resources available in a support area (such as a distribution center) to allow for the safe and healthy operations.

Q20. IN LIGHT OF THE CIRCUMSTANCES (AND THE NEED TO RESTORE SERVICE AS QUICKLY AS POSSIBLE DESPITE THE HIGH DEMAND FOR LIMITED RESOURCES), DID ETI ACT PRUDENTLY IN ACQUIRING RESOURCES TO RESTORE SERVICE TO ITS CUSTOMERS?

A. Yes. ETI recognized the importance of restoring service as quickly as possible for the health, safety, and convenience of its customers and also for the sake of the regional and national economy. ETI therefore organized a restoration army to repair its system as quickly as possible. ETI recognized that the expense of expeditiously restoring service would be considerable and that, given the pressing demands of time and the limited availability of personnel and resources, restoration would be difficult. Yet ETI spared no effort in restoring service. ETI was cost-conscious throughout the process, utilizing less expensive resources first where possible and continually re-assessing the level of personnel resources employed so that it did not have more resources at its disposal than it actually needed and could productively utilize. ETI also relied upon contractors with pre-negotiated contracts to the extent feasible to ensure that the contract pricing was not influenced by market factors related to the hurricanes, and for other contractors, it negotiated terms that were as reasonable as possible. For all contracts, ETI employed a structured and detailed process to review invoices to ensure that they included only

work or materials that had actually been provided and were in compliance with the terms of the contract under which they were issued.

Q21. PLEASE SUMMARIZE THE STRATEGY THAT ETI EMPLOYED TO BALANCE CREW AND MATERIAL NEEDS AND ACQUISITIONS IN THE DIFFICULT ENVIRONMENT PRECEDING AND FOLLOWING THE LANDFALL OF HURRICANES LAURA AND DELTA.

A. ETI's Storm Plan, coupled with the experience ETI and its sister Operating Companies have gained from restorations following many storms within their service territories and elsewhere in which the Companies have served as mutual-aid utilities, has enabled ETI to be very effective in determining required resources for a given event. The primary tool used to evaluate initial resource requirements is a modeling program utilized by the System Outage Response ("SOR") group. The model estimates resources based on potential damages as related to the category of a hurricane, its known characteristics, and its projected path. From this model, ETI estimates the potential damage, which aids in determining restoration material requirements.

In this instance, the State Command Center (State Storm Manager and Region Restoration Coordinators) assessed the damage to the ETI system based upon outage management data from the Distribution Operations Centers ("DOC"), Transmission Operations Centers ("TOC"), and early reports from the field. Prior to each hurricane, ETI dispatched scouts across key parts of the service territory. The Damage Assessment coordinator collected the data from the scouts' aerial

patrols and ground patrols to project damages based on current sampling and obtained an overview of the total estimated damages. The projected damage data was used to estimate the amount of personnel resources and material required to begin restoration.

ETI also relied on the "Gateway Process," the purpose of which is to establish centers to receive incoming crews, verify contractor manpower and equipment, and administer safety orientations to incoming crews. The Gateway centers provide incoming personnel with the information necessary to expedite their assignment to the various work sites. In addition, these Gateways document the personnel and equipment being received and provide that documentation to individual work areas and to Entergy accounting for timely invoice review and processing.

ETI has two regions that are divided into a total of 12 networks, each responsible for a geographic area. During restoration, the State Command Center, in communication with the network supervisors, assesses restoration progress and the ability to effectively and safely manage the work force several times a day. These assessments are made on an ongoing, dynamic basis throughout the event and are utilized to make adjustments to the pre-event estimates of material and resource requirements.

ETI pre-staged crews at strategic locations in anticipation of each storm's impact, then ramped up resources to a peak, followed by the re-allocation and release of crews as progress was made. As crews completed work at one location, they were shifted to another location based on need and skill set. We attempted to

keep crews at the same staging site, however, which depended on factors such as proximity to work location, material lay-down areas, and logistical support capabilities. As the restoration progressed and workers were shifted among networks, the State Command Center, with input from the network supervisors, made determinations regarding the number of crews that could effectively and safely work in an area. When it was determined that the effective number had been reached, we began releasing excess resources and decommissioning the staging sites supporting those resources. As a staging site was decommissioned, we assessed the number of contractors that the remaining staging sites could support, and we reassigned the remaining crews to other staging sites. ETI closely monitored crew needs to ensure that crews were utilized in an efficient manner, that we did not have more crews than we needed, and that we consolidated staging sites and logistical resources when it became possible to do so.

A great deal of effort was placed on managing the efficiency of storm restoration teams. One example is how the Company performed refueling and maintenance of vehicles and equipment late at night while restoration crews were asleep in order to avoid downtime.

III. ETI DISTRIBUTION ORGANIZATION

A. Overview of the ETI Distribution Organization

Q22. PLEASE BRIEFLY DESCRIBE THE ETI DISTRIBUTION ORGANIZATION.

