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| APPLICATION OF CENTERPOINT | § | BEFORE THE STATE OFFICE |
| ENERGY HOUSTON ELECTRIC, LLC | § | |
| FOR APPROVAL OF ITS 2026-2028 | § | OF |
| TRANSMISSION AND DISTRIBUTION | § | |
| SYSTEM RESILIENCY PLAN | § | ADMINISTRATIVE HEARINGS |

**HOUSTON COALITION OF CITIES’ FOURTH REQUESTS FOR INFORMATION
AND FOURTH REQUESTS FOR PRODUCTION TO CENTERPOINT ENERGY
HOUSTON ELECTRIC, LLC**

In connection with the Application of CenterPoint Energy Houston Electric, LLC (“the Company”) for Approval of its 2026-2028 Transmission and Distribution System Resiliency Plan, Houston Coalition of Cities (“HCC”) requests the following information within fifteen (15) days of receipt of these requests, unless shortened or extended by agreement of the parties.

It is further requested that the answers to the requests for information be made under oath and that each item of information be made available as it is completed, rather than upon compilation of all information requested. Each answer should identify the person responsible for preparing that answer (other than the purely clerical aspects of its preparation) and the name of the witness in this proceeding who will sponsor the answer and who can vouch for its accuracy. These requests are continuing in nature, and should there be a change in circumstances which would modify or change an answer supplied by the Company, such changed answer should be submitted immediately as supplement to the Company’s original answer.

DEFINITIONS AND EXPLANATORY NOTES

1. When a request calls for identification of a “Person” or “Witness,” the identification shall include a name, employer name, job title, business address, and business telephone number.
2. The term “Document” is used in its broadest sense and shall mean and include all written, printed, typed, recorded, or graphic matter of every kind and description, including drafts, originals and copies, and all attachments and appendices thereto. Without limiting the foregoing, the terms “document” and “documents” shall include all agreements, contracts, communications, correspondence, letters, telegrams, telexes, messages, memoranda, records, reports, books, summaries, tape recordings or other records of telephone conversations or interviews, summaries or other records of personal conversations, minutes or summaries or other records of meetings and conferences, summaries or other records of negotiations, other summaries, diaries, diary entries, calendars, appointment books, time record, instructions, work assignments, forecasts, statistical data, statistical statements, financial statements, work sheets, work papers, drafts, graphs, maps, charts, tables, accounts, analytical records, consultants’ reports, appraisals, bulletins, brochures, pamphlets, circulars, trade letters, press releases, notes, notices, marginal notations, notebooks, telephone records, bills, statements, records of obligation and expenditure, invoices, lists, journals, advertising, recommendations, printouts, compilations, tabulations, analysis, studies, surveys, transcripts of hearings, transcripts of testimony, affidavits, expense reports, microfilm, microfiche, articles, speeches, tape or disk recordings, sound recordings, video recordings, film, tape, photographs, punch cards, programs, data compilation from which information can be obtained, and other printed, written, handwritten, type-written, recorded, stenographic, computer-generated, computer-stored, or electronically-stored matter, however, and by whomever produced, prepared, reproduced, disseminated, or made. The terms “non-privileged document” and “non-privileged documents” also include all copies of documents by whatever means made, except that where a document is identified or produced, identical copies thereof which do not contain any markings, additions, or deletions different from the original need not be separately produced.
3. If any of the information requests is available in machine-readable form (such as paper or magnetic tapes, drums, disks or other storage), state the form in which it is available and describe the type of computer or other machinery required to read the information.
4. When a request calls for identification of a “Document,” as defined herein, the identification should include the following:
 - a. the full name and address of the author(s) by whom the document was written, prepared, recorded or made;
 - b. the date of the document;
 - c. the title and/or ‘re’ of the document;
 - d. the subject matter of the document;
 - e. the full name and address of the recipient and every person who received copies of the document;

