Incident Response Framework consists of the five (5) steps to handle Information Security Incidents in a consistent manner: Detect, Notify, Analyze, Recover, and Follow-Up.

Should the cyber security emergency impact operation technology (OT), CEHE Operations will activate all or portions of this CIRP to support continuance of operations during the emergency.

Annex G

Physical Security

Physical Security

Purpose

This annex addresses company facilities and assets including office buildings, service centers, vehicles, equipment, materials, and supplies, as well as company employees and contractors on company property or while performing work on behalf of CEHE.

For CEHE facilities or assets subject to federal security requirements such as North American Electric Reliability Corporation (NERC), Transportation Security Administration (TSA) Pipeline Security Guidelines, Department of Homeland Security (DHS) 6 CFR 27 Chemical Facility Anti-Terrorism Standards (CFATS) or 49 CFR 193 LNG, the applicable federal rules / requirements are primary, and the CNP security guidelines and requirements are supplementary.

This document is considered supplementary and secondary to the CNP Physical Security Policy and Corporate Security Emergency Plan.

Scope

The security branch is responsible for all security and law enforcement related services during an emergency event. The organization is made up of a combination of CNP employees and select contractors.

Corporate Security is responsible for:

- Maintaining a safe and secure work environment for all personnel and vehicles involved in recovery of an emergency.
- Securing assets during incident coordination and deployment of contract security officers and off- duty police officers
- Acting as a liaison with law enforcement or other governmental agencies
- Coordinating police escorts of crews and materials
- Prompt handling of all incidents of a security nature
- Traffic control for AM and PM crew truck movements at staging sites
- Coordination of toll road procedures with local toll road authorities
- On-going maintenance, monitoring, and responses to electronic security systems

Personnel should refer to the STORM hotline for updates and reporting duties during an emergency event.

Concept of Operations

Physical Security Policy

Corporate Security has published a Physical Security Policy which is a controlling and overarching policy above this manual. This manual is secondary and supplementary to the Physical Security Policy available in the Policies section of CNP Today.

Security Operations Center (SOC)

The Security Operations Center (SOC) is a 24/7 operation center, which provides dispatch and security support to all CNP properties, employees, contractors, and other stakeholders. As the primary point of contact for security issues and incidents that occur at CNP properties, SOC Operators play a key role in both operational security and facility safety. Using various technical

security systems and monitoring software, the SOC is responsible for the detection, triage, and alerting of routine and critical security incidents. The SOC assists with the escalation and incident management of critical security incidents.

Security Incident Reporting

The immediate reporting of security incidents to the Corporate Security Department is required and is very important to help ensure a prompt Company response and the implementation of effective mitigation solutions.

WHAT TO REPORT

- Crimes - thefts, threats, assaults, etc.
- Security related incidents - fires, cut fences, trespassers, card reader doors propped open, improper security procedures being followed, etc.
- Suspicious and unusual incidents - persons photographing Company facilities, unknown packages left unattended, aircraft low fly-overs of critical facilities, unusual calls to obtain Company information, etc.

COST OF LOSS

Business units should report an estimated cost of loss when the incident is originally reported. The actual cost of loss will be reported after all costs of loss and repair have been completed and calculated.

Cost of loss is defined as the total cost to replace the loss of an asset. As an example, cost of loss for the theft of equipment would include the replacement cost, plus the estimated cost of labor involved in obtaining the replacement equipment. In the event of a copper theft the cost of loss would be the cost of replacement material, employee labor, and any contractor costs. Cost of loss can be a determining factor in deciding the appropriate security mitigation actions.

HOW TO REPORT

In case of a fire or life-threatening emergency, immediately call 911, and then notify your supervisor and Corporate Security.

CORPORATE SECURITY RESPONSE TO INCIDENTS

Corporate Security will notify local law enforcement agencies for response to all suspected or actual criminal incidents. As appropriate, Corporate Security will notify state or federal security or law enforcement agencies (FBI, DHS, State Police, etc.)

Protection of People and Assets

Suspicious Persons and Activities

- All employees should be aware of their work surroundings and report any and all suspicious persons or activities they observe.
- Suspicious persons or activities could include:
    - Unknown persons or vehicles in the work area.
    - Transients.
    - An employee in an area they do not belong.
    - Persons loitering near company property or work areas.

- Some indicators of suspicious surveillance of the company:
    - Demeanor of the individuals (Do they avoid eye contact?)
    - Do they appear interested in something that is not there or that would not normally hold long periods of interest?
    - Do they appear to be taking measurements with their feet/stride, vehicle (driving a pattern), or using a range finder?
    - Attempts to gain sensitive information about security measures or personnel, entry points, peak days, and hours of operation, and access controls such as alarms or locks.
    - Observations of security procedures or staffing positions.
    - Discreet or unusually suspicious use of cameras or video recorders, sketching or note taking, particularly of or about sensitive areas or restricted access points.
    - Unusual or suspicious interest in speaking with building maintenance personnel.
    - Observations of or questions about facility security measures, to include barriers, restricted areas, cameras, and intrusion detection systems.
    - Observations or questions about facility air conditioning, heating, or ventilation systems.
    - Attempted or unauthorized access to rooftops or other potentially sensitive areas.
- What may constitute suspicious activity to one person may not be suspicious to another person. A good gauge for distinguishing suspicious persons or activities is if your intuition or instinct tells you something is wrong, it probably is wrong. By recognizing and reporting suspicious activity we may prevent a loss or crime from occurring and help to better ensure the safety of employees and company assets.
    - Should you observe suspicious persons or activities report it immediately to:
        - Your supervisor.
        - Corporate Security.
    - Call 911 immediately if a crime is occurring or the situation appears dangerous or threatening.

Sabotage

Sabotage is the deliberate destruction of property, equipment, controls, or communication with the intent of causing:

- Interruptions to critical operations
- System Failure
- Disruption of the bulk electric system or gas distribution system

Events caused by theft and vandalism are not considered sabotage.

- The key to protecting CNP facilities from sabotage is to be conscious of activities in or around our facilities. Early detection and recognition of potential and actual sabotage events are critical. Sabotage may be the work of terrorists, hostile individuals, or disgruntled employees. Sabotage events can be cyber, physical, and/or operational and may include events like:
    - Terrorist threats or attacks.
    - Discovery of explosives.
    - Extensive damage to our electrical, gas distribution, gathering, and distribution facilities and equipment.

  - Suspicious packages in/around our facilities and equipment.
  - Apparent forced entry.
  - Intelligence gathering attempts; unauthorized people requesting information about items such as operations, software, and telecommunications, etc.
  - Unauthorized physical surveillance, including photography.
  - Other suspicious events.
- Employees who observe an act, event, unusual conduct, unusual inquiry, any questionable or suspicious activity involving company physical and/or cyber facilities, assets, or personnel should consider such activity a potential threat.
- Employees should avoid "confirmation bias" to explain their observations – in other words, developing a "good reason" why something may have occurred. Some examples are, "That person is just really curious so is asking lots of questions" OR "There's damage to this equipment but it was probably just kids messing around."
- It is the responsibility of all company employees to report suspicious activities by notifying their supervisor and the Corporate Security Department as soon as possible. If an immediate risk of damage, injury, or sabotage is present, employees should call 911 immediately.

Trespassers

- Trespassers are not permitted on company property.
- If trespassers are found upon company property, take the following actions.
  - If your facility has a security officer, notify the security officer immediately so the person(s) can be removed.
  - If no security officer is at your facility, then notify your supervisor or building management.
  - If you feel safe doing so, advise the loiterer or trespasser that you represent the company property and that they need to leave immediately. If the person fails to leave, call the police.
  - When the police arrive they will ask you if you want to issue a trespass warning. You will have to tell the police officer that the person is not welcome, is trespassing and that you want them to leave. If the person persists and refuses to leave after being given this notice then they will be subject to arrest by the police for trespassing.

Physical Security Support to an emergency event for Non-Security Related Activations

Security Staffing and Responsibilities

Security is responsible for providing services to help maintain a safe and secure work environment for personnel and assets during recovery from an event.

Security support during an event includes:

- Providing support for the staging site security coordinators
- Coordination and deployment of contract guards and off-duty police officers
- Overseeing security at staging sites
  - Acting as a liaison with law enforcement, other governmental agencies, and private industrial security departments
  - Coordinating police escorts for crews and materials

- Contract at least two off duty officers per staging site for escorts
  - If and when local police can provide escorts, these officers may be released
  - Prompt handling of all incidents of a security nature
- Retain one police officer overnight to provide armed security for each staging site
- Coordination of toll road procedures with Harris County Toll Road Authority
- The maintenance, monitoring of, and response to applicable electronic security systems
- Traffic control for AM and PM crew truck movements
  - Providing guidance and direction for personnel brought in by contract to assist with the staging site traffic flow and parking for foreign crews
  - Contract an off-duty police officer for in/out traffic control at staging site street entrance and exit gates, during active hours of work

Field Staffing:

- Security Coordinator Lead
- Senior Security Coordinators
- Security Coordinators

At the Tower:

- Manager
- Security Technical Coordinator Lead
- Security Billing Contractor Coordinators
- Security Technical Coordinators

Inputs

- Security Coordinators (Lead and Seniors)
  - Which staging sites will be opened (from Operations section chief)
  - Traffic control needs at staging sites (from Staging Site manager)
  - Which restricted roads CNP needs access to (from Operations)
  - Any security incidents that occur (from Staging Site manager or Operations)
  - Which crews and materials will need police escorts (from Operations and Supply Chain)
  - Which assets will need protection (from Operations and Staging Site manager)
- Security Billing Coordinators
  - State and plate numbers of foreign and mutual assistance crews (from Resource Unit)

Tasks

- Security Coordinators
  - Coordinating with local authorities to ensure CNP personnel access to storm damaged areas
  - Coordinating and deploying contract guards and off-duty police officers
  - Acting as a liaison with law enforcement or other governmental agencies
  - Coordinating police escorts of crews and materials
  - Handling promptly all incidents of a security nature

    - Coordinating traffic control for morning and evening crew truck movements at staging sites
- Security Technical Coordinators
    - Coordinating toll road procedures with Harris County Toll Road Authority
    - Maintaining, monitoring, and responding to information from electronic security systems
- Security Billing Contractor Coordinators
    - Keep track of time logs for contract security resources
    - Ensuring that CNP processes payments for security contract resources in a timely manner

Outputs

- Information on which foreign and mutual assistance vehicles will need access to toll roads (to HCTRA)
- Payments to contract security personnel

Process Timeline

During emergency:

- Coordinate with local authorities for CNP personnel entry to damaged areas
- Provide security and traffic control at staging sites
- Provide security for service centers
- Advise management of security issues

Responsibilities

Maintain Security for emergency Staging Site(s)

- Security personnel schedules
- Security personnel assignments

Coordinate with Corporate Security for Law Enforcement Support

- Crew escorts
- Customer threats
- Denied access
- Oversized loads
- Police checkpoints
- Traffic control

Security Incidents

- Document all incidents
- Report to Corporate Security and Staging Site Management

Documentation

- Keep track of all security related schedules
- Keep track of all security requests
- Keep a sign-in log at the main security tent for all security related personnel

Reporting for Duty

- Have your CNP issued ID
- Report to EOP Leader until dismissed from duty or emergency activation
- Report to assigned staging site on day 1 of activation
    - Staging site working hours (5am to 9pm) – 7 days a week
    - Things you will need
        - Staging site layout
        - Contacts list
        - Area map
    - Prepare for staging site conditions
        - Wear appropriate shoes and clothing for the environment
        - Wear safety vests, traffic whistles, etc.
        - Bring medications, laptop, air card (if appliable), smart phone, phone charger, etc.
        - Refueling to be determined on availability
        - Meals and fluids to be consumed as time permits (eat and drink when you can, sit when you can)
        - Track hours worked, work related mileage, and personal cell phone charges
        - Be alert (SITUATIONAL AWARENESS)
            - Irate Customers or personnel (NOT allowed access to staging sites or SCs)
            - Crew/Site Personnel altercations
            - Report to onsite management or call 911 if necessary

Annex H

Emergency generation/Long Lead Time Facilities

Emergency Generation/Long Lead Time Facilities

Purpose

As a result of amendments to PURA in the 2021 Texas Legislative session and in the 2023 Texas Legislative session, TDUs may lease and operate facilities that provide temporary emergency electric energy to aid in restoring power to the utility's distribution customers during "a significant power outage" in which the independent system operator has ordered the utility to shed load or the utility's distribution facilities are not being fully served by the bulk power system under normal operation.