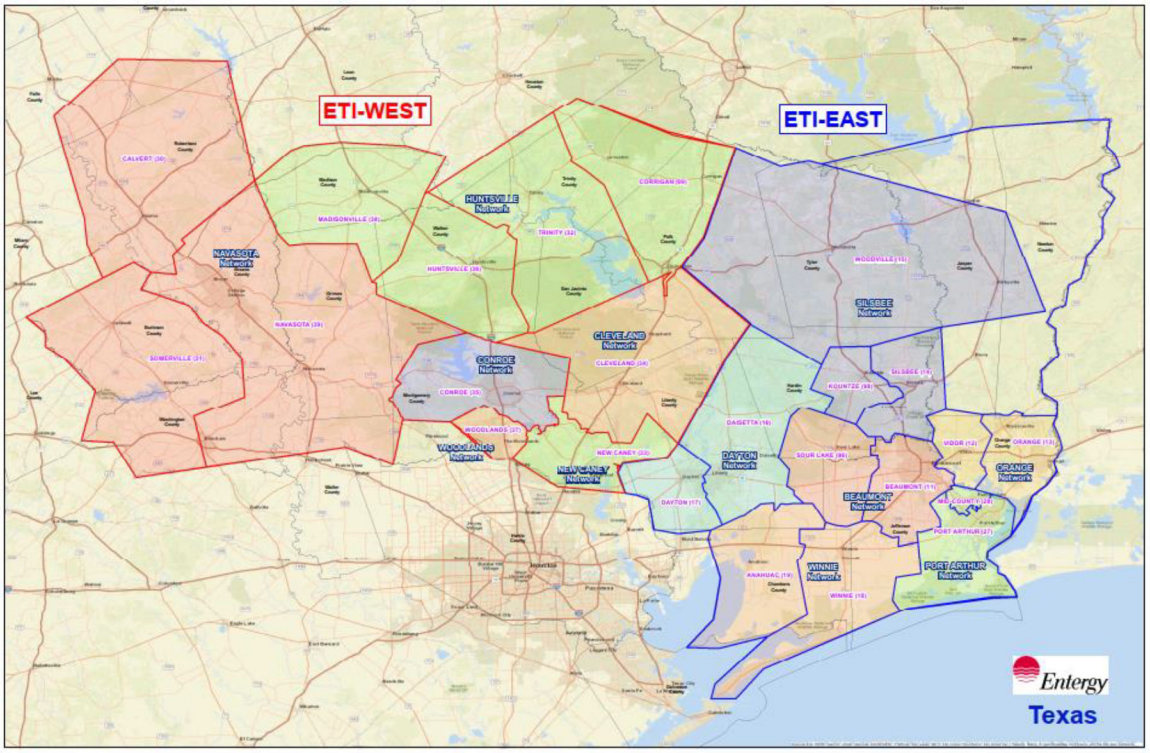
A. ETI Distribution Operations is the organizational group, headquartered in The Woodlands, Texas, that provides distribution electric utility service in ETI's service territory.

Q23. PLEASE DESCRIBE ETI'S ELECTRIC DISTRIBUTION SYSTEM.

A. ETI's electric distribution system is the portion of ETI's electric T&D grid operating at less than 69,000 volts (69 kV). ETI owns and operates a distribution system of 425 feeders, which serve residential, commercial, and industrial customers. These feeders are served from 140 substations either owned or operated by ETI. The feeder system spans 13,868 miles of overhead lines and 2,218 miles of underground lines to provide retail electric service to ETI customers in southeast Texas. The predominant operating voltages of the circuits are 13.2 kV and 34.5 kV, with a large underground 34.5 kV development in The Woodlands, Texas.

ETI is divided into two geographic operating regions. These regions are depicted in Figure 1 below and are identified as the East Region and the West Region. The East Region is headquartered in Beaumont; the West Region is headquartered in The Woodlands. The heavy borders in Figure 1 identify the overall geographic bounds of the Company's facilities in each region and do not necessarily indicate service territory boundaries between ETI and other electric providers.

Figure 1 – Map of ETI Geographic Regions



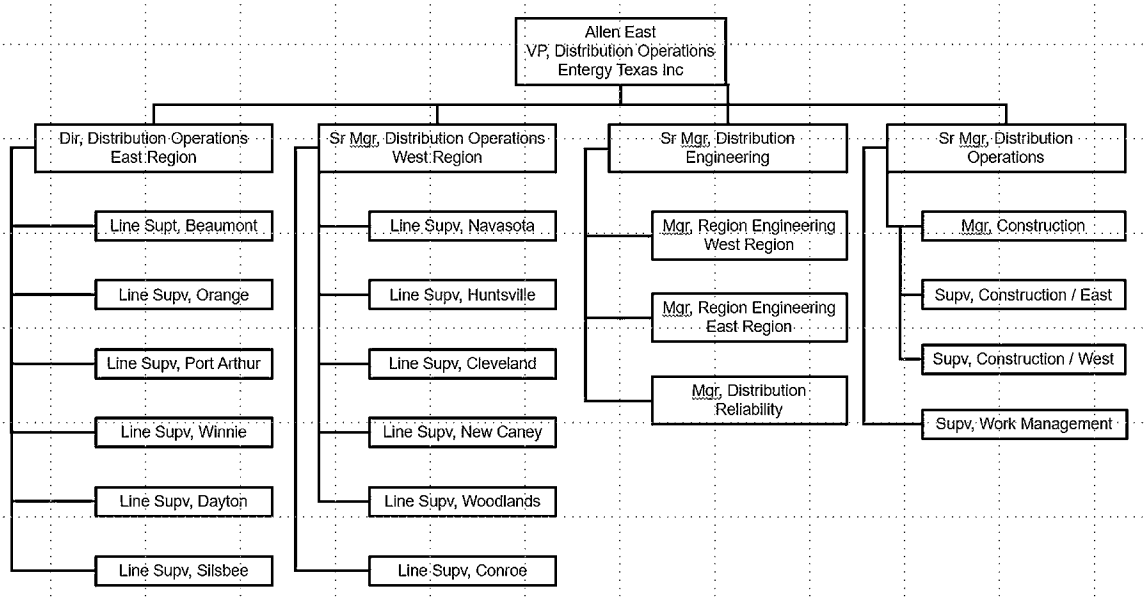
Q24. DOES ETI MAKE USE OF AFFILIATED ENTITIES?