- f. the full name and address of the person who has possession, custody or control of the document, or who is in charge of maintaining the document; and
 - g. if the document has been lost, shredded or destroyed (whether intentionally or unintentionally) an explanation of the reasons for and causes of such loss, shredding or destruction.
5. The term “Studies” includes any Document, as defined herein, which reflects or was utilized in the collection, evaluation, analysis, summarization or characterization of information with the subjects referred to in this proceeding.
6. The term “the Company” and “CEHE” includes CenterPoint Energy Houston Electric, LLC and all of its agents, employees, parent companies, subsidiaries, affiliates, predecessors, successors, or assigns.
7. The term “Resiliency Plan” refers to the Transmission and Distribution System Resiliency Plan proposed in CenterPoint Energy Houston Electric, LLC’s application in this docket.

Respectfully submitted,

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COUNSEL FOR CITY OF HOUSTON

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By: /s/ Alton J. Hall, Jr.
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**COUNSEL FOR HOUSTON COALITION OF
CITIES**

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of March 2025, a true and correct copy of the foregoing document was served upon on all parties of record by email, facsimile and/or First Class Mail in Docket 57579.

By: /s/ Alton J. Hall, Jr.
Alton J. Hall, Jr.

**HOUSTON COALITION OF CITIES' FOURTH REQUESTS FOR PRODUCTION
TO CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC**

- 4-1. Please provide documentation, presentation, or analysis supporting the need for the following:
- a) RM-1;
 - b) RM-2;
 - c) RM-32: Cloud Security, Product Security & Risk Management;
 - d) RM-4: Distribution Pole Replacement/Bracing;
 - e) RM-28: Spectrum Acquisition;
 - f) RM-30: Network Security & Vulnerability Management;
 - g) RM-31: IT/OT Cybersecurity Monitoring;
 - h) RM-3: Restoration IGSD;
 - i) RM-27: Substation Security Upgrades;
 - j) RM-26: Substation Physical Security Fencing;
 - k) RM-5: Vegetation Management;
 - l) RM-16: Distribution Capacity Enhancement/Substations;
 - m) PP-1: Microgrid Pilot Project;
 - n) RM-15: Load Shed IGSD;
 - o) RM-14: Anti-Galloping Technologies;
 - p) RM-6: Transmission System Hardening;
 - q) RM-13: Mobile Substation;
 - r) RM-9: Coastal Resiliency Upgrades;
 - s) RM-8: S90 Tower Replacements;
 - t) RM-7: 69kV Conversion Projects;
 - u) RM-11: Control Center Flood Control;
 - v) RM-10: Substation Flood Control; and
 - w) RM-12: Major Underground Control and Monitoring System.
- 4-2. Provide any documentation, presentation, or analysis of pilot programs implemented by CEHE for:
- a) RM-1;
 - b) RM-3;
 - c) RM-4;
 - d) RM15.
- 4-3. For RM-1: Provide documentation presentation or analysis showing that advanced conductors are more cost effective than other conductors.
- 4-4. For RM-1: Provide documentation detailing plans to update the pole inspection criteria to meet the $\frac{3}{4}$ remaining strength criteria from Table 261-1 associated with NESC Rule 250C (extreme wind) and NESC Rule 250D (extreme ice) designs.