Scope

This Annex covers actions and strategies to prepare for, mitigate against, respond to, and recover from "a widespread power outage" that directly impacts customers of CEHE that requires emergency generationduring the restoration operations.

In accordance with applicable statutes, CEHE has entered into a lease agreement with a emergency generationprovider to secure emergency back-up generation capacity, with the lease agreement ending on June 30, 2029. This lease agreement also extended the lease term for certain temporary emergency generation units that CEHE had previously leased under a short-term lease agreement. CEHE has leased up to approximately 500 MW of temporary emergency generation units, with actual output depending on ambient and other operating conditions. CEHE has the following temporary emergency generation units to deploy, if necessary:

- Up to fifteen (15) mobile turbine generator sets capable of providing approximately 30 MW or more of power each depending on ambient temperature and other operating conditions.
- Up to five (5) mobile turbine generator sets capable of providing approximately 5 MW or more of power each depending on ambient temperature and other operating conditions.
- Appropriate support resources within prescribed times to transport and operate the equipment.

CEHE expects to be able to operate the equipment until affected customers are eligible to receive service (i.e. the statutory requirements are no longer met). Depending upon severity of the extreme weather condition, this could range from less than 1 day to 6+ weeks.

Decision Making

CEHE Operations will use the decision making and activation processes established in the Emergency Operations Plan for emergencies needing emergency generation. See *Section 3.2* for more information. Load shed, load restoration, and mutual assistance may trigger the need for emergency generation.

Concept of Operations

The addition of emergency generation to CEHE's toolkit for Load Shed, EOP Restoration, and Mutual Assistance procedures provides greater flexibility and the ability to segment circuits and find "safe" locations to supply power and bring customers online in hardest hit areas more quickly while working to restore the grid. This allows for different operations, to allocate crews

and resources more efficiently, to restore service quickly, and prioritize service restoration to critical customers while leveraging emergency generation. The goal of the Tiger Team is to coordinate with EOP teams (CVAL, TVAL, DVAL, and Government Liaisons) to identify potential locations where the emergency generation can provide support, and, after coordination with stakeholders, mobilize the generation to the most critical areas. The Tiger Team will continue to support the emergency generation throughout the event (vendor communications, fueling, logistics etc.).

Based on system needs, and in coordination with appropriate government officials and regulators, CEHE will determine the potential location(s) where the back-up emergency generation facilities will be best utilized, to the extent possible based on actual conditions of a particular event. These determinations will be based on good utility practice, system conditions, and the circumstances and customer needs during each individual event.[3] Some back-up emergency generation facilities listed above have been pre-positioned at certain locations in CEHE's service area and the Emergency Generation Tiger Team will determine how to activate, mobile and demobilize. Some back-up emergency generation facilities listed above have been pre-positioned at certain locations in CEHE's service area. Under the long-term lease agreement, the emergency generation provider must provide transportation and assembly services if emergency generation facilities need to be relocated. CEHE will coordinate with the emergency generation provider in the event that the pre-positioned emergency generation facilities need to be relocated to other locations in CEHE's service area during an event as operating conditions, road conditions, and other safety considerations permit.

CEHE's operation of back-up emergency generation facilities during an event are not a guarantee against fluctuations, irregularities, or interruptions in delivery service. CEHE's operation of back-up emergency generation facilities are subject to the provisions in CEHE's PUCT-approved tariff, including, but not limited to, provisions related to quality of delivery service, emergencies and necessary interruptions, limitation of warranties, and limits on liability.

Activation is called for by RTO/Executive Leadership. From there we have 5 stages typically followed, but we could enter in any one of the first four including immediately moving to level 4. These are defined as levels (Level 1 – Notifications, Level 2 – Preparations, Level 3 – Warm-up of mobile generators, Level 4 – Deployment of mobile generators, i.e. begin operation of generators, Level 5 – Recall of fleet, i.e. shut down and return to "normal ready" state).

As referenced previously, the Company utilizes four emergency activation levels, designed to ensure sufficient resources are available to effectively respond to any type of event impacting CEHE's service territory. The alert levels may be activated, based on need, during a variety of event types. Please see Section A: Overview for additional details regarding the Company's response to emergency events.

Testing

CEHE has a maintenance program with the vendor where mobile generators are maintained on a quarterly basis.

[3] PURA §§ 39.918 (g)

Vendor is responsible for verifying operation/maintaining and performs quarterly maintenance on the mobile generators and monthly maintenance on the blackstart generators.

Load Shed Process

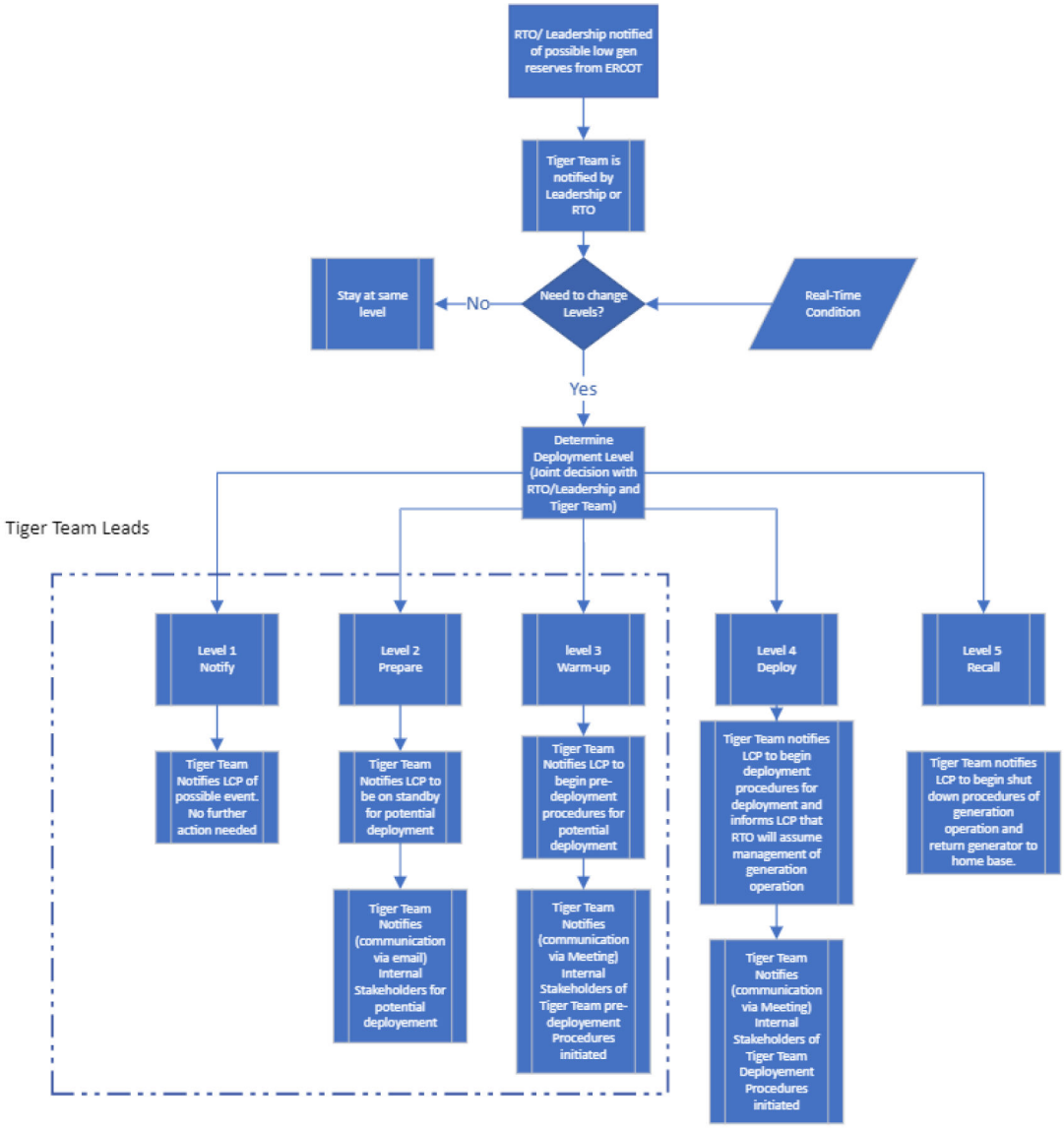
In the load shed process both the 30 MW generators and the 5 MW generators can be utilized simultaneously. There are triggers that will be leveraged to engage the emergency generation fleet. These include:

Triggers to initiate 30 MW and 5 MW generation load shed deployment

The “home” location for the emergency generation is within 17 substations. In their standard configuration, the units will be connected to an open switch within the substation that allows for ease of interconnection in the event of an anticipated widespread outage lasting longer than 8 hours and is a risk to public safety (legislation as of 09/01/2021). There are 5 trigger levels and action items within load shed events. The emergency generation can be initially deployed at any trigger level based on grid/emergency conditions, as defined by the below flowchart.

These levels include:

- Level 1 – Notify - E-mail Mobile Gen Contractor of possible deployment, but no action required.
- Level 2 – Prepare - E-mail Mobile Gen Contractor of anticipated deployment and begin alerting teams. E-mail internal stakeholders making them aware of potential deployment, but no action required yet.
- Level 3 – Warm Up - E-mail/call Mobile Gen Contractor to dispatch crews to locations, begin generator “warm-up” procedures, and prepare for probable deployment. E-mail/begin call cycles with internal stakeholders making them aware of gen start (warm up) and likely deployment and recommend institution of their respective Mobile Gen deployment plans.
- Level 4 – Deploy - E-mail/call Mobile Gen Contractor identifying deployment is imminent and RTO will assume dispatch controls of assets. E-mail/begin/continue call cycles with internal stakeholders making them aware of gen deployment and to prepare for energization of conductors with mobile generators and begin support needs.
- Level 5 Recall - E-mail/call Mobile Gen contractor to verify resources have been released by RTO and allow to begin recall of fleet. E-mail/end call cycles with internal stakeholders making them aware of gen fleet recall and recommend they begin the recall of their respective support measures.



Internal stakeholders' primary functions include:

- Environmental – Work with logging of hours of mobile generators are operational ensuring TCEQ requirements are met. Tiger Team will receive data from Mobile Generator vendor and store on Teams. Environmental Team will verify data and provide guidance if other items are needed. Environmental will also interface with governmental agencies requesting environmental documentation.
- Safety – Work with all teams on location to verify mobile generator operation and area is safe. Also works with RTO/DCO to verify crews do not work on lines while mobile generators are connected to the distribution grid and are operational (i.e. powering those conductors).

- Procurement – Work with Tiger Team to procure items needed to support mobile generators.
- Fleet – Work with Tiger Team to procure fuel and fuel tanks to support mobile generators.
- Security – Work with Tiger Team on providing security at all generator locations for the duration of the event (including set-up and recall).
- Substation Operations – Support mobile generator operation at substations for the duration of the event (including set-up and recall).
- Major Underground – Support mobile generator operation at substations for the duration of the event (including set-up and recall).
- Distribution Control Operations – Support mobile generator operation through switching orders and assist in isolation and load reduction for the duration of the event (including set-up and recall).
- RTO – Support mobile generator operation by deploying and "controlling" the operation of the assets for the duration of the event. They will be in sole control and call for generator to come online and go offline for the duration of the runtime of the generators during the event.
- AMS Technologies– Will support Transaction Management after the event through providing data to REP's regarding times generator was online and offline to allow REP to provide proper billing.
- Transaction Management (Billing) – Will support REP's through data provided related to mobile generator operation times and grid parallel times. Will need to work in conjunction with AMS Technologies to support this.