A. Yes. Entergy Services, LLC ("ESL") provides essential management and corporate support services to ETI. As I will explain later in my testimony, the service company structure enables ETI and the other Entergy Operating Companies to (1) realize savings by using standard practices and taking advantage of economies of scale and centralized functions, and (2) provide continuous, reliable, safe, adequate, and reasonable electric service to their customers. In addition, in restoring services to customers following a major hurricane, ETI uses the services of the other Entergy Operating Companies, to the extent they are available, including ELL, EAL, EML, and Entergy New Orleans, LLC ("ENOL").

Q25. HOW IS THE DISTRIBUTION OPERATIONS GROUP WITHIN ETI ORGANIZED?

A. Figure 2 below shows the ETI Distribution Operations organization as of February 2021.

Figure 2 – Distribution Organization Vice President – Supervisors



B. Distribution Operations Activities

Q26. WHAT ARE THE RESPONSIBILITIES OF THE ETI DISTRIBUTION OPERATIONS GROUP?

A. ETI Distribution Operations is responsible for operating, planning, designing, constructing, and maintaining the electric distribution system that provides power and energy to homes, offices, businesses, industrial establishments, and governmental entities. The Distribution Operations group can be divided into three core business areas: (1) operations, (2) maintenance, and (3) construction. In

addition to these three core business areas, Distribution Operations requires a variety of support functions such as Supply Chain, Transportation, Customer Service Center, Human Resources, Information Technology Services, and Safety Skills and Training, which ESL provides in whole or in part.

Q27. WHAT ACTIVITIES ARE INCLUDED WITHIN THE FIRST OF THESE THREE CORE BUSINESS AREAS, THE OPERATIONS AREA?

A. The electric distribution system consists of a distribution grid that supplies electric energy to ETI's customers. The operations area monitors the distribution system loads and voltage levels to ensure adequate capacity to meet customer needs. In addition, the operations area handles routine and emergency routing to maintain a continuous supply of electricity to customers.

Q28. PLEASE DESCRIBE THE ACTIVITIES WITHIN THE SECOND OF THESE AREAS, THE MAINTENANCE AREA.

A. The electric distribution system requires regular inspection and maintenance to preserve its integrity and its ability to provide reliable service to customers. These activities are both preventative and reactive. Examples of preventative maintenance are pole and equipment inspections and the use of new maintenance practices to enhance the overall operation and reliability of the distribution system. Reactive repairs and upkeep are required when parts of the system fail due to wind, lightning, tree, or other types of damage. Maintenance activities also include routine vegetation management along ETI's rights-of-way.

Q29. DESCRIBE DISTRIBUTION OPERATIONS' VEGETATION PROGRAMS AND PRACTICES.

A. The Distribution Operations group uses several standards and practices to manage its vegetation program. ETI conforms to two industry-accepted standards: (1) American National Standards Institute ("ANSI") A300 – Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning); and (2) ANSI Z133 – Pruning, Repairing, Maintaining, Removing Trees, and Cutting Brush – Safety Requirements. In addition, we trim to Entergy's system specifications, which detail trimming requirements, including the width of rights-of-way. In general, Entergy maintains right-of-way widths 10 feet to either side of the conductor and within 20 feet of overhang or existing rights-of-way, whichever is greater. Right-of-way widths do vary, however, based on location (*i.e.*, smaller right-of-way widths in predominantly urban areas and larger right-of-way widths in rural areas). Trees that are outside of the easement on private land are generally not trimmed except in cases where landowners grant special permission to remove trees hazardous to continued electrical service. The Vegetation Management group within Entergy uses tree growth rates, right-of-way dimensions, and reliability indices to identify cycle times for feeder miles trimmed. ETI's vegetation plan has been upgraded in recent years, resulting in a reduction in the number of customer interruptions due to vegetation-caused outages. We continue to monitor the effectiveness of the plan and adjust to the changing conditions of the ETI system.

Q30. DESCRIBE THE VEGETATION CHARACTERISTICS OF ETI'S SERVICE AREA.