- 4-5. For RM-1: Provide documentation, presentation, or analysis showing:
 - a) composite poles are more cost effective than other poles;
 - b) ductile iron poles are more cost effective than other poles;
 - c) how priority of pole replacements is determined; and
 - d) a breakdown on the anticipated number of non-wood poles to be used.
- 4-6. For RM-2: Provide data showing the existing age, type, and condition of facilities at each location proposed to utilize this measure.
- 4-7. For RM-2: Provide data to show the historical cost vs. the reduction in outages.
- 4-8. For RM-3: Please provide the peer utility benchmarking survey results obtained on IGSD deployment practices.
- 4-9. For RM-3: Please provide information about the peer utility location, size, number of customers or other defining characteristics that CEHE used to determine that the benchmarking utility was a peer utility.
- 4-10. For RM-3: Provide training materials used for determining the location of IGSDs.
- 4-11. For RM-3: Provide engineering protocols for determining the location of IGSD on a feeder.
- 4-12. For RM-3: Provide the protocol for roll out of these devices on the system.
- 4-13. For RM-3: Provide catalog cut sheets for each of the IGSD devices to be used.
- 4-14. For RM-4: Provide the priority criteria and scoring used to weigh the factors for tree fall-in risk, accessibility, number of customers served, type of customers served, SAIDI and SAIFI performance, and pole age.
- 4-15. For RM-4: Provide electronic data for each of the 30,000 poles (or total number of poles by age and measure) showing the ages and which measure will be used.
- 4-16. For RM-4: Provide data showing the strength comparisons made for wood, fiberglass, and ductile iron poles.
- 4-17. For RM-4: Provide presentation, report, or memos regarding the strength of fiberglass poles for extreme wind and ice.
- 4-18. For RM-4: Provide the protocol for determining when a brace is to be used instead of replacing the pole.
- 4-19. For RM-5: Please provide a copy of the hazard tree removal program.

- 4-20. For RM-5: Provide annual costs and annual budget for hazard tree removal costs by year for the last 5 years and next 5 years.
- 4-21. For RM-5: Provide the priority criteria, assessment methods, and scoring used to prioritize the distribution circuits.
- 4-22. For RM-5: Provide SAIDI/SAIFI statistics for outages caused by trees off of right-of-way for the last 5 years.
- 4-23. For RM-5: Provide projected SAIDI/SAIFI reduction for outages caused by trees off of right-of-way for the last 5 years.
- 4-24. Provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing the studies that were used to determine priorities for:
 - a) structure replacement in RM-6;
 - b) structure replacement in RM-7;
 - c) tower replacement in RM-8;
 - d) fiber installation in RM-12;
 - e) installation of air flow spoilers in RM-14;
 - f) IGSD installation in RM-15; and
 - g) coastal section replacement in RM-9.
- 4-25. For RM-6: Provide electronic data for each of the 1,473 structures showing:
 - a) the structure type;
 - b) the structure age;
 - c) failure probability; and
 - d) the replacement structure type and cost.
- 4-26. For RM-6: Provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing all root cause analyses for each transmission structure that failed in the past five years. Also include:
 - a) The date of the failure;
 - b) The design criteria;
 - c) The replacement structure type and cost; and
 - d) Indicate if the structure was a hardened or non-hardened structure.
- 4-27. For RM-6: Provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing the transmission structure inspections for the past five years.

- 4-28. For RM-7: Provide data showing for each 69 kV circuit:
- a) The circuit identity;
 - b) The capacity at 69 kV;
 - c) The capacity at 138 kV after conversion;
 - d) The current peak loading;
 - e) The projected peak loading due to load growth; and
 - f) The projected peak loading due to transferred load.
- 4-29. For RM-7: Provide data showing for each 138 kV circuit that will transfer load to the converted circuits:
- a) The circuit identity;
 - b) The circuit capacity;
 - c) The current peak loading; and
 - d) The projected peak loading after load transfer to the converted circuits.
- 4-30. For RM-7: Show what switching options will be added by this measure and how these options improve resiliency.
- 4-31. For RM-7: Provide the priority criteria, assessment methods, and scoring used to prioritize the transmission circuits.
- 4-32. For RM-7: Provide the load flow analysis for existing load and future load both before and after conversion to 138 kV, including, but not limited to contingencies.
- 4-33. For RM-8: Provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing all root cause analyses of S90 towers that previously failed. Also, for each S90 tower that failed, provide:
- a) The date of the failure; and
 - b) The design criteria.
- 4-34. For RM-10: Provide engineering design criteria or protocols for equipment susceptible to water damage located in an underground vault.
- 4-35. For RM-10: Provide engineering design criteria or protocols for equipment susceptible to water damage located in an underground vault located in an area with high flood risk.
- 4-36. For RM-10: Provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing the relative elevation of the substation locations used to determine at risk locations, investigation of potential mitigation actions, and prioritization.