A tabular form of the triggers and action items is seen below:

Mobile Generation Triggers and Action Items			
	Load Restoration Triggers		Action Items
	5MW	30MW (Substation need)	
Level 1	Communication from RTO/Leadership on potential event with widespread outage greater than 8* hours and "small" load support possible	Communication from RTO/Leadership on potential event with widespread outage greater than 8* hours and "large" load support possible	E-mail Mobile Gen contractor of possible deployment.
Level 2	Communication from RTO/Leadership on impending event with widespread outage greater than 8* hours and "small" load support expected	Communication from RTO/Leadership on impending event with widespread outage greater than 8* hours and "large" load support expected	E-mail Mobile Gen contractor of an expected event approaching with directive to begin making teams aware of potential deployment need
Level 3	Conference Bridge started with liaisons and discussion around possible locations/timeframes, etc. Directive from RTO/Leadership/CVAL/DVAL/TVAL/Governmental Liaisons on potential pre-deployment restoration locations (begin de-mobilization)	Conference Bridge started with liaisons and discussion around possible locations/timeframes, etc. Directive from RTO/Leadership/CVAL/DVAL/TVAL/Governmental Liaisons on potential pre-deployment restoration locations (begin de-mobilization)	E-mail/call Mobile Gen contractor to ready trucking company/apply for permits and deploy personnel to ready the units for deployment to support potential load restoration applications. E-mail/notify through Teams meeting the internal stakeholders that units are being prepared for deployment and to begin their support procedures (but not deploy yet).
Level 4	Directive from RTO/Leadership/CVAL on deployment restoration locations (begin mobilizing and deployment)	Directive from RTO/Leadership/CVAL on deployment restoration locations (begin mobilizing and deployment)	E-mail/call Mobile Gen contractor to mobilize units to addresses provided and prepare generators for operation. Make mobile generator aware that RTO will assume dispatch control of the mobile generator. E-mail/notify through Teams meeting the internal stakeholders of the mobilization of the generators and that RTO will take over mobile generation operational control
Level 5	Communications from RTO/Leadership to stand down and recall generation fleet	Notify Mobile Gen Contractor to begin cool down process and return fleet to "home base"	E-mail/call Mobile Gen contractor to verify resources have been released and allow to begin recall of fleet. E-mail internal stakeholders making them aware of gen fleet recall.

Operating duration, permitting, and noise concerns

As stated above, the Tiger Team will collect run time data from emergency generation contractor and post to the Tiger Team's website. The Environmental team will manage the logged information provided by the mobile generator contractor and verify for proper operation and adherence to all permitting required for operation. Environmental Team will also interface with all governmental agencies requesting data from run logs for environmental purposes.

Related to noise concerns, it has been determined that City of Houston (COH) Code of Ordinances Chapter 30 provides a waiver when "emergency work" is occurring. A portion of "emergency work" is detailed as "…(iv.) restoring public utilities." Please see attached excerpt from Chapter 30 in Section 10.

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-011

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Describe the procedures during an emergency for handling complaints and for communicating with the public; the media; customers; the commission; the Office of Public Utility Counsel (OPUC); local and state governmental entities, officials, and emergency operations centers, the reliability coordinator for your Company's power region; and critical load customers directly served by the entity.

ANSWER:

CenterPoint Houston's Emergency Operations Plan (EOP), filed on March 15, 2024 with the Commission in Project No. 53385 (Item 2318), provides a description of the general processes for communications with stakeholders during an emergency event in which the Company's Emergency Operations Center (EOC) is activated. Upon activation of the EOC, Joint Information System, overseen by the Corporate Communications department, is implemented to organize and provide information and updates to stakeholders.

CenterPoint Houston also establishes liaisons with the Texas Division of Emergency Management (TDEM) State Operations Center (SOC), the PUC, ERCOT, Texas RE, NERC, the U.S. Department of Energy, local governments and emergency management organizations, and first responders. It is the responsibility of these liaisons to provide information and address issues as they arise.

During an emergency restoration event like Hurricane Beryl in which the EOC is activated, CenterPoint Houston has various means for handling service restoration complaints and communicating with the public and stakeholders. For service restoration of priority customers, including hospitals; assisted living (or similar) facilities; emergency services like police, fire and first responders; and essential services like water and water treatment facilities the company has established a priority restoration procedure. That procedure includes a review of requests for priority restoration received from various stakeholders including local and state governmental entities, state officials, emergency operation centers and critical load customers. Requests for priority restorations are received verbally at emergency operating centers at which CenterPoint Houston is embedded or through various forms of communications including phone call, text and email. Once a priority request is received, it is reviewed by our priority desk and submitted to our distribution operations personal for evaluation regarding potential restoration time or ability to provide temporary generation units if the expected restoration expectation is longer in duration.

Customer Complaints:

When CenterPoint Houston is notified of a customer complaint, regardless of the channel, actions are taken to review and address the customer's complaint. Once the review is completed and if the issue can be resolved by the company and has been addressed, we inform the customer of the resolution or what actions the customer can take to resolve the issue (when, for example, the issue delaying restoration is the customer's own equipment needing repair).

Public Utility Commission and Office of Public Utility Counsel:

CenterPoint Houston pre-informs PUC Commissioners and their staff, as well as agency leadership and agency media personnel. At individual staff's request, the Director of Infrastructure and Director of Rulemakings have also been included. The updates are provided twice a day (e.g., once in the morning and once in the evening). The Company then submits required information to the agency's

outage reporting email. This same information is shared with OPUC and with PUC Emergency Management personnel and SOC TDEM personnel.

Local and State Entities

During an emergency event like Hurricane Beryl in which the EOC is activated, the company establishes a logical cadence of distributing information to local and state entities. During Hurricane Beryl, state government relations sent two texts per day beginning July 8th, the day that Hurricane Beryl made landfall and impacted the Greater Houston area, to Governor Abbott, Lieutenant Governor Patrick, the Chair and Vice-Chair of the Texas Senate Business and Commerce Committee, the Chair and the Vice-Chair of Texas House State Affairs Committee, and Texas Legislative Delegation of Houston and surrounding areas. The texts included updates of service restoration such as: number of customers restored, crews assisting, staging sites and general information regarding service restoration throughout the company's service area. In addition, during the event the Company held daily telephone briefings for elected state and local officials beginning on July 9th, the second day post storm landfall.

Communicating with ERCOT, the NERC-Registered Reliability Coordinator:

If time permits, CenterPoint Houston informs ERCOT and any other potentially affected entities of real-time or anticipated emergency conditions. When experiencing an operating emergency, the company notifies ERCOT of current and known projected real-time conditions and takes actions to avoid, when possible, or mitigate the emergency whether said action requires following an ERCOT Operating instruction or taking unilateral action if the company deems the ERCOT Operating Instruction would violate safety, equipment, regulatory or statutory requirements.

When time does not permit coordination with ERCOT, CenterPoint Houston takes immediate actions to alleviate operating emergencies including curtailing transmission service, operating transmission equipment to mitigate the emergency condition, and shedding firm load, and notifies ERCOT as practicable.

Please note that an operating emergency is defined to be either an ERCOT-declared operating condition or a company-declared operating condition in which safety or reliability of company facilities has been compromised or threatened. During Hurricane Beryl the company was in constant contact with ERCOT.

Critical Load Customers:

CenterPoint Houston's Key Account Managers develop and maintain relationships with hospitals and first responders like police, fire and local offices of emergency management. CenterPoint Houston's Key Account Managers communicate with first responders throughout an emergency event via email and through frequent contact by phone until service to the first responders is fully restored.

CenterPoint Houston is working on a new process that includes a dedicated inbox available to all Critical Load customers during an emergency event as well as a Hotline that is in the process of being created. The Company intends to push communications prior to a known event and during restoration, which will include the Hotline and inbox, to all Critical Load customers for whom we have up to date contact information.

Communicating with Customers and Media:

Before Landfall

The Company issued news releases to local media, used social media posts, sent an e-mail to all customers in CenterPoint Energy Resource Corp.'s Texas gas customer database, and sent Power Alert Service blast messages to all enrolled customers about CenterPoint Energy's preparations for the storm and providing tips to customers on how to prepare. Automated calls that include this hurricane related message were also made to customers when the customer's phone number was known. Tips included topics like enrolling in Power Alert Service, and general safety tips about

flooding and avoiding downed power lines.

Landfall

CenterPoint Energy issued news releases, increased social media posts and sent Power Alert Service blast messages on the day of landfall. Messages included generator safety tips, updates on the impact of the storm, flood safety, downed wire safety and damage assessment updates.

Post Landfall

CenterPoint Energy used news releases and social media posts, sent customer emails to all CenterPoint Energy Resource Corp.'s gas customers in the impacted area and used Power Alert Service messaging. Topics included progress updates, links to the circuit-level online restoration tracker, details of the restoration progress, damage assessment details, safety tips, warnings to beware of scammers, portable generator tips, weatherhead repair information, cooling center and shelter information, carbon monoxide safety messages, crew safety information, reminders to use 811 Call Before You Dig when making fence repairs, and service area level outage details. Videos of CenterPoint Energy's CEO Jason Wells were used to provide updates to customers about the extent of the damage, the restoration process and offering his acknowledgement of what everyone was experiencing as a result of the devastating storm. In addition, there was dedicated space on CenterPointEnergy.com for information on the storm and updates on restoration. Customers could find the number of current outages, outages restored since the storm's peak, a circuit-level restoration tracker, safety tips, service area level outage information and updates, all news releases, and blog updates from CEO Jason Wells.

SPONSOR:
Stephen Bezecny/John Sousa/Deryl Tumlinson/Mandie Shook/Rina Harris

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-012

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Does your company use an operating condition system? If yes, define each level of the operating condition system and actions taken at each level. Please include citations to the relevant section(s) of your EOP filed with the PUCT when answering this question.

ANSWER:

Yes, CenterPoint Houston uses an operating condition system. Emergency Levels 4-1 are used for a scalable response and management of all emergencies (Section 3.2, Pages 12-13 of CenterPoint Houston's Emergency Operations Plan filed in PUC Project No. 53385 on March 15, 2024).

- Level 4 – Routine Operations Incident: Normal daily operations; any issues are resolved at the crew level.
- Level 3 – Elevated Incident Conditions: An incident has occurred, but local/regional resources are capable of handling. The Emergency Operations Center (EOC) is not activated. Emergency Preparedness & Response (EP&R) staff are notified and available for support.
- Level 2 – Severe Emergency Conditions: An emergency has occurred that requires coordination among multiple departments and resources. The EOC is partially or fully activated to support depending on significance of emergency. EP&R staff are notified. Crisis Management Committee (CMC) is notified, but likely not activated
- Level 1 – Crisis Conditions: A crisis has occurred and significant coordination is necessary. Crisis may involve multiple CNP operations/locations. EOC is fully activated. CMC is activated

Electric Distribution Operations utilizes an Operating Condition System, referred to as Trouble Levels 1-8 to classify the impact a storm system has, or may have, on the distribution system (Section 3.2.1, Pages 13-14 of CenterPoint Houston's Emergency Operations Plan filed in PUC Project No. 53385 on March 15, 2024). Trouble Levels are used in conjunction with the Emergency Levels described above.

Please refer to PUC-RFI01-010 for the CEHE Emergency Operations Plan 2024 Update filed in Project No. 53385.

SPONSOR:
Chasta Martin

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-013

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Explain the system and tools used to manage all emergency response assignments. Your response should include management of mutual assistance and contract personnel and consider needed food and lodging facilities.

ANSWER:

The company uses Employee Storm Roster (ESR) to track, maintain, and update internal emergency response assignments. Additionally, the company uses Southeastern Electric Exchange's (SEE) Resource Allocation Management Program for Utility Professionals (RAMP-UP) to check-in mutual assistance (MA) and contract crews at staging sites which helped inform food and lodging needs. The Incident Action Plan (IAP) includes a comprehensive listing of the tactics, resources, and support needed. (Examples of the IAP were provided in response to PUC RFI01-023.)

SPONSOR:
Randy Pryor

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-014

QUESTION:

Electric Utilities – Emergency Planning and Event Response

How far in advance of the May 2024 Derecho and Hurricane Beryl did you initiate emergency preparations? Describe the timeframes for the preparation work in anticipation of emergency operations plan activation. Please include citations to the relevant section(s) of your EOP filed with the PUCT when answering this question.

ANSWER:

CenterPoint Energy was actively monitoring the May 16 weather based on current forecasts and weather updates with the StormGeo meteorologist. At approximately 3:00pm on May 16, based on the forecast rapidly changing into a more intense and severe weather event, electric operations activated their distribution operations center (DOC) for incident management of the incoming severe weather. Once the Derecho impacted the service territory, CenterPoint Houston scaled its response accordingly to the level of damage and restoration needed.