A. ETI's service area covers a very diverse ecosystem in both rural and urban settings, changing from coastal prairie along the Gulf Coast to piney woods in the northeast and timbered prairie in the northwest section of the service area. The primary tree species include southern pine, water oak, live oak, Southern red oak, and sweet gum. Pines, water oak, and sweet gum trees, being weak-wooded and/or shallow-rooted, are major factors in tree-related outages. These species are prone to partial or total failure in heavy wind loading scenarios and, given potential heights of 50 to 80 feet, pose threats from well outside the maintained rights-of-way. Under normal circumstances, most tree-related service interruptions in ETI's service area are caused by trees falling from outside the rights-of-way, an average of 57% from 2016 to 2020. In 2020, vegetation-related causes of ETI service outages were as follows: overhanging limbs falling onto the line (23% of all outages), tree limbs growing into the line (19% of all outages), and vines contacting conductors (4% of all outages). From 2016 to 2020, ETI achieved a 10% reduction in tree-related outages through an adherence to its cycle maintenance program and a strong danger-tree inspection process.

Q31. FINALLY, PLEASE DESCRIBE THE ACTIVITIES WITHIN THE THIRD OF THESE AREAS, THE CONSTRUCTION AREA.

A. To accommodate customer growth, ETI must continually add or upgrade its distribution facilities. These additions, both major and minor, require constructing

distribution line extensions or increasing the capacity of existing facilities. Construction also includes clearing new rights-of-way of vegetation. This area of Distribution Operations includes not only line construction resources but also the engineering support necessary to ensure that ETI meets or exceeds the requirements of the National Electric Safety Code and Entergy's standard service practices and construction specifications.

IV. HURRICANE LAURA AND DELTA SYSTEM RESTORATION COSTS

A. 2020 Hurricane Impacts on ETI

1. Description of Hurricanes

Q32. PLEASE DESCRIBE HURRICANE LAURA.

A. Hurricane Laura was a deadly and destructive Category 4 hurricane that was tied with the 1856 Last Island hurricane as the strongest hurricane on record to make landfall in Louisiana. Hurricane Laura originated from a large tropical wave that moved off the West African coast on August 16, 2020 and became a tropical depression on August 20. Laura intensified into a tropical storm a day later. On August 25, Laura entered the Gulf of Mexico and became a Category 1 hurricane. On August 26, it began a period of rapid intensification. That same day, Laura became a major hurricane, and later attained peak one-minute sustained winds of 150 mph, making it a Category 4 hurricane. Early on August 27, Hurricane Laura made landfall near peak intensity over Cameron, Louisiana with sustained winds of 150 mph. The National Weather Service in Lake Charles recorded a station record gust of 133 mph before the observation system was destroyed by the wind. Peak

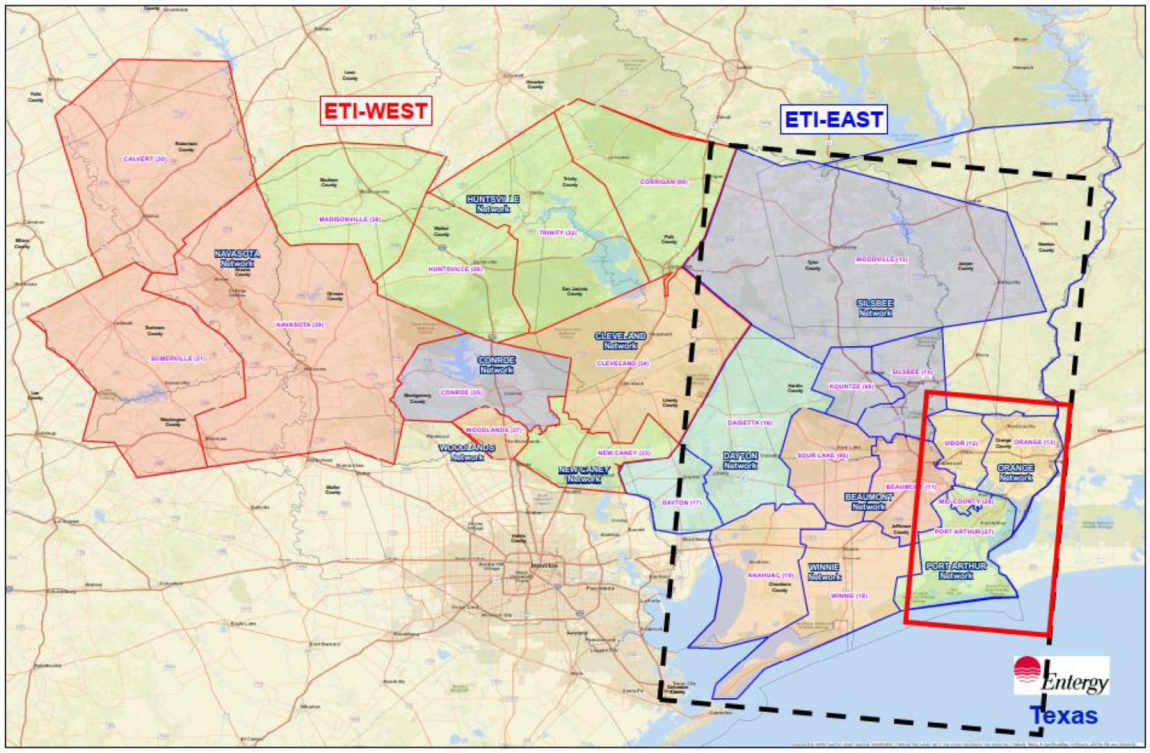
gusts of 130 mph extended west to Orange, Texas. From Vidor and Port Arthur east to Orange, wind gusts peaked at 70-90 mph. In Beaumont and to the west, Hurricane Laura created peak gusts of 60-70 mph. Progressing inland across southwestern Louisiana, Hurricane Laura produced destructive winds over a wide area. Maximum sustained winds were near 100 mph as Laura decreased to Category 2 status north of Fort Polk, Louisiana. Hurricane-force winds extended outward up to 60 miles from the center and tropical-storm-force winds extended outward up to 175 miles. At least 14 feet of storm surge was recorded in the majority of Cameron Parish with the lowest being 9 feet and the highest being 17 feet in Rutherford Beach and Creole, Louisiana. Rainfall totals from Laura peaked at 8-10 inches in areas of Lake Charles, over 10 inches near Sabine, Texas, and up to 6 inches near Beaumont. Laura became a tropical storm later in the day as it passed over northern Louisiana. On August 29, Laura degenerated into a remnant low over Kentucky, before being absorbed into another extratropical storm near the East Coast of the U.S. shortly afterward.