- 4-37. For RM-10: Provide data supporting the conclusion that the projected impact of flooding and extent of the Company's service area included in the 100-year, 200-year, and 500-year floodplain is expected to increase over time.
- 4-38. For RM-12: Provide documentation detailing the underground failures due to resiliency events.
- 4-39. For RM-12: Provide data showing the existing age, type, and condition of infrastructure at each location proposed to utilize this measure.
- 4-40. For RM-15: Provide data showing the existing age, type, and condition of infrastructure at each location proposed to utilize this measure if it is replacing existing infrastructure.
- 4-41. For PP-1: Regarding the interest and support of third parties contacting CEHE about microgrids:
- a) Provide any documentation, presentation, communication, or analysis provided to CEHE from the third parties.
 - b) Are any of the third parties involved in the design, placement, supply, or other business activities involved in the deployment or use of microgrids?
 - c) Are any of the third parties in an area potentially impacted by the pilot microgrid deployments?
- 4-42. For PP-1:
- a) Provide any draft or referenced microgrid Request for Approval ("RFP") CEHE has used or created in considering the pilot microgrids.
 - b) Provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing the studies which were used to determine priorities areas and devices to include in the microgrid pilot.
- 4-43. For RM-16: Provide a copy of the most recent distribution system capacity study or similar study evidencing the need for capacity upgrades at substations and distribution lines.
- 4-44. Please provide the documents containing all reports, memos, and presentations containing, discussing, describing, and analyzing the studies that were used to determine priorities for deployment of the following measures:
- a) RM-26;
 - b) RM-27; and
 - c) RM-16.

**HOUSTON COALITION OF CITIES' FOURTH REQUESTS FOR INFORMATION
TO CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC**

- 4-1. For RM-1: Please explain what is meant by advanced conductors.
- 4-2. For RM-2: For underground lines:
 - a) Please detail how the right-of-way is maintained for underground lines;
 - b) Please detail what methods are used to prevent damage from roots; and
 - c) Please detail what methods are used to ensure future access for maintenance and repair.
- 4-3. For RM-27:
 - a) Are the cameras NERC and NDAA compliant?
 - b) What lighting upgrades and costs are required for each of the 30 substations?
- 4-4. For RM-26 please provide:
 - a) Cost per foot for chain link fencing;
 - b) Cost per foot for wire mesh fencing;
 - c) Double gate cost for chain link fencing; and
 - d) Double gate cost for wire mesh fencing.
- 4-5. For RM-26: When comparing the chain link fencing with wire mesh fencing, what considerations were given for the changes intruders would make in fence cutting methods?
- 4-6. For RM-26: When comparing the chain link fencing with wire mesh fencing, what considerations were given intrusion methods other than cutting through a fence?
- 4-7. For RM-26: On page 220 of the application, CEHE states “The electric utility industry nationally has seen an increase in the number of instances of physical attacks on its infrastructure. In 2023 alone, the electric utility industry reported to the DOE over 90 instances of physical attack, vandalism, and suspicious activity.” What level of physical attacks and increases has CEHE seen with its substations?
- 4-8. For RM-26: What has been the cost of physical attacks on all CEHE’s substations in each of the past five years?
- 4-9. For RM-26: For each of the 21 substations with fencing upgrades in the application:
 - a) How many physical attacks have been made in each of the past five years?
 - b) What was the cost of physical attacks on each substation in each of the past five years?
- 4-10. For RM-26: What is the age and condition of the fencing for each of the 21 substations?