As discussed in response to 01-007, we began tracking tropical disturbance 7 that would become Beryl on 6/25/24. Emergency preparations started on 7/2/24 with prep calls to line skills resource aggregator; those calls continued on 7/3/24. Approximately 72 hours prior to landfall on 7/5/24, additional preparations included:

- CenterPoint Houston sends email to employees about monitoring Hurricane Beryl (page 62 of EOP).
- Staging site managers are notified of possible activation of staging sites.
- CenterPoint Houston holds prep calls with line skills and vegetation management resource aggregators

The Emergency Operations Plan was activated on July 6, 2024 by the initiation of the Operational Alignment Call (Section 3.2.2, page 14 of EOP which is attached to the response to PUC-RFI01-010).

Additionally, please see the response to PUC-RFI01-015 for timelines of CenterPoint Houston's response to each storm.
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SPONSOR:
Chasta Martin

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-015

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Please provide a timeline of your Company's response to the May 2024 Derecho and Hurricane Beryl.

ANSWER:

CenterPoint Houston monitors weather forecasts and prepares year-round to respond to severe weather events in its service territory. CenterPoint Houston follows the National Incident Management System and has the capacity to scale its emergency response as needed based on the nature of the event. For larger events such as the May 2024 Derecho and Hurricane Beryl, CenterPoint Houston augments internal and native contractor resources with additional line skill, damage assessment, and vegetation management personnel from utility mutual assistance networks and resource aggregators. CenterPoint Houston manages and coordinates logistics to support restoration activities, which included setting up multiple staging sites and providing lodging, fuel, food, and other services for mutual assistance crews following the May 2024 Derecho and Hurricane Beryl.

The attached timeline provides a daily overview of CenterPoint Houston's preparation and response to the May Derecho and Hurricane Beryl. Please also see PUC-RFI01-111.

SPONSOR:
Chasta Martin

RESPONSIVE DOCUMENTS:
PUC-RFI01-015 - Timeline for PUC RFI01-15

Response to Commission Staff's First Request for Information to CenterPoint Energy Houston Electric, LLC

Staff 1-15 Please provide a timeline of your Company's response to the May 2024 Derecho and Hurricane Beryl.

CenterPoint Houston monitors weather forecasts and prepares year-round to respond to severe weather events in its service territory. CenterPoint Houston follows the National Incident Management System and has the capacity to scale its emergency response as needed based on the nature of the event. For larger events such as the May 2024 Derecho and Hurricane Beryl, CenterPoint Houston augments internal and native contractor resources with additional line skill, damage assessment, and vegetation management personnel from utility mutual assistance networks and resource aggregators. CenterPoint Houston manages and coordinates logistics to support restoration activities, which included setting up multiple staging sites and providing lodging, fuel, food, and other services for mutual assistance crews following the May 2024 Derecho and Hurricane Beryl.

The attached timeline provides a daily overview of CenterPoint Houston's preparation and response to the May Derecho and Hurricane Beryl. Please also see PUC-RFI01-111.

DATE	EVENT/ACTIVITY
	DERECHO RESPONSE
Thursday, May 16, 2024	• CenterPoint Houston monitors weather forecasts and updates from StormGeo. • At approximately 3:00 p.m., based on the forecast rapidly changing into a more intense and severe weather event, CenterPoint Houston activates its Distribution Operations Center (DOC) for incident management of the incoming severe weather. • At approximately 6:00 p.m., a derecho strikes CenterPoint Houston's service territory without warning. The intense storm was comparable to a Category 2 hurricane with 90 to 100-mile winds and tornados, damaging CenterPoint Houston's transmission and distribution system and resulting in over 920,000 customer outages at its peak. • CenterPoint Houston activates its EOP at Emergency Level 2 to respond to outages caused by the derecho. • CenterPoint Houston initiates mutual assistance request for 2,000 line crews and 1,000 vegetation management personnel. • 180,000 customers are restored overnight.
Friday, May 17, 2024	• CenterPoint Houston opens its Emergency Operations Center (EOC) to support restoration. • 7 of 14 transmission lines restored. • Damage assessment and the cut-and-clear process begin. • CenterPoint Houston opens 9 staging sites. • CenterPoint Houston onboards 3,000 mutual assistance workers and requests 2,000 more. • CenterPoint Houston deploys Temporary Electric Energy Facilities (TEEEF) units, initially energizing Houston Police Department locations, senior living centers, and cooling centers.

	• As of 8:00 p.m., 361,000 customers have been restored.
Saturday, May 18, 2024	• Cut-and-clear process and remaining damage assessments complete. • TEEEF units connected to additional facilities (senior living, cooling centers, hospital). • As of 8:00 p.m., 539,000 customers have been restored.
Sunday, May 19, 2024	• Helicopter removed damaged transmission lines from Hwy 290. • 108 distribution circuit restorations were completed. • TEEEF deployments continued. • As of 8:00 p.m., 669,000 customers have been restored.
Monday, May 20, 2024	• TEEEF deployments continued. • As of 8:00 p.m., 766,000 customers have been restored.
Tuesday, May 21, 2024	• TEEEF deployments continued. • As of 8:00 p.m., 842,000 customers have been restored.
Wednesday, May 22, 2024	• As of 8:00 p.m., 888,000 customers have been restored.
Thursday, May 23, 2024	• Restoration of remaining customers without power from derecho transitioned to CenterPoint Houston's Distribution Operations. • EOC is deactivated.
Thursday, May 30, 2024	• Emergency Preparedness & Response (EP&R) team leads After-Action Review of derecho response. • Groups work on After-Action Review items throughout June.
	BERYL PREPARATION AND RESPONSE
Tuesday, June 25, 2024	**Weather Forecast:** • EP&R receives email from StormGeo about a new tropical disturbance that formed in the Atlantic Ocean (and eventually becomes Beryl).
Thursday, June 27, 2024	**Weather Forecast:** • EP&R receives weather monitoring email from Harris County Office of Homeland Security and Emergency Management about Invest 95L, a strong tropical wave in the Atlantic showing signs of better organization, and begins monitoring its development.
Friday, June 28, 2024	**Weather Forecast:** • Invest 95L becomes Tropical Depression #2.
Saturday, June 29, 2024	**Weather Forecast:** • Tropical Depression #2 becomes Tropical Storm Beryl. • EP&R receives weather monitoring emails and alerts from Harris County and StormGeo; Beryl continues to track westward toward Jamaica and the western Caribbean Sea. Harris County "Ready Harris" alert says, "At this time, Beryl poses no threat to Texas."
Sunday, June 30, 2024	**Weather Forecast:** • Tropical Storm Beryl becomes a major hurricane. **Summary of CenterPoint Preparations:** • EP&R provides weather update to CenterPoint team about continuing to monitor Beryl; while not a current threat, forecasts beyond day 5 are complicated and tend to have lower confidence in the path.
Monday, July 1, 2024	**Weather Forecast:**

	• StormGeo and Harris County weather monitoring report identify Mexico as most likely location of final landfall. National Weather Service (NWS) update states "no impacts are expected for Southeast Texas within the next 7 days." **Summary of CenterPoint Preparations:** • EP&R provides weather update to CenterPoint team about continuing to monitor Beryl, noting that overnight guidance showed a significant adjustment of the track forecast to the south, but final track beyond the Yucatan remains uncertain.
Tuesday, July 2, 2024	**Weather Forecast:** • StormGeo and Harris County weather monitoring report note shift of forecast track northward, with StormGeo saying there is a chance Beryl could make landfall as far north as south Texas. NWS identifies Northeastern Mexico or Southern Texas as most likely landfall spot. **Summary of CenterPoint Preparations:** • EP&R provides weather update to CenterPoint team about continuing to monitor Beryl and that current trending is to northeast Mexico, but final path is undetermined. • CenterPoint Houston holds prep call with a line skills resource aggregator (Center Phase Energy).
Wednesday, July 3, 2024	**Weather Forecast:** • StormGeo report states "threat to middle and upper Texas coast appears to be decreasing" with final landfall predicted for northeast Mexico about 60 miles south of Brownsville, TX on evening of July 7; Harris County weather monitoring report similarly indicates a track into Mexico. **Other Notices:** • EP&R receives email from Texas Division of Emergency Management (TDEM): "Due to the uncertainty of potential impacts in the region from Hurricane Beryl, all State and local partners of the DDEOC 16 Houston should prepare to support response and recovery operations and develop plans for staffing the DDEOC." **Summary of CenterPoint Preparations:** • EP&R provides weather update to CenterPoint team about continuing to monitor Beryl, noting that most models are taking Beryl into east-northeast Mexico, but final path remains undetermined. • CenterPoint Houston holds prep calls with line skills resource aggregators (Power Contracting, LLC and Heart Utilities).
Thursday, July 4, 2024	**Weather Forecasts:** • StormGeo and Harris County weather monitoring reports indicate agreement among models on forecast track into northeast Mexico with impacts to south Texas. StormGeo states "Final landfall as a Category 1 hurricane is predicted to be about 60 miles south of Brownsville, TX late Sunday evening" and noting "potential for widespread power outages and pockets of damage where the center moves ashore." **Other Notices:** • EP&R receives email from TDEM: "We are continuing to watch for the potential impacts that Hurricane Beryl may cause our Region. I want to remind all of the

	State and local partners of the DDEOC 16 Houston that they should still continue to prepare to support response and recovery operations and develop plans for staffing the DDEOC." **Summary of CenterPoint Preparations:** • EP&R provides weather update to CenterPoint team about continuing to monitor Beryl with final landfall predicted to be about 60 miles south of Brownsville, TX late Sunday evening.
Friday, July 5, 2024	**Weather Forecast:** • StormGeo and Harris County weather monitoring reports note northward shift in Beryl's forecasted track. StormGeo now predicts Beryl will "make landfall on the lower Texas coast as a Category 1 hurricane Sunday night" with winds of 90 mph and impacts include "potential for widespread power outages and moderate damage near where the center moves ashore." **Other Notices:** • EP&R receives email from TDEM: "Due to potential impacts to the Region from Hurricane Beryl the DDEOC 16 Houston will be activating to a LEVEL III Increased Readiness Conditions starting tomorrow July 6th, at 12 noon." • EP&R receives email from Harris County that, based on track changes farther to the north today and uncertainty in model runs, Harris County will be activating its EOC to Level III Increased Readiness at 0900 Saturday morning. **Summary of CenterPoint Preparations:** • EP&R provides weather update to CenterPoint team about continuing to monitor Beryl and noting impacts to south Texas and potentially the mid-Texas coast with increasing risk of hurricane-force winds, storm surge, and flooding in portions of northeastern Mexico and the lower and middle Texas coasts late Sunday and Monday. • CenterPoint sends email to employees about monitoring Hurricane Beryl. • Staging site managers are notified of possible activation of staging sites. • CenterPoint Houston holds prep calls with line skills and vegetation management resource aggregators (Collective Strategic Resource, Mid-Con Energy Services Inc., and Bird Electric). • CenterPoint Houston contacts LCP (vendor for temporary generation units) to notify them of potential need for TEEEF units. • CenterPoint Houston notifies turnkey providers that they may be mobilized to staging sites.
Saturday, July 6, 2024	**Weather Forecast:** • Harris County weather monitoring report states "consensus track and NHC forecast are nearly identical at 400am with a landfall near Port O'Connor TX Monday midday." • At 5:00 p.m., National Weather Service (NWS) states "Track forecast for Beryl has been more consistent the past 18 hours, focusing on a landfall near or just south of Matagorda Bay. Confidence in track increasing." • At 10:00 p.m., NWS states "Hardest hit areas look to be Jackson and Matagorda Counties with hurricane force winds and damage surge likely there." **Summary of CenterPoint Preparations:**

	• CenterPoint Houston holds operational, planning, and weather update meetings and calls throughout the day. • CenterPoint Houston activates internal crew resources (1,131 line skills) and native contractor resources (740 line skills and 501 vegetation management personnel) to report at 6:00 a.m. on July 8. • CenterPoint Houston requests 2,787 mutual assistance line skills from 37 companies. • Warehouse team placed on standby. Staging site team notified of locations of staging sites. Notifications are made to owners of staging site properties. • CenterPoint Houston holds prep calls with line skills and vegetation management resource aggregators (Power Contracting, Quanta Infrastructure Solutions Group, and Premium Utilities). • CenterPoint Houston issues press release about its preparation for Hurricane Beryl and sends Power Alert Service (PAS) emails and texts to customers signed up for PAS. • By end of day, 3,097 crew resources are activated, including internal CenterPoint Houston and native contractor resources and mutual assistance line skills.
Sunday, July 7, 2024	**Weather Forecast:** • At 4:00 a.m., NWS notes "Track forecast for Beryl has shifted slightly eastwards with a potential landfall along Matagorda Bay." • At 5:39 a.m., StormGeo states "We have made a slight eastward shift in the track forecast, which increases the threat of damaging wind gusts in the Houston metro area." • Harris County updates its peak wind forecast – "Widespread strong tropical storm winds are likely over much of the area . . . downing trees, power lines, some damage to roofs and windows, fences, etc. will be possible . . . Given the increasing forward speed, strong winds will move well inland over much of the area. Widespread power outages are likely that could last for several days . . . plan accordingly." Harris County also states that "Due to the increasing forward motion over SE TX after landfall, Beryl will be capable of bringing stronger winds than usual far inland. Those well away from the coast should be prepared for wind damage and power outages." **Other Notices:** • EP&R receives email from TDEM: "The track of Hurricane Beryl has shifted again and will be impacting the Texas coast and make landfall in this region. The DDEOC 16 Houston will increase the activation starting at 12:00 Noon today to a LEVEL II Increased Readiness Conditions." • EP&R receives email from Harris County: "Based on track changes overnight and Tropical Storm Warning for Harris County we will move to Level I Maximum Readiness at 1800 today." **Summary of CenterPoint Preparations:** • CenterPoint Houston holds operational, planning, and weather update meetings and calls throughout the day. • CenterPoint notifies employees of Emergency Level 2 activation. • CenterPoint Houston activates internal damage assessment teams to report to staging sites at 6:00 a.m. on Monday.