Q33. PLEASE DESCRIBE THE EXTENT OF OUTAGES INCURRED BY ETI AS A RESULT OF HURRICANE LAURA.

A. Outages and restoration efforts were predominantly confined to the distribution networks in the ETI East Region boxed in dashed black below in Figure 3. Ultimately all restoration efforts collapsed to the networks serving Jefferson, Orange, and Hardin Counties as shown boxed in red below. There are

approximately 227,000 customers in this area, and 53% had outages in the wake of Hurricane Laura.

Figure 3

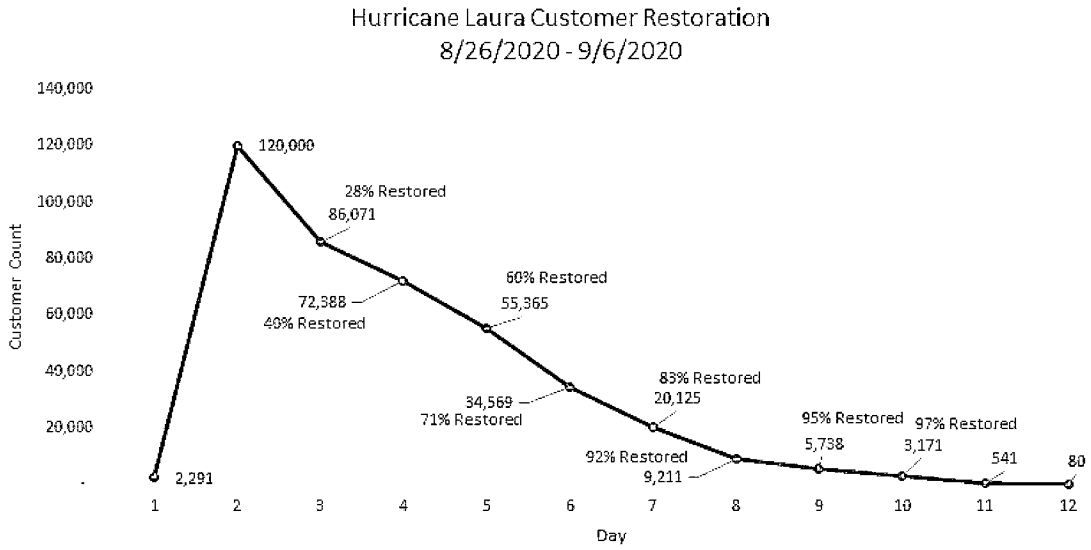


Q34. PLEASE DESCRIBE THE TIME FRAME FOR RESTORING SERVICE TO ETI'S CUSTOMERS FOLLOWING HURRICANE LAURA.

A. By day ten of the Hurricane Laura restoration, 97% of ETI customers had been restored. By the end of day twelve, almost all of the remaining customers that could take power had been restored. Figure 4 below shows the day-by-day number of customers under outage and the percentage of customers restored.[1]

[1] The outage numbers are exclusive of customers affected by the load-shedding event directed by MISO on August 27, 2020.

Figure 4



Q35. PLEASE DESCRIBE HURRICANE DELTA.