- 4-11. For RM-16: For each substation transformer included or impacted by this measure, provide in Excel format:
- a) The substation and transformer identity;
 - b) The capacity;
 - c) Peak load under normal conditions; and
 - d) Peak load under contingency conditions.
- 4-12. For RM-16: For 4 kV circuits:
- a) How many circuits are there?
 - b) How many miles of line are 4kV?
 - c) How many customers are served by a 4 kV line?
 - d) How much load is served by 4 kV lines?
 - e) Are any of the 4 kV circuits part of this measure?
- 4-13. For RM-16: Does CEHE use voltage step banks to enable tying circuits with different voltage levels?
- 4-14. For RM-16: What is CEHE's feeder and substation capacity contingency planning for reliability?
- 4-15. For RM-16: Does CEHE use N-1 contingency criterion in reliability planning?
- 4-16. For RM-16: Provide the CEHE planning criteria for the distribution system.
- 4-17. For RM-15: What are the designed hours of battery communication for the remote communications equipment, the IGSD devices, and the control systems?
- 4-18. For RM-3: Why are all IGSDs not grouped into one Resiliency Measure?
- 4-19. For RM-1: Describe the loading criteria used for communication attachments and strength of communication wires/anchors that may be attached to the poles to be hardened.
- 4-20. For RM-1: Has CEHE considered prioritizing main line poles to achieve greater impact from the pole replacement costs? If not, why not?
- 4-21. For RM-1: Explain why efficacy of the program does not include performance of hardened poles after a major event.
- 4-22. For RM-16: For each feeder included or impacted by this measure, provide in Excel format:
- a) The feeder identity;
 - b) The capacity;
 - c) Peak load under normal conditions; and
 - d) Peak load under contingency conditions.

- 4-23. For RM-16: For each tie point included or impacted by this measure, provide in Excel format:
- a) Peak capacity at the tie point;
 - b) Peak load under normal conditions at the tie point;
 - c) Peak load under contingency conditions at the tie point; and
 - d) Circuit identity on either side of the tie points.
- 4-24. For PP-1: List any third parties that have helped or are planned to help develop the microgrid pilot.
- 4-25. For RM-14: List any galloping conductor incidents that occurred after installation of air flow spoilers.
- 4-26. For RM-12: Provide the proposed depreciation rate for the system.
- 4-27. For RM-13: Explain the need for this measure if substations subject to flooding are re-elevated.
- 4-28. For RM-13: Explain the need for this measure if additional capacity is added to the transmission/substation system.
- 4-29. For RM-13: How many mobile substations are currently owned by CEHE and how many mobile stations are currently available by lease or mutual aid?
- 4-30. For RM-14: Detail each historic outage due to galloping conductors for the past 10 years.
- a) Identify the outage location;
 - b) Provide the number of customers out;
 - c) Provide the CMI;
 - d) Provide the restoration time;
 - e) Detail any infrastructure damage;
 - f) Provide the cost to repair any infrastructure damage; and
 - g) Indicate if air flow spoilers were installed to mitigate the issue and the installation cost.
- 4-31. For RM-12: Describe the communication means for components installed in vaults.
- 4-32. For RM-12: Provide the expected service life of the MUCAMS system.
- 4-33. For RM-11: Will the facility be manned during flood conditions?
- 4-34. For RM-11: Will pumps be used to control seepage during a flood and if so, how are the pumps maintained and tested?
- 4-35. For RM-11: What alternate water and sewage facilities will be provided during flood conditions if the site is manned?

- 4-36. For RM-11: What means of ingress and egress are available during flood conditions?
- 4-37. For RM-11: How reliable is the power supply to this facility during flood conditions?
- 4-38. For RM-10: In evaluating substation re-elevation vs. flood walls, what considerations were given to water seepage through and under the wall?
- 4-39. For RM-10: What is the cost of substation re-elevation compared to building a flood wall?
- a) Provide costs for previous substation re-elevation projects and costs for flood wall alternatives.
 - b) Provide costs for previous substation flood wall projects and costs for re-elevation alternatives.
 - c) Provide costs for each of the 12 proposed substation re-elevation projects and costs for flood wall alternatives.
- 4-40. For RM-10: Have any substations with flood walls experienced water inside the station during a flood?
- 4-41. For RM-10: On page 107 of the Resiliency Plan there is the statement “However, as in other types of events most temporary customer outages can be restored using automation device Resiliency Measures such as TripSavers and IGSDs.” Please explain how a TripSaver restores temporary outages which cannot be restored by a recloser and fuse saving scheme.
- 4-42. For RM-10: Do the TripSavers have two-way communications and can the TripSavers be controlled by dispatchers?
- 4-43. For RM-10: Compare the cost of both single-phase and multiphase TripSaver installations to:
- a) A line fuse;
 - b) A recloser without communication; and
 - c) A recloser with communication.
- 4-44. For RM-10: Compare the cost of both single-phase and multiphase IGSDs to:
- a) A recloser without communication; and
 - b) A recloser with communication.
- 4-45. For RM-10: Does CEHE use a fuse saving scheme, a fuse blowing scheme, or both and under what scenarios?