	• CenterPoint Houston holds prep calls requesting additional vegetation management resources (CSR, ABC Professional Tree Service). • CenterPoint Houston coordinates with regional mutual assistance groups – Southeastern Electrical Exchange (SEE) and Texas Mutual Assistance Group (TXMAG) – to secure all available distribution line skills and vegetation management resources. TXMAG asks other Texas utilities to confirm whether they will need assistance, and if not, CenterPoint Houston will reach out to neighboring utilities for available resources. • CenterPoint Houston requests 2,502 mutual assistance line skills resources from 53 companies, 594 mutual assistance vegetation management resources from 15 companies, and 400 mutual assistance damage assessment resources from 6 companies. • CenterPoint Houston confirms plans to activate 4 staging sites on Monday, July 8, as soon as it is safe to mobilize. CenterPoint Houston also plans for man camps to provide additional lodging. Notifications are provided to additional staging site owners. • CenterPoint Houston checks in with various customers with critical facilities and prepares for possible deployment of temporary generation units. • CenterPoint Houston and other utilities provide updates related to hurricane preparedness during Texas Energy Reliability Council call initiated by TDEM. • CenterPoint Houston issues press release about activation of its emergency response plan in preparation for Hurricane Beryl, including deploying a workforce of approximately 4,500 skilled line workers and vegetation management professionals, establishing 4 staging sites, and preparing to assess and deploy temporary generation units to provide temporary power restoration to certain critical facilities. • CenterPoint government liaisons available for Houston TDEM DDEOC 16 and Harris County. • By end of day, 4,468 crew resources are activated.
Monday, July 8, 2024	**Landfall:** • At approximately 4:00 a.m., Hurricane Beryl makes landfall at Matagorda Bay as a strengthening Category 1 hurricane. Approximately 80% of CenterPoint Houston's service territory is within the "dirty side" of Beryl, and the eye passes at or near the greater Houston area from 8:30 a.m. to 11:00 a.m., finally clearing CenterPoint Houston's service territory in the afternoon. **Restoration Progress:** • Customer outages peak at approximately 2,265,000.[1] • As of 8:00 p.m., CenterPoint Houston has restored power to nearly 285,000 customers. • CenterPoint Houston establishes objective of restoring 1 million impacted customers by end of day on Wednesday, July 10. **Summary of CenterPoint Restoration Actions:**

[1] This number reflects the real-time estimated outage data available during the event which does not exclude outage events that are not reportable to the PUCT. Please see PUC RFI01-16 for the final outage numbers after CenterPoint Houston completed QA/QC procedures to exclude duplicate outages and customers affected by outage events that are not reportable to the PUCT.

	• Daily cadence of EOC (8:00 a.m. and 6:00 p.m.) briefing calls start and continue for the duration of emergency activation. Senior leadership briefings are held several times each day.
	• CenterPoint Houston activates Emergency Level 1 for Houston Electric.
	• CenterPoint Houston holds prep calls requesting additional vegetation management resources to arrive on Tuesday, July 9 and Wednesday, July 10.
	• SEE assigns mutual assistance resources from responding utilities to assist CenterPoint Houston.
	• Damage assessors begin patrolling and visually inspecting for damage to CenterPoint Houston's transmission and distribution system. Objective is to complete damage assessment by Thursday, July 11 at 2:00 p.m.
	• The cut-and-clear process also begins to restore power to areas with less damage. Objective is to complete 50% of restorations through cut-and-clear by noon on Wednesday, July 10.
	• Initial 4 staging sites are check-in and dispatch ready by end of day. CenterPoint Houston prepares to stand up additional staging sites and notifies additional staging site property owners.
	• CenterPoint Houston evaluates locations for possible TEEEF deployment.
	  ○ 1MW unit deployed to an emergency call center.
	  ○ 1MW unit deployed to non-profit organization housing families with seriously ill children.
	• By end of day, 4,938 crew resources are on site, out of 13,676 crew resources activated.

Tuesday, July 9, 2024	**Restoration Progress:**
	• As of 8:00 p.m., CenterPoint Houston has restored power to more than 850,000 customers.
	• CenterPoint Houston publishes initial restoration status tracker.
	
	Summary of CenterPoint Restoration Actions:
	• Damage assessments and cut-and-clear processes continue. Restoration activity continues.
	• CenterPoint Houston establishes 14 additional staging sites.
	• CenterPoint Houston evaluates locations for possible TEEEF deployment.
	  ○ CenterPoint Houston requests four 1.1MW units from Oncor (mutual assistance).
	  ○ 500kW unit deployed to a facility serving as a cooling center.
	  ○ 400kW unit deployed to a facility serving as a cooling center.
	  ○ 500kW unit deployed to a hospital.
	  ○ 400kW unit deployed to a consulate.
	• 10,589 crew resources are on site, out of 13,991 activated.

Wednesday, July 10, 2024	**Restoration Progress:** • As of 8:00 p.m., CenterPoint Houston has restored power to more than 1,000,000 customers. • CenterPoint Houston notifies customers that more specific estimated restoration times will be available on July 11. **Summary of CenterPoint Restoration Actions:** • Majority of cut-and-clear complete. Damage assessments continue. Restoration activity continues.

	• CenterPoint Houston evaluates locations for possible TEEEF deployment.
	  ○ 400kW unit deployed to a memory care unit and skilled nursing facility in Galveston.
	  ○ Oncor 1MW unit deployed to a long-term acute care hospital.
	  ○ Oncor 1MW unit deployed to a facility serving as a cooling center.
	  ○ Oncor 1MW unit deployed to municipal water facility.
	• 13,202 crew resources are on site, out of 14,010 activated.

Thursday, July 11, 2024	**Restoration Progress:**
	• As of 8:30 p.m., CenterPoint Houston has restored power to more than 1,200,000 customers.
	• CenterPoint Houston announces it expects to restore an additional 400,000 customers by end of day Friday, July 12 and an additional 350,000 customers by end of day Sunday, July 14, accounting for 80% of impacted customers.
	
	Summary of CenterPoint Restoration Actions:
	• Cut-and-clear process and damage assessments complete, with damage assessors walking over 8,500 miles of circuits since July 8 to identify damage to CenterPoint Houston equipment, much of it from downed trees and debris. Restoration activity continues.
	• CenterPoint Houston prepares to open 4 additional staging sites.
	• CenterPoint Houston evaluates locations for possible TEEEF deployment.
	  ○ CenterPoint Houston requests temporary generation units from AEP (mutual assistance).
	  ○ 5MW unit deployed to a skilled nursing facility and nursing home.
	  ○ 5MW unit deployed to a skilled nursing facility and nursing home.
	  ○ 400MW unit deployed to municipal water facility (replacing previously deployed 1MW unit).
	  ○ 1MW unit deployed to a nursing home.
	  ○ Oncor 1MW unit deployed to a county jail.
	  ○ Oncor 1MW unit deployed to a hospital.
	• 13,488 crew resources are on site, out of 14,337 activated.
	• Barnett staging site evacuated due to credible threat of drive-by shooting, and crews are re-routed to a different location.

Friday, July 12, 2024	**Restoration Progress:**
	• As of 8:45 p.m., CenterPoint Houston has restored power to more than 1,500,000 customers.
	• CenterPoint Houston announces it expects to restore approximately 85% of impacted customers by end of the weekend.
	
	Summary of CenterPoint Restoration Actions:
	• Restoration activity continues, with over 2,000 poles replaced since July 8 and crews addressing damage from more than 6,000 trees impacting lines and electrical equipment.
	• CenterPoint Houston evaluates locations for possible TEEEF deployment.
	  ○ 400kW unit deployed to a water bottling facility in Houston.
	  ○ Oncor 625kW unit deployed to an assisted living facility.
	  ○ Oncor 625kW unit deployed to a healthcare facility.
	  ○ 5MW unit deployed to a water bottling facility in Pasadena.
	• 14,985 crew resources are on site.

Saturday, July 13, 2024	**Restoration Progress:** • As of 2:30 p.m., CenterPoint Houston has restored power to more than 1,600,000 customers. • As of 8:45 p.m., CenterPoint Houston reports surpassing its prior restoration target of restoring 80% of impacted customers and is on track to restore power to approximately 85% by end of the weekend. **Summary of CenterPoint Restoration Actions:** • Restoration activity continues. • CenterPoint Houston evaluates locations for possible TEEEF deployment. o Oncor 625kW unit deployed to a water bottling facility in Houston, replacing previously deployed 400kW unit. o 230kVA/130kva unit deployed to an assisted living facility. o 230kVA/130kva unit deployed to a skilled nursing facility. o Oncor 625kW unit to a facility for single mothers and children. o AEP 560kW unit deployed to an assisted living facility, replacing previously deployed 230kVA/130kVA unit. o 400kW unit deployed to a facility serving as a cooling center. • 15,634 crew resources are on site.
Sunday, July 14, 2024	**Restoration Progress:** • As of 12:45 p.m., CenterPoint Houston has restored power to more than 1.8 million customers. • CenterPoint Houston announces it expects to restore 90% of impacted customers by end of day Monday. **Summary of CenterPoint Restoration Actions:** • Restoration activity continues. • CenterPoint Houston evaluates locations for possible TEEEF deployment. o AEP 560kW unit deployed to a skilled nursing facility and nursing home. o AEP 560kW unit deployed to a skilled nursing facility and nursing home. o Oncor 1MW unit deployed to a municipal sewer facility. • 15,655 crew resources are on site.
Monday, July 15, 2024	**Restoration Progress:** • As of 10:45 a.m., CenterPoint Houston has restored power to over 2 million customers. • CenterPoint Houston announces it expects to reach approximately 98% restoration by end of the day Wednesday and to restore power to all customers who can receive power by Friday, July 19. **Summary of CenterPoint Restoration Actions:** • Restoration activity continues. • CenterPoint Houston evaluates locations for possible TEEEF deployment. • 15,659 crew resources are on site.
Tuesday, July 16, 2024	**Restoration Progress:** • CenterPoint Houston announces that power has been restored to nearly 96% of impacted customers, and the company is on track to restore approximately 98% of impacted customers by end of day Wednesday, July 17 and to all customers who can receive power by Friday, July 19.