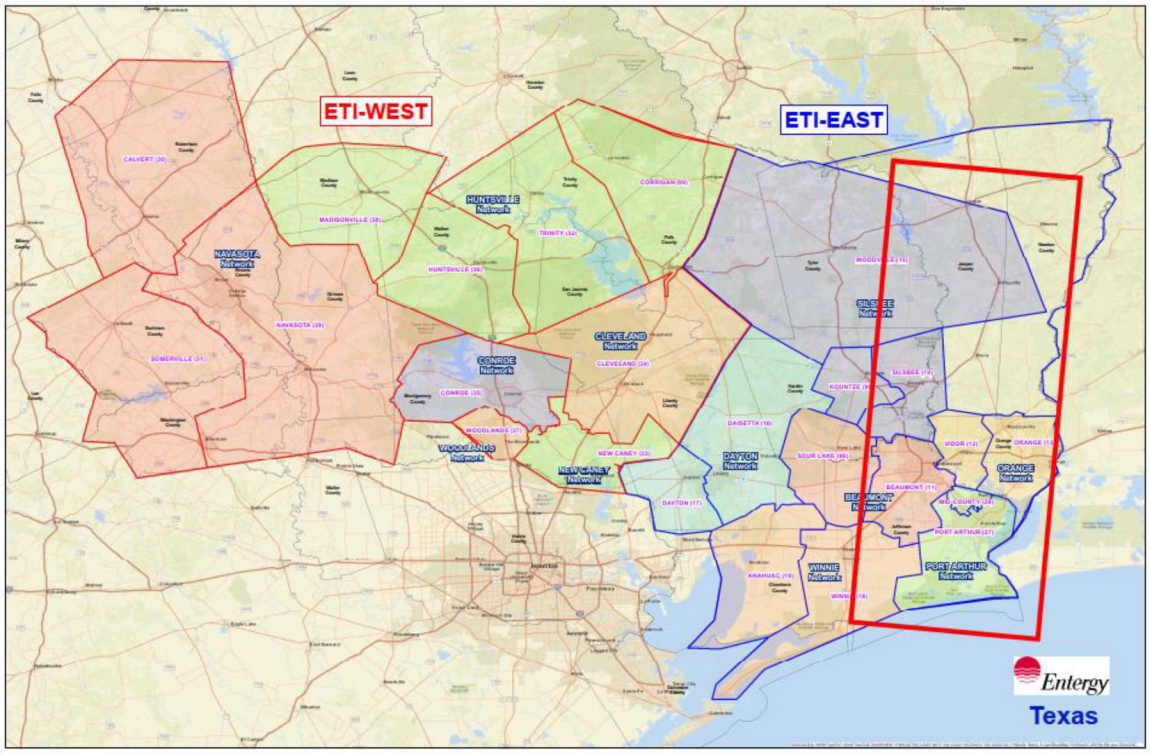
A. Hurricane Delta was the fourth hurricane of the record-breaking 2020 Atlantic hurricane season to make landfall in the Entergy service territory (*i.e.*, Hurricanes Laura, Sally, Beta, and Delta). Hurricane Delta formed from a tropical wave on October 1, 2020. Moving westward, the tropical wave began to quickly organize and, due to its imminent threat to land, it was designated a potential tropical cyclone late on October 4. The next day, the system was sufficiently organized to be designated as Tropical Storm Delta. Extreme rapid intensification ensued throughout October 5 into October 6, with Delta becoming a Category 4 hurricane within 28 hours of attaining tropical storm status. The rate of intensification was the fastest of any hurricane in the Atlantic basin since Hurricane Wilma in 2005. After peaking in intensity, however, an unexpected slight increase in wind shear

greatly disrupted the small core of Delta, and the storm quickly weakened before emerging into the Gulf of Mexico, where it was downgraded to a Category 1 hurricane. Delta eventually strengthened back to a Category 2 hurricane before it made landfall near Creole, Louisiana on October 9 with winds of 100 mph. This landfall occurred just 12 miles east of where Hurricane Laura made landfall six weeks earlier. After landfall, Hurricane Delta's wind field expanded, extending the range of hurricane force winds from Southeast Texas to South Central Louisiana. A top gust of 101 mph was recorded at Texas Point. Areas of Lake Arthur and Lake Charles, Louisiana received wind gusts of at least 95 mph. Areas of Port Arthur, Texas and southwest Louisiana received gusts of at least 90 mph. Though these high winds were not quite as intense as those from Hurricane Laura, they covered more ground than Laura did. A peak storm surge of 9 feet was recorded southwest of Lafayette, Louisiana, which was the highest on record at this location (Freshwater Canal Locks). Near Rutherford Beach, Louisiana, a storm surge of 17 feet was recorded – about 50 miles west of Freshwater Canal Locks. Although Hurricane Delta moved along quickly, portions of Southeast Texas saw at least 6-12 inches of rain. Southeast and Central Louisiana saw 12-18 inches of rainfall. Delta dropped to Category 1 status an hour after landfall as it traveled northeast through Louisiana. Six hours later, Delta was downgraded to a tropical storm. It weakened to a tropical depression over western Mississippi and turned eastward where it degenerated over Georgia.

Q36. PLEASE DESCRIBE THE EXTENT OF OUTAGES INCURRED BY ETI AS A RESULT OF HURRICANE DELTA.

A. Outages and restoration efforts were predominantly confined to the ETI East Region Networks serving Jefferson, Orange, and Hardin Counties, as shown in the highlighted area in the red box in Figure 5 below. There are approximately 181,000 customers in this area, and 55% had outages in the wake of Hurricane Delta.