- 4-46. For RM-9: For each replaced tower, provide:
- Provide the age and condition;
 - The old design criteria;
 - The new design criteria; and
 - The cost.
- 4-47. For RM-9: Provide data showing for each 69 kV circuit:
- The circuit identity;
 - The capacity at 69 kV;
 - The capacity at 138 kV after conversion;
 - The current peak loading;
 - The projected peak loading due to load growth;
 - The projected peak loading due to transferred load;
 - The length; and
 - The cost.
- 4-48. For RM-9: Provide data showing for each 138 kV circuit that will transfer load to the converted circuits:
- The circuit identity;
 - The circuit capacity;
 - The current peak loading; and
 - The projected peak loading after load transfer to the converted circuits.
- 4-49. For RM-9: Provide data showing for each new 138 kV circuit:
- The circuit identity;
 - The circuit capacity;
 - The projected peak loading after load transfer to the new circuits;
 - The length; and
 - The cost.
- 4-50. For RM-9: For each new underwater cable, please provide:
- The cable identity
 - The capacity;
 - The justification for underwater construction vs. other methods;
 - The length;
 - The cost;
 - The projected peak loading after load transfer;
 - If it is replacing an existing circuit or if it is completely new construction; and
 - The circuit name, age, condition, design type, capacity, and peak loading of the circuit being replaced, if any.

- 4-51. For RM-9: Show what switching options will be added by this measure and how these options improve resiliency.
- 4-52. For RM-9: Provide the priority criteria, assessment methods, and scoring used to prioritize the transmission circuits.
- 4-53. For RM-9: For the re-routed transmission line, please provide:
- The line identity;
 - The capacity of the old line;
 - The peak loading of the old line;
 - The age and condition of the old line;
 - The justification for re-routing;
 - The length;
 - The cost;
 - The capacity of the new line; and
 - The projected peak loading of the new line.
- 4-54. For RM-9: For the new transmission circuit, please provide:
- The circuit identity;
 - The capacity;
 - The justification for the new circuit;
 - The length;
 - The cost;
 - The projected peak loading after load transfer;
 - If it is replacing an existing circuit or if it is completely new construction
 - The circuit name, age, condition, design type, capacity, and peak loading of the circuit being replaced, if any;
 - Provide the load flow analysis including contingencies; and
 - Please provide information about considerations made for salt contamination and if it will be mitigated at the higher voltage.
- 4-55. For RM-10: Provide, both separately by substation and in the aggregate of one or more substations to the extent maintained that way, the documents containing all reports, memos, and presentations containing, discussing, describing, any update or similar analysis of the impact from flooding or storm surge in substations with proposed flood measures.
- 4-56. For RM-10: On page 105 of the Resiliency Plan there is the statement “Extreme water events primarily cause customer outages from water inundation at substations or underground vaults.” For each underground vault that has caused outages due to flooding:
- Identify the vault;
 - List the flood event(s) and date(s);
 - Describe the issue in the vault that caused an outage due to flooding;
 - Describe any remedial action taken to prevent future outages from vault flooding; and