	Summary of CenterPoint Restoration Actions: • Restoration activity continues. • CenterPoint Houston evaluates locations for possible TEEEF deployment. • 15,660 crew resources are on site.
Wednesday, July 17, 2024	**Restoration Progress:** • CenterPoint Houston announces that power has been restored to more than 98% of impacted customers. • As of 6:00 p.m., approximately 30,400 customers impacted by Beryl are without power. **Summary of CenterPoint Restoration Actions:** • Restoration activity continues. • CenterPoint Houston evaluates locations for possible TEEEF deployment. • 15,660 crew resources are on site.
Thursday, July 18, 2024	**Restoration Progress:** • As of 6:00 p.m., approximately 6.000 customers impacted by Beryl are without power. **Summary of CenterPoint Restoration Actions:** • Restoration activity continues. • CenterPoint Houston evaluates locations for possible TEEEF deployment. o CenterPoint Houston releases 4 Oncor temporary generation units. • 15,660 crew resources are on site.
Friday, July 19, 2024	**Restoration Progress:** • As of 8:00 a.m., approximately 4,700 customers impacted by Beryl remain without power. • All customers able to receive utility power are restored. **Summary of CenterPoint Restoration Actions:** • Restoration activity continues for outages involving localized issues such as damage to customer weatherheads. • With all customers who can receive utility power restored, CenterPoint Houston deactivates its EOC. • Upon EOC deactivation, CenterPoint Houston transitions out of Emergency Level 1 as CenterPoint Houston Distribution Operations continues to executive post-storm recovery activities.

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-016

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Please detail the extent and duration of outages experienced by your customers during and in the aftermath of the May 2024 Derecho and Hurricane Beryl. Include the total number of customers affected; minimum, maximum, and average hours of service interruptions; and maximum and average time to service restoration in your response.

ANSWER:

Please see the tables below. For reporting purposes, the number of actual non-distinct customers is the total customers found experiencing an outage during the entirety of a storm or event. Therefore, it is possible a single customer could be counted multiple times for each loss of service they experience. By contrast, the number of customers experiencing an outage at the peak of the event is the total actual maximum distinct customer who experienced an outage at a specific time during the storm. The outage numbers noted below represent the total customers experiencing a sustained outage after CenterPoint Houston completed quality assurance / quality control procedures to confirm final outage numbers. The final outage numbers exclude duplicate outages and customers affected by outage events that are not reportable to the PUCT, such as momentary outages, trouble on the customer side, and no loss of service. The final outage numbers can vary from real-time estimated outage data available during the event which does not exclude outage events that are not reportable to the PUCT.

May 2024 Derecho

Number of Customers Interrupted (non-distinct)	1,227,346
Number of Customers Interrupted (distinct)	858,271
Minimum Duration of Service Interruption	0.02 Hours
Maximum Duration of Service Interruption	191.74 Hours
Average Duration of Service Interruption	20.33 Hours
Maximum Duration of Service Restoration	153.54 Hours
Average Duration of Service Restoration	30.24 Hours

Hurricane Beryl

Number of Customers Interrupted (non-distinct)	3,466,383
Number of Customers Interrupted (distinct)	2,109,131
Minimum Duration of Service Interruption	0.02 Hours

Maximum Duration of Service Interruption	248.33 Hours
Average Duration of Service Interruption	24.21 Hours
Maximum Duration of Service Restoration	205.61 Hours
Average Duration of Service Restoration	43.07 Hours

SPONSOR:
Eric Easton

RESPONSIVE DOCUMENTS:
None

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-017

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Provide the following information concerning your service territory:

a. Identify the geographic areas that experienced the highest number of outages and longest duration of outage due to the May 2024 Derecho. Your response should identify the neighborhood, city, zip code, and county if possible.

b. Identify the geographic areas that experienced the highest number of outages and longest duration of outage due to the Hurricane Beryl. Your response should identify the neighborhood, city, zip code, and county if possible.

c. Identify or describe the factors that contributed to the areas identified in response to subparts (a) and (b) as being particularly vulnerable.

ANSWER:

a. Please see PUC-RFI01-017 - A.xls for the highest number of sustained outages and longest duration of outage due to the May 2024 Derecho by city, zip code, and county on 3 separate tabs. Please note that the total number of sustained outages on each tab differ due to duplicate outage counts if the customers on an affected circuit section are split between multiple zip codes, cities, or counties. CenterPoint Houston does not have this information broken down by neighborhood.

b. Please see PUC-RFI01-017 - B.xls for the highest number of sustained outages and longest duration of outage due to Hurricane Beryl by city, zip code, and county on 3 separate tabs. Please note that the total number of sustained outages on each tab differ due to duplicate outage counts if the customers on an affected circuit section are split between multiple zip codes, cities, or counties. CenterPoint Houston does not have this information broken down by neighborhood.

c. The zip codes identified in subparts (a) and (b) tend to have a higher density of vegetation, which was the primary cause of outages and of higher outage durations in both the May 2024 Derecho and Hurricane Beryl.

SPONSOR:
Eric Easton

RESPONSIVE DOCUMENTS:
PUC-RFI01-017 - A.xls
PUC-RFI01-017 - B.xls

May Derecho Event - Outage Data by Zip Code
[May 16th - 24th, 2024]

***Note: Duplicate outage count may occur if the customers on an affected circuit section are split between multiple zip codes.**

Zip Code	*Number of Sustained Outages	Longest Outage Duration in Minutes	Number of Customers Impacted	% of Customers Impacted In Each Zip Code
77002	33	4304.12	1800	15.87%
77003	45	9688.4	4648	54.96%
77004	50	8663.95	4395	21.36%
77005	29	2536.33	1906	16.48%
77006	40	4324.88	5621	29.95%
77007	193	6640.25	23169	70.41%
77008	277	8667.67	22743	91.72%
77009	238	8557.57	17929	90.15%
77011	77	9688.4	4677	59.48%
77012	28	3728.87	1282	17.08%
77013	93	8212.67	6685	98.58%
77014	13	1965	731	4.99%
77015	239	8666.33	20835	97.41%
77016	208	7154.83	11653	90.76%
77017	42	5942.8	2353	20.33%
77018	235	8612.05	14677	92.75%
77019	45	2578.5	2640	14.34%
77020	144	9688.4	10370	88.99%
77021	31	6100.7	449	3.16%
77022	162	8138.4	9153	78.54%
77023	93	6100.7	7142	61.85%
77024	229	9857.47	14628	80.39%
77025	19	2743.73	4103	26.88%
77026	158	8403.37	9966	98.34%
77027	28	2895	1348	8.58%
77028	110	8587.93	8468	97.72%
77029	144	8486.73	5602	69.55%
77030	17	2536.33	4800	58.27%
77031	16	5125.37	4301	67.94%
77032	26	8235.87	1762	25.12%
77033	16	3237.68	571	5.13%
77034	8	2520	1273	8.13%
77035	21	2010	2142	13.78%
77036	16	1717.5	6272	18.46%
77037	77	5568.6	4831	65.52%
77038	11	3050.08	3209	30.83%
77039	38	7475.98	3854	38.23%
77040	106	9665.68	20923	96.83%
77041	161	8624.32	16722	98.08%
77042	29	5647.32	5230	21.49%
77043	148	8918.12	12892	90.49%
77044	73	7176.85	5892	27.10%
77045	22	3891.02	3110	23.20%
77046	1	1519.27	35	2.88%
77047	20	7332.5	306	2.02%
77048	5	1292.75	88	0.98%
77049	58	7173.48	13825	92.07%
77050	11	3745.25	1282	70.21%
77051	20	5779.65	423	4.69%
77053	12	1845	285	2.70%
77054	10	3863.65	812	4.40%
77055	256	9213.38	20930	95.43%
77056	48	9857.47	7069	42.95%
77057	68	8321.15	16965	75.04%
77058	8	2187.92	139	1.16%
77059	10	1965	1133	15.94%
77060	48	2949.8	12512	66.68%
77061	12	5644.32	869	8.00%
77062	6	1380	114	1.11%
77063	41	6050.92	5449	27.00%
77064	57	7257.23	13197	68.08%
77065	61	7311.1	17270	98.70%
77066	17	2655	1171	9.15%
77067	17	5316.12	1037	8.32%
77068	21	3995.92	4596	70.53%
77069	18	2505	2401	21.87%
77070	75	7874.52	21761	78.74%
77071	13	2130	569	4.87%
77072	12	2340	1713	7.63%
77073	25	2430	7793	45.61%
77074	24	9585.23	984	6.25%
77075	9	2207.15	967	6.33%
77076	153	5753.12	10703	98.08%
77077	21	7058.8	8415	25.42%
77078	54	7157.85	5381	98.34%
77079	59	7572.78	6514	37.45%
77080	248	8808.97	18630	97.54%
77081	24	5540.33	4881	28.16%
77082	10	1445.28	221	0.82%
77083	3	1762.5	35	0.14%
77084	84	8258.88	31248	67.07%
77085	6	1747.5	40	0.61%
77086	27	2959.97	8781	80.77%
77087	36	5644.32	2701	19.91%
77088	95	8704	18148	91.16%
77089	20	2355	156	0.75%
77090	34	5412.75	2074	10.09%
77091	151	8704	11353	78.12%
77092	209	10165.32	17229	95.29%
77093	331	8464.67	14043	86.04%
77094	4	403.13	314	6.77%
77095	65	9841.73	21449	76.85%
77096	27	1762.5	1908	14.13%
77098	23	2883.83	2193	18.85%
77099	18	1261.06	9040	44.08%
77316	9	2728.38	1112	99.11%
77336	9	1770.37	483	9.83%
77338	32	8235.87	7498	36.02%
77339	19	4390.75	10323	67.61%
77345	8	1133.21	2087	21.97%
77346	12	8235.87	2106	6.69%
77354	98	7819.2	15274	63.06%
77355	68	7411.9	10562	94.64%
77356	5	2728.38	12	100.00%
77362	15	5503.05	1644	44.37%
77365	4	2920.72	1628	75.86%
77373	31	4223.05	6961	24.12%
77375	78	8529.02	15227	49.24%
77377	78	7526.95	10407	55.13%
77379	76	8529.02	16448	45.03%
77380	5	1822.5	43	0.53%
77382	1	840	1	0.04%
77386	18	2728.49	4489	16.95%
77388	25	4577.97	6339	28.29%
77389	22	8974.12	3218	16.52%
77396	26	8235.87	10107	43.48%
77401	28	2880	436	6.37%
77406	15	1792.5	7570	27.22%
77407	8	2370	169	0.52%
77417	3	1275	639	32.03%
77418	18	8634.52	655	98.20%
77420	1	967.5	2	0.14%
77423	30	10301.63	2325	25.44%
77429	151	9138.65	26692	71.91%
77430	2	172.5	2	0.12%
77433	109	8306.73	43515	85.24%
77434	1	125.07	287	69.32%
77435	10	1762.5	676	20.40%
77441	8	2310	230	1.50%
77445	9	10103.77	195	97.99%
77447	76	10301.63	10218	93.12%
77448	1	118.3	8	100.00%
77449	74	8295.87	28724	56.10%
77450	33	5600.25	16611	58.13%
77451	1	118.3	27	87.10%
77459	7	2145	4470	12.62%
77461	11	1508.21	77	1.33%
77468	2	397.5	9	3.30%
77469	10	667.5	70	0.23%
77471	31	2959.97	315	1.58%
77474	16	2999.15	174	2.03%
77477	10	1217.93	1580	8.45%
77478	7	1332.5	766	6.34%
77479	20	4390.75	10737	31.46%
77484	73	10223.08	4168	74.80%
77485	14	1212.72	127	4.77%
77488	20	1515	1771	21.13%
77489	9	1725	299	2.06%
77493	55	11504.33	15114	43.62%
77494	42	3980.97	14642	26.57%
77498	11	1732.5	164	0.86%
77502	35	1763.57	1245	9.54%
77503	26	7543.53	2956	30.37%
77504	6	1006.5	45	0.44%
77505	10	5854.35	295	2.69%
77506	30	2820	1053	8.50%
77507	2	92.77	5	0.51%
77510	15	1672.5	229	3.23%
77511	18	1777.5	137	1.95%
77515	1	150	1	0.05%
77517	7	1672.5	53	1.81%
77518	6	407.71	84	1.85%
77520	111	9536.35	8625	51.74%
77521	102	5854.35	12868	44.22%
77523	28	2565	2171	14.31%
77530	100	6936.23	9525	75.81%
77531	2	104.4	3	0.03%
77532	32	4262.22	10985	68.22%
77534	5	457.5	24	1.55%
77535	1	1044.45	2	0.07%
77536	30	2490	1096	8.05%
77539	14	1905	362	6.75%
77541	20	1702.5	62	0.57%
77545	11	5807.6	132	1.26%
77546	9	2355	2326	22.32%
77547	43	5564.35	2275	68.90%
77550	20	1155	173	1.05%
77551	13	429.34	858	7.18%
77554	23	2810.67	3620	28.01%
77562	38	5854.35	3061	59.73%
77563	9	1081.25	49	0.87%
77565	3	276.14	128	2.40%
77566	6	547.5	17	0.12%
77568	2	1792.5	37	2.05%
77571	35	4353.27	2791	15.06%
77577	3	1005.94	10	1.14%
77578	5	1702.5	97	0.73%
77581	22	2175	1554	7.34%
77583	9	382.5	160	0.70%
77584	12	1236.55	2294	6.14%
77586	13	2345.82	1224	10.20%
77587	24	2427.58	1053	15.91%
77598	6	2370	1038	6.82%