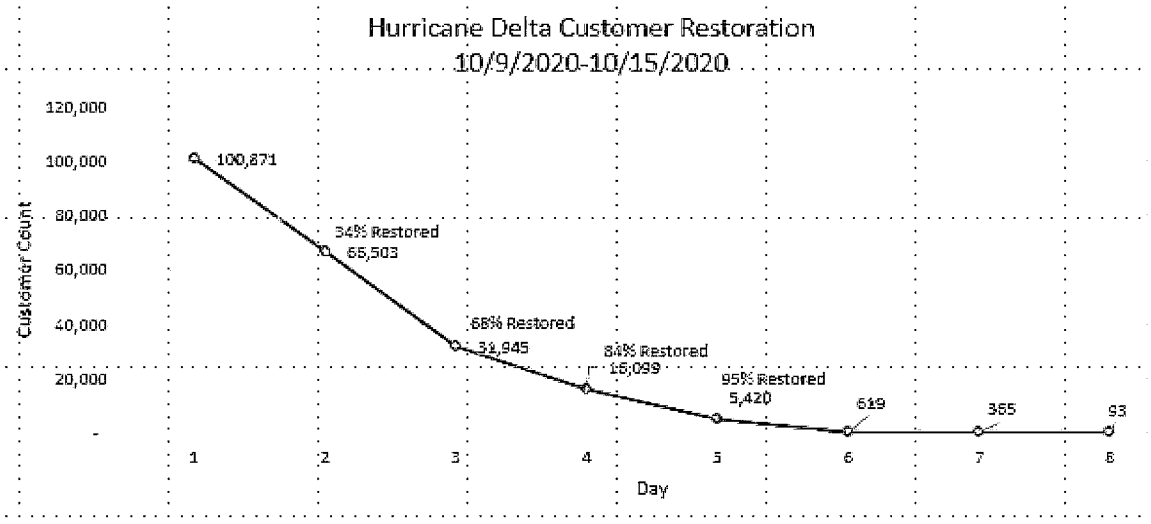
Figure 5



Q37. PLEASE DESCRIBE THE TIME FRAME FOR RESTORING SERVICE TO ETI'S CUSTOMERS FOLLOWING HURRICANE DELTA.

A. As detailed in Figure 6 below, by day five of the Hurricane Delta restoration, 95% of ETI customers had been restored. By the end of day eight, almost all of the remaining customers that could take power had been restored.

Figure 6



2. Management of ETI's Response to the Hurricanes

Q38. WHAT KEY ORGANIZATIONS WITHIN ETI AND ENTERGY MANAGE A MAJOR STORM RESPONSE?

A. When a major emergency is expected to occur, the SOR group activates the System Command Center. The System Command Center establishes an emergency management organization that utilizes all available Entergy System (or other) resources and effectively responds to the emergency in a rapid and orderly manner.

In advance of any hurricane, a State Command Center is established in each affected jurisdiction to manage the storm restoration effort on a state level. These two organizations communicate through regularly scheduled conference calls and various reports.

Q39. PLEASE DESCRIBE YOUR INVOLVEMENT LEADING UP TO THE LANDFALL OF HURRICANES LAURA AND DELTA.

A. For both Hurricane Laura and Hurricane Delta, once forecasts began to indicate a possible threat entering the Gulf of Mexico, I initiated communications with our State Command Center, our SOR group, and our weather service vendors. The path predictions for both hurricanes were very uncertain initially and unclear as to where they would make landfall. Nonetheless, I initiated planning in case the projected path of each storm began to target the Texas Gulf Coast. In addition, our team began preparations to provide mutual-aid support to our sister company ELL or other utilities with travel teams if requested. Later, as the storm projections became more clear that landfall would occur toward the Sabine River, we began preparations for a major event affecting our area. These efforts included reviewing storm plans, reviewing and implementing checklist action items, stockpiling materials, pre-staging contractors, placing employees on alert, moving equipment from possible flood areas, and executing our employee evacuation plan (to ensure those employees would be in a position to assist with the restoration). Projections indicated there would be a more direct impact to the Beaumont area for Hurricane Delta, so both our DOC as well as the Beaumont, Orange, Port Arthur, and Winnie

Distribution Service Center employees and equipment were relocated. For Hurricane Delta, the DOC was moved to Jackson, Mississippi, and the service center employees and equipment were moved to Conroe, Texas.

Q40. PLEASE EXPLAIN YOUR ACTIVITIES ONCE EACH STORM MADE LANDFALL.

A. By the time both Hurricanes Laura and Delta made landfall, we had completed the items mentioned above, and our first priority was to re-establish communication links with the Entergy System, Texas Command Centers, and field incident command centers. As damage assessments came in, our team reviewed preliminary damage reports to understand the condition of our electric facilities.

I agreed with the prioritization developed by the State Command Center regarding necessary restoration activities that included the execution of our Storm Plan, which I address in more detail later in my testimony. At the State Command Center, daily updates on restoration progress were presented to local officials through conference calls and other direct communications, to the public through media appearances, and to our System Management Team. I made field visits to personally observe the level of damage and assess the field restoration progress as well as the effectiveness of my management team's plan and its execution. I supported our storm team by working with other upper management to resolve various issues in the most effective manner.

3. Damage Caused by the 2020 Hurricanes

Q41. PLEASE DESCRIBE THE DAMAGE CAUSED BY HURRICANE LAURA.