- e) List the cost(s) of the remedial action(s).
- 4-57. For RM-8: Provide electronic data for each of the 37 towers showing:
- a) the structure type;
 - b) the structure age;
 - c) failure probability;
 - d) the replacement structure type; and
 - e) the cost.
- 4-58. For RM-8: For each of the 37 towers, provide details on the change in design criteria.
- 4-59. For RM-2: How many of the road crossings are non-interstate crossings? For each non-interstate crossing, show details that explain why the change was justified.
- 4-60. For RM-2: Provide details showing locations where concrete poles with hardened overhead lines are not feasible and would make relocating freeway crossings underground feasible.
- 4-61. For RM-2: Provide budgetary costs for installing conduit on highway crossings on a unit basis (feet, lanes of traffic, etc.).
- 4-62. For RM-2: Provide the number of freeway crossings budgeted to be replaced by RM-2 for each of the next five years.
- 4-63. For RM-2: Provide the annual budgeted cost for underground freeway crossings by year for the next 5 years.
- 4-64. For RM-2: NESC requires Grade B strength on freeways with on-ramps and off-ramps, confirm CEHE meets and maintains this strength requirement.
- 4-65. For RM-2: NESC 218B requires the crossing span and adjoining span on each side of the crossing should be kept free from over-hanging or decayed trees or limbs that otherwise might fall into the line. Confirm CEHE meets this requirement.
- 4-66. For RM-2: Are any crossings to be replaced built and maintained to Grade C strength? If so, describe why hardening the crossing structure would not provide reasonable strength for extreme events.
- 4-67. For RM-2: Will the undergrounding only address primary poles? If not, will secondary service conductors be replaced as part of the undergrounding measure?
- 4-68. For RM-2: Will a customer meter need to be replaced as part of the undergrounding? If so, what cost must the customer pay for the conversion?
- 4-69. For RM-2: What is the priority for undergrounding tree fall-in locations?

- 4-70. For RM-2: Provide ranking protocols.
- 4-71. For RM-3: For each 900 cut and clear IGSD device, provide a spreadsheet showing:
- a) Device identification and location;
 - b) If each device is associated with:
 - i. Failure replacements;
 - ii. Circuits that are 300% of systemwide SAIDI or SAIFI;
 - iii. Overall distribution system protection needs; and
 - iv. Overall distribution system planning needs.
 - c) If the device will serve critical loads;
 - d) How many customers are served;
 - e) How much load in kW is served; and
 - f) Estimated installation cost.
- 4-72. For RM-3: What are the historic costs associated with IGSD device installations and the reduction in sustained customer interruptions during severe storms and other extreme weather events?
- 4-73. For RM-3: What are the designed hours of battery communication for the remote communications equipment, the IGSD devices, and the control systems?
- 4-74. For RM-3: Please compare the cost of both single-phase and multi-phase IGSD devices to:
- a) Single-phase and multi-phase reclosing circuit breakers; and
 - b) Electronic reclosers with communications.
- 4-75. For RM-4: In reference to “Figure SRP-42: Pole Replacement Criteria” in the application, for each application type:
- a) Detail the selection criteria and reasoning for selecting or excluding wood, fiberglass, or ductile iron; and
 - b) Compare the cost between wood, fiberglass, and ductile iron.
- 4-76. For RM-4: What percentage of poles will be braced compared to replacement poles?
- 4-77. For RM-5: Please detail all the differences in trimming practices for the 3-year trim cycle vs the 4.2-year and 5.5-year trim cycles.
- a) Include difference in SAIFI/SAIDI;
 - b) Include for extreme events; and
 - c) Variance in vegetation types (coastal verse trees further inland).

- 4-78. For RM-5: 11,700 circuit miles of line are identified as part of the Vegetation Management Measure. Please detail the vegetation management status/need for the remaining 18,300 miles of overhead distribution line that make up the rest of the 30,000 miles of overhead distribution line.
- 4-79. For RM-7: Provide the age of the 69 kV transformers.
- 4-80. For RM-7: Provide the age and condition of the 462 structures to be replaced.
- 4-81. For RM-5: Please detail what different measures are taken when a customer denies removal of a hazard tree outside the utility easement.