May Derecho Event - Outage Data by Zip Code
[May 16th - 24th, 2024]

***Note: Duplicate outage count may occur if the customers on an affected circuit section are split between multiple cities.**

City	*Number of Sustained Outages	Longest Outage Duration in Minutes	Number of Customers Impacted	% of Customers Impacted In Each City
ALVIN	18	1777.5	137	1.95%
ANGLETON	1	150	1	0.05%
BACLIFF	6	407.71	84	1.85%
BAYTOWN	213	9536.35	23618	41.09%
BEACH CITY	1	2.37	30	100.00%
BEASLEY	3	1275	354	20.88%
BELLAIRE	28	2880	436	6.37%
BELLVILLE	18	8634.52	655	98.20%
BOLING	1	967.5	2	0.14%
BROOKSHIRE	30	10301.63	2325	25.46%
CHANNELVIEW	100	6936.23	9524	75.81%
CLUTE	2	104.4	3	0.03%
CROSBY	32	4262.22	10985	68.22%
CYPRESS	242	9138.65	70207	79.63%
DAMON	2	172.5	2	0.12%
DANBURY	5	457.5	24	1.55%
DAYTON	1	1044.45	2	0.11%
DEER PARK	30	2490	1096	8.05%
DICKINSON	14	1905	362	6.73%
EAGLE LAKE	1	125.07	287	69.32%
EAST BERNARD	10	1762.5	676	20.40%
EL LAGO	1	15	1	0.07%
FREEPORT	20	1702.5	62	0.57%
FRESNO	11	5807.6	132	1.26%
FRIENDSWOOD	9	2355	2326	22.32%
FULSHEAR	8	2310	230	1.50%
GALENA PARK	43	5564.35	2275	68.90%
GALVESTON	51	2810.67	4651	11.24%
HEMPSTEAD	9	10103.77	195	97.99%
HIGHLANDS	38	5854.35	3061	59.73%
HITCHCOCK	9	1081.25	49	0.87%
HOCKLEY	76	10301.63	10218	93.12%
HOUSTON	5680	10165.32	667913	45.75%
HUFFMAN	9	1770.37	483	9.83%
HUMBLE	64	8235.87	19714	26.10%
KATY	174	11504.33	75086	44.29%
KEMAH	3	276.14	128	2.40%
KENDLETON	1	118.3	312	93.98%
KINGWOOD	23	4390.75	12409	50.11%
LA MARQUE	2	1792.5	37	2.05%
LA PORTE	35	4353.27	2792	15.07%
LAKE JACKSON	6	547.5	17	0.12%
LIVERPOOL	3	1005.94	10	1.14%
MAGNOLIA	154	7819.2	25704	73.59%
MANVEL	5	1702.5	97	0.73%
MEADOWS PLACE	4	3.97	439	23.48%
MISSOURI CITY	15	2145	4769	9.55%
MONT BELVIEU	6	2355	16	0.37%
MONTGOMERY	9	2728.38	1124	99.12%
NEEDVILLE	11	1508.21	77	1.33%
PASADENA	103	7543.53	5598	9.78%
PEARLAND	31	2175	3848	6.53%
PINEHURST	15	5503.05	1644	44.37%
PLEDGER	2	397.5	9	3.30%
PORTER	4	2920.72	1628	75.86%
RICHMOND	31	2370	7809	8.75%
ROSENBERG	29	2959.97	314	1.49%
ROSHARON	9	382.5	160	0.70%
SANTA FE	21	1672.5	282	2.82%
SEABROOK	12	2345.82	1223	11.51%
SEALY	16	2999.15	174	2.03%
SOUTH HOUSTON	24	2427.58	1054	15.92%
SPRING	158	8974.12	37171	26.10%
STAFFORD	9	1217.93	1141	6.78%
SUGAR LAND	36	4390.75	11666	17.86%
THE WOODLANDS	4	2954.5	1228	31.27%
TOMBALL	143	8529.02	24867	51.45%
WALLER	73	10223.08	4168	74.82%
WALLIS	14	1212.72	127	4.77%
WEBSTER	6	2370	1038	6.82%
WHARTON	20	1515	1779	21.14%

May Derecho Event - Outage Data by Zip Code
[May 16th - 24th, 2024]

***Note: Duplicate outage count may occur if the customers on an affected circuit section are split between multiple counties.**

County	*Number of Sustained Outages	Longest Outage Duration in Minutes	Number of Customers Impacted	% of Customers Impacted In Each County
AUSTIN	41	8634.52	859	8.19%
BRAZORIA	102	2940.77	4,069	3.09%
CHAMBERS	53	2565	2,840	16.50%
COLORADO	3	1385.98	289	67.21%
FORT BEND	225	10103.77	38,458	10.78%
GALVESTON	119	2810.67	5,704	7.42%
HARRIS	7,015	11504.33	960,629	44.79%
LIBERTY	11	2398.35	16	1.68%
MATAGORDA	4	397.5	24	8.45%
MONTGOMERY	217	7819.2	36,762	46.18%
WALLER	129	10301.63	9,929	56.95%
WHARTON	36	1762.5	2,486	18.50%

Hurricane Beryl - Outage Data by Zip Code
[July 8th - 19th, 2024]

***Note: Duplicate outage count may occur if the customers on an affected circuit section are split between multiple zip codes.**

Zip Code	*Number of Sustained Outages	Longest Outage Duration in Minutes	Number of Customers Impacted	% of Customers Impacted In Each Zip Code
77002	60	6,447.20	3,289	28.99%
77003	80	10,507.53	4,163	49.23%
77004	196	10,716.75	14,862	72.24%
77005	129	8,002.75	6,582	56.92%
77006	104	9,655.10	9,138	48.69%
77007	182	14,827.95	16,739	50.88%
77008	187	11,203.98	15,913	64.18%
77009	193	9,441.77	14,213	71.47%
77010	3	1,079.70	311	35.87%
77011	102	8,808.82	2,489	31.65%
77012	77	10,744.00	6,825	90.94%
77013	53	9,453.82	6,693	98.70%
77014	51	7,436.42	12,874	87.87%
77015	253	10,815.48	19,952	93.28%
77016	200	14,664.18	12,468	97.10%
77017	136	10,739.43	9,684	83.68%
77018	211	12,349.38	14,459	91.37%
77019	92	10,869.82	9,598	52.14%
77020	168	9,389.27	10,288	88.29%
77021	202	7,750.40	12,645	89.04%
77022	148	10,128.63	10,910	93.62%
77023	139	7,577.80	7,039	60.96%
77024	218	12,991.17	13,493	74.15%
77025	175	7,919.67	13,338	87.38%
77026	139	13,647.18	7,864	77.60%
77027	67	9,557.40	13,985	88.97%
77028	145	12,129.20	8,492	97.99%
77029	178	9,454.98	5,986	74.31%
77030	52	13,567.58	5,445	66.10%
77031	30	9,417.82	4,544	71.77%
77032	74	11,491.95	6,870	97.96%
77033	219	11,055.07	10,283	92.33%
77034	130	9,395.77	15,398	98.28%
77035	172	11,778.42	13,143	84.56%
77036	132	10,121.80	24,732	72.80%
77037	157	12,190.25	6,493	88.06%
77038	101	11,604.72	10,322	99.17%
77039	166	10,957.25	9,921	98.41%
77040	114	9,610.03	17,128	79.27%
77041	169	9,533.55	11,057	64.85%
77042	73	10,912.15	21,824	89.67%
77043	103	10,138.62	10,197	71.57%
77044	111	12,114.25	21,323	98.08%
77045	183	9,482.88	11,702	87.31%
77046	6	7,825.32	577	47.41%
77047	170	8,166.87	12,394	81.80%
77048	83	8,166.87	8,701	97.30%
77049	93	10,800.93	12,154	80.94%
77050	30	12,114.25	1,431	78.37%
77051	138	7,919.67	7,277	80.65%
77053	99	9,218.55	10,184	96.35%
77054	64	9,150.72	13,851	75.13%
77055	168	10,776.72	15,708	71.62%
77056	67	10,767.23	9,159	55.65%
77057	93	8,785.90	15,439	68.29%
77058	43	10,197.95	9,970	83.28%
77059	28	8,042.53	6,104	85.86%
77060	126	11,608.60	18,198	96.99%
77061	111	9,263.75	10,631	97.92%
77062	43	9,341.88	10,240	99.41%
77063	89	11,781.73	16,030	79.42%
77064	112	9,610.03	15,588	80.42%
77065	50	10,546.93	7,968	45.54%
77066	84	12,224.48	11,754	91.85%
77067	57	9,474.53	12,290	98.62%
77068	83	9,672.35	5,168	79.31%
77069	83	10,538.10	9,227	84.03%
77070	123	10,630.42	24,858	89.94%
77071	52	9,606.55	5,985	51.18%
77072	87	9,105.22	19,794	88.19%
77073	73	10,841.42	16,496	96.54%
77074	142	9,544.70	14,093	89.49%
77075	115	7,907.17	14,376	94.15%
77076	204	11,167.82	10,696	98.02%
77077	66	9,390.52	13,646	41.22%
77078	53	10,739.93	5,387	98.45%
77079	84	14,614.38	8,258	47.47%
77080	138	12,223.30	14,810	77.54%
77081	89	9,331.72	13,539	78.12%
77082	47	8,837.37	22,622	83.59%
77083	65	9,232.40	23,189	93.39%
77084	86	14,614.38	31,723	68.09%
77085	99	9,062.52	6,275	95.54%
77086	103	9,416.17	10,789	99.24%
77087	190	11,055.07	11,552	85.16%
77088	181	10,941.60	19,456	97.73%
77089	116	12,412.88	18,454	89.23%
77090	99	12,196.45	20,494	99.74%
77091	170	12,224.37	13,143	90.44%
77092	190	11,524.78	17,554	97.09%
77093	285	14,664.18	15,510	95.03%
77094	16	4,451.75	4,088	88.14%
77095	50	7,473.78	21,837	78.24%
77096	159	9,606.55	12,525	92.73%
77098	86	9,001.67	4,960	42.63%
77099	92	8,908.97	19,740	96.26%
77316	8	6,546.62	1,113	99.20%
77336	91	12,336.88	4,861	98.94%
77338	82	11,961.48	12,526	60.18%
77339	88	14,899.53	13,551	88.75%
77345	61	12,156.97	9,449	99.48%
77346	125	12,160.65	31,063	98.68%
77354	173	6,771.67	18,736	77.36%
77355	158	9,036.32	8,708	78.03%
77356	3	6,546.62	12	100.00%
77362	52	5,170.17	3,632	98.03%
77365	12	11,938.70	2,142	99.81%
77373	120	11,702.77	25,408	88.05%
77375	165	7,831.82	23,146	74.86%
77377	141	10,387.20	16,789	88.94%
77379	181	11,036.52	35,461	97.08%
77380	40	11,833.80	6,887	84.47%
77382	5	6,000.13	2,532	99.84%
77385	4	9,295.98	858	100.00%
77386	77	11,033.93	24,573	92.79%
77388	90	12,171.43	21,214	94.68%
77389	77	9,331.37	15,014	77.06%
77396	131	12,369.38	23,121	99.46%
77401	94	8,182.88	4,297	62.80%
77406	120	9,501.97	25,847	92.94%
77407	52	6,346.37	31,980	98.64%
77417	27	6,410.23	1,371	68.72%
77418	6	1,623.13	310	46.48%
77420	17	8,181.20	803	57.32%
77422	4	1,064.09	173	96.65%
77423	87	10,899.52	3,637	39.80%
77429	197	10,076.67	32,182	86.70%
77430	54	13,226.50	1,377	81.19%
77433	82	9,533.55	35,412	69.36%
77434	18	6,225.55	361	87.20%
77435	60	9,373.37	1,893	57.14%
77441	60	5,102.32	10,384	67.80%
77444	12	2,719.93	118	23.18%
77445	6	10,899.52	192	96.48%
77447	52	10,897.52	2,094	19.08%
77448	3	3,833.27	8	100.00%
77449	125	4,870.02	35,517	69.37%
77450	91	6,582.88	25,698	89.92%
77451	1	3,833.27	27	87.10%
77459	106	9,557.88	34,575	97.62%
77461	90	5,097.68	3,919	67.69%
77464	1	5,102.32	13	100.00%
77468	10	8,181.20	102	37.36%
77469	200	10,638.35	19,672	65.23%
77471	192	10,562.67	12,074	60.53%
77474	97	4,942.62	2,639	30.76%
77476	5	5,020.08	13	100.00%
77477	127	9,417.82	17,636	94.34%
77478	89	10,656.70	8,457	70.03%
77479	104	13,806.43	33,174	97.21%
77480	5	2,692.50	9	9.38%
77481	15	2,677.50	117	100.00%
77484	31	12,097.72	3,852	69.13%
77485	64	6,225.55	2,626	98.54%
77486	6	13,226.50	101	91.82%
77488	149	9,387.83	6,537	77.99%
77489	96	10,551.95	14,146	97.48%
77493	89	10,897.52	19,962	57.61%
77494	112	6,582.88	44,800	81.29%
77498	98	12,140.25	18,030	94.28%
77502	220	7,764.25	11,056	84.69%
77503	113	8,533.20	8,679	89.17%
77504	83	7,518.87	9,418	92.82%
77505	87	9,030.00	8,581	78.39%
77506	192	9,213.22	9,254	74.67%
77507	25	10,188.27	843	85.93%
77510	52	7,668.85	6,250	88.18%
77511	151	10,727.42	6,796	96.53%
77515	41	12,586.87	1,230	63.57%
77517	42	6,778.92	2,313	79.08%
77518	22	8,037.32	4,499	99.34%
77520	235	10,650.25	13,533	81.18%
77521	229	9,479.72	22,040	75.73%
77523	138	10,054.53	10,766	70.98%
77530	128	9,401.00	9,235	73.50%
77531	116	10,387.20	7,362	83.62%
77532	158	10,768.28	14,329	88.99%
77534	28	8,999.95	912	58.99%
77535	43	9,329.97	2,661	98.41%
77536	120	7,631.73	9,289	68.23%
77539	27	5,210.32	5,255	97.97%
77541	237	10,745.65	9,370	86.22%
77545	87	7,973.57	10,018	95.76%
77546	49	7,560.22	10,399	99.76%
77547	45	8,085.85	3,216	97.40%
77550	167	9,299.08	13,954	84.60%
77551	98	7,254.02	9,845	82.33%
77554	94	11,302.13	10,872	84.11%
77555	3	5,046.03	2	50.00%
77562	81	10,106.83	1,816	35.43%
77563	34	7,668.85	4,990	88.21%
77565	24	8,037.32	4,374	81.99%
77566	225	9,559.62	14,307	97.67%
77568	11	1,817.93	1,741	96.45%
77571	194	10,182.05	16,218	87.51%
77573	4	3,649.25	1,345	85.56%
77577	20	10,726.93	855	97.38%
77578	118	5,311.93	12,817	96.39%
77580	4	3,308.67	4	100.00%
77581	191	6,479.77	20,150	95.14%
77583	237	12,586.87	21,495	94.14%
77584	205	7,973.57	35,359	94.66%
77586	97	10,197.95	9,744	81.22%
77587	74	10,739.43	5,655	85.46%
77598	96	7,915.65	9,585	63.02%

Hurricane Beryl - Outage Data by Zip Code
[July 8th - 19th, 2024]

***Note: Duplicate outage count may occur if the customers on an affected circuit section are split between multiple cities.**

City	*Number of Sustained Outages	Longest Outage Duration in Minutes	Number of Customers Impacted	% of Customers Impacted In Each City
ALVIN	151	10727.42	6796	96.53%
ANGLETON	41	12586.87	1230	63.57%
BACLIFF	22	8037.32	4499	99.34%
BAYTOWN	533	10650.25	43040	74.87%
BEACH CITY	9	3913.42	29	96.67%
BEASLEY	27	6410.23	1080	63.72%
BELLAIRE	96	8182.88	4298	62.82%
BELLVILLE	6	1623.13	310	46.55%
BOLING	17	8181.2	803	57.29%
BRAZORIA	4	1064.09	173	96.65%
BROOKSHIRE	87	10899.52	3637	39.81%
CHANNELVIEW	128	9401	9234	73.50%
CLUTE	116	10387.2	7351	83.59%
CONROE	4	9295.98	858	100.00%
CROSBY	158	10768.28	14329	88.99%
CYPRESS	262	10076.67	67595	76.66%
DAMON	53	13226.5	1375	81.17%
DANBURY	28	8999.95	912	58.99%
DAYTON	37	7691.95	1832	98.92%
DEER PARK	120	7631.73	9289	68.23%
DICKINSON	28	5210.32	5256	97.97%
EAGLE LAKE	18	6225.55	361	87.20%
EAST BERNARD	60	9373.37	1893	57.14%
EL LAGO	23	6517.18	1356	99.05%
FREEPORT	236	10745.65	9370	86.24%
FRESNO	87	7973.57	10018	95.76%
FRIENDSWOOD	48	7560.22	10398	99.77%
FULSHEAR	60	5102.32	10384	67.79%
GALENA PARK	45	8085.85	3216	97.40%
GALVESTON	339	11302.13	34673	83.79%
GUY	12	2719.93	118	23.18%
HEMPSTEAD	6	10899.52	192	96.48%
HIGHLANDS	81	10106.83	1816	35.43%
HITCHCOCK	34	7668.85	4990	88.21%
HOCKLEY	52	10897.52	2094	19.08%
HOUSTON	9551	14827.95	1160426	79.49%
HUFFMAN	91	12336.88	4861	98.94%
HUMBLE	299	12369.38	66716	88.31%
IOWA COLONY	2	3633.82	36	100.00%
KATY	344	10897.52	125974	74.30%
KEMAH	24	8037.32	4374	81.99%
KENDLETON	4	3833.27	319	96.08%
KINGWOOD	137	14899.53	22996	92.86%
LA MARQUE	11	1817.93	1741	96.45%
LA PORTE	194	10182.05	16218	87.51%
LAKE JACKSON	225	9559.62	14307	97.67%
LEAGUE CITY	4	3649.25	1345	85.56%
LIVERPOOL	20	10726.93	855	97.38%
MAGNOLIA	311	9036.32	27131	77.67%
MANVEL	118	5311.93	12818	96.39%
MEADOWS PLACE	22	6360.45	1457	77.91%
MISSOURI CITY	188	10551.95	48732	97.58%
MONT BELVIEU	38	9329.97	4103	95.81%
MONTGOMERY	8	6546.62	1125	99.21%
NEEDVILLE	90	5097.68	3920	67.69%
ORCHARD	1	5102.32	13	100.00%
PASADENA	640	10188.27	47828	83.55%
PEARLAND	364	7973.57	55653	94.49%
PINEHURST	52	5170.17	3632	98.03%
PLEDGER	10	8181.2	111	37.36%
PORTER	12	11938.7	2142	99.81%
RICHMOND	326	10638.35	76594	85.80%
RICHWOOD	4	6280.6	12	100.00%
ROSENBERG	191	10562.67	12977	61.63%
ROSHARON	236	12586.87	21457	94.13%
SANTA FE	84	7668.85	8563	85.52%
SEABROOK	81	10197.95	8388	78.92%
SEALY	97	4942.62	2639	30.76%
SIMONTON	5	5020.08	13	100.00%
SOUTH HOUSTON	75	10739.43	5657	85.47%
SPRING	519	12171.43	129934	91.23%
STAFFORD	120	9417.82	16179	96.17%
SUGAR LAND	247	13806.43	59649	91.33%
THE WOODLANDS	19	9295.98	2917	74.28%
THOMPSONS	15	2677.5	116	100.00%
TOMBALL	287	10387.2	38486	79.62%
WALLER	31	12097.72	3851	69.13%
WALLIS	64	6225.55	2626	98.54%
WEBSTER	96	7915.65	9585	63.01%
WEST COLUMBIA	6	13226.5	101	91.74%
WHARTON	149	9387.83	6547	77.99%

Hurricane Beryl - Outage Data by Zip Code
[July 8th - 19th, 2024]

***Note: Duplicate count may occur if the customers on an affected circuit section are split between multiple counties.**

County	*Number of Sustained Outages	Longest Outage Duration in Minutes	Number of Customers Impacted	% of Customers Impacted In Each County
AUSTIN	134	6,225.55	4,194	39.98%
BRAZORIA	1463	13,226.50	122,022	92.70%
CHAMBERS	212	10,650.25	12,994	75.49%
COLORADO	26	6,225.55	373	86.74%
FORT BEND	1581	13,806.43	306,980	86.03%
GALVESTON	577	11,302.13	66,598	86.64%
HARRIS	13211	14,899.53	1,709,113	79.68%
LIBERTY	55	10,472.68	939	98.43%
MATAGORDA	13	8,181.20	117	41.20%
MONTGOMERY	504	13,806.43	68,067	85.51%
WALLER	165	12,097.72	8,861	50.82%
WHARTON	233	9,387.83	9,671	71.96%

CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
PROJECT NO. 56822
INVESTIGATION OF EMERGENCY PREPAREDNESS AND RESPONSE

PUBLIC UTILITY COMMISON OF TEXAS
REQUEST NO.: PUC-RFI01-018

QUESTION:

Electric Utilities – Emergency Planning and Event Response

Describe any challenges in restoring operations your Company encountered due to the May 2024 Derecho or Hurricane Beryl.

ANSWER:

May 16, 2024 Derecho

The May 16, 2024 Derecho arose suddenly and unexpectedly. There was no opportunity for CenterPoint Houston to warn customers in advance, to mobilize additional crews in advance, or to otherwise prepare for large-scale power outages in advance of the storm.

The Derecho impacted both transmission and distribution lines. Also, during the Derecho, many trees, including trees located outside of CenterPoint Houston's right-of-way, toppled over and fell into distribution lines, delaying restoration. Especially when such lines were located in rear easements which comprises approximately 47% of distribution lines, this presented particular challenges in restoring customer services based on difficulties in accessing the easements and moving equipment and resources due to nearby structures and vegetation. In some instances, these locations required our restoration personnel to set poles by hand or to navigate and set up cranes or other specialized equipment, which increased the time it took to complete the restoration in these locations, in addition to the delay to restoration involved in removing any fallen trees or vegetation interfering with the lines.

Hurricane Beryl

Approximately 80% of CenterPoint Houston’s service territory was impacted by the more intense, “dirty side” of Hurricane Beryl, resulting in widespread customer outages. More than 80% of customers were without power in the immediate aftermath of the storm. While the storm was reported as a Category 1, the power of Hurricane Beryl increased as it was making landfall, and windspeeds were recorded throughout the wooded Greater Houston west side areas in ranges between 70 to 97 mph in many areas. During the restoration of service following Hurricane Beryl, CenterPoint Houston’s employees, contractors, and mutual assistance crews encountered a wide range of challenges, including damage from trees and debris, access issues, and safety and security challenges as described below.

As with the Derecho, during Hurricane Beryl, many trees, including massive pine, oak, and other trees located outside of the right of way, toppled and damaged distribution lines, delaying restoration. When such lines were located in rear easements which comprise approximately 47% of distribtuion lines, this presented particular challenges in restoring customer services based on difficulties in accessing the easements and moving equipment and resources due to nearby structures and vegetation, as described above.

Beyond challenges in accessing rear easements, our restoration personnel also encountered difficulties in accessing lines and equipment due to unattended properties with locked fences, dogs, or other barriers to entry. They also encountered some customers who refused to allow access to their properties or refused to give permission to cut down trees that had caused localized outages.

Just like our customers, the Company's personnel working to restore services to customers dealt with extreme heat, and it was difficult for some mutual assistance crews from more temperate