A. As a result of Hurricane Laura, the distribution system around Orange, Texas, including Vidor, Mauriceville, and Bridge City, suffered severe damage from hurricane-force winds. In addition, the distribution lines across ETI's system sustained damage due to vegetation debris from outside our rights-of-way and overhang within our rights-of-way. Trees were uprooted, broken, twisted, splintered, stripped, and/or topped due to extreme winds and violent tornadic activity. I have included photographs of tree damage in my Exhibit ATE-1 (Illustrative Photos of Hurricane Laura Damage to Distribution Facilities).

In order to reconstruct the ETI distribution system following Hurricane Laura, the Company had to repair or restore service to 28 distribution substations, 13 of which were customer owned, and replace over 1,800 poles, 1,270 transformers, and 1,500 spans of conductor. Additionally, several ETI buildings sustained damage that hindered restoration efforts to some degree.

Q42. PLEASE DESCRIBE THE DAMAGE CAUSED BY HURRICANE DELTA.

A. As a result of Hurricane Delta, the distribution lines around Port Arthur, Beaumont, and Orange suffered severe damage from hurricane-force winds. In addition, the distribution lines across ETI's system sustained damage due to vegetation debris from outside our rights-of-way and overhang within our rights-of-way. Trees were uprooted, broken, twisted, splintered, stripped, and/or topped due to extreme winds and violent tornadic activity. I have included photographs of tree damage in my

Exhibit ATE-2 (Illustrative Photos of Hurricane Delta Damage to Distribution Facilities). Also included in my Exhibit ATE-2 are photographs of damaged distribution facilities to provide a graphic sense of the extent of damage caused by Hurricane Delta. The total damages were over 600 poles, 300 transformers, and 510 spans of conductor.

Of the 140 ETI distribution substations servicing the 425 distribution circuits, 27 substations were out of service at the storm's peak. Of those 27 substations, ten substations sustained damage. There were six 69 kV transmission line damage cases consisting of six wood structures. There were nine 138 kV transmission line damage cases consisting of one wood structure, five spans of wire down, and three other units damaged. There were seven 230 kV transmission line damage cases consisting of six wood structures and one span of wire down.

Q43. BASED ON YOUR PERSONAL STORM EXPERIENCES, HOW WOULD YOU COMPARE THE DAMAGE CAUSED BY HURRICANES LAURA AND DELTA TO OTHER STORMS?

A. Consistent with my background in front-line management, I have 35 years of experience as a first responder to numerous storm events with damages caused by wind, lightning, and ice. I have led several storm travel teams, in addition to overseeing numerous storm responses in various roles in my previous positions in Arkansas and Mississippi. Areas of both Arkansas and Mississippi are similar to southeast Texas in terms of rural and urban density.

The electric infrastructure damages caused by Hurricanes Laura and Delta were as extensive as any past hurricane, thunderstorm, and ice-storm damage that I have experienced. I observed damage caused by large trees falling from outside our rights-of-way, and damage to our distribution system from hurricane-force winds that destroyed lines and poles. In addition, the paths of Hurricanes Laura and Delta were very similar, so facilities partially weakened in Laura were further damaged and completely destroyed by Delta.

Q44. WHAT IMPACT DID HURRICANES LAURA AND DELTA HAVE ON THE COMPANY'S CALL CENTER ORGANIZATION?

A. Entergy Customer Contact Centers were fully staffed with an "All Hands-on Deck" 24x7 approach throughout the duration of both Hurricanes Laura and Delta. The contact centers ramped up throughout off-hours and weekends, activating over 550 agents and supplemental personnel to handle the projected call volume due to the hurricanes. Entergy Customer Contact Centers continued working well after each weather event to assist customers throughout the restoration process and rebuilding activities.

Q45. WHAT IMPACT DID THE HURRICANES HAVE ON THE COMPANY'S ADMINISTRATIVE OPERATIONS?

A. After the hurricanes made landfall and moved through the ETI service area, two significant administrative operational areas were immediately impacted: meter reading and field credit and collection activities. With widespread outages

throughout the East Region service territory during Hurricane Laura, the Company elected to postpone reading meters in the East Region only because these personnel were needed for restoration support. The meter reading operation was not impacted during Hurricane Delta. During both Hurricanes Laura and Delta, due to customer sensitivity, all collection activities were suspended, including the mailing of disconnect notices, courtesy call reminders to pay and non-pay disconnects.

4. Summary of Reconstruction Efforts

Q46. WHAT IS THE STATUS OF THE COMPANY'S RESTORATION EFFORTS?

A. On September 6, 2020 (ten days after landfall), ETI completed distribution restoration work related to Hurricane Laura for all customers who could receive power.

On October 15, 2020 (six days after landfall), ETI completed distribution restoration work related to Hurricane Delta for all customers who could receive power.

For both storms, there was some continuation of work required, such as permanent repair of streetlights and other facilities that had been temporarily repaired to get power back on for customers.

Q47. DESCRIBE THE SIGNIFICANT FACTORS AFFECTING ETI'S RESTORATION OF SERVICE TO CUSTOMERS AS QUICKLY AS POSSIBLE FOLLOWING HURRICANES LAURA AND DELTA.

A. The following is a summary of the significant areas of distribution-related activity:

- The most significant effort was to safely and timely secure outside resources and mobilize the workforce required to effectively execute such a massive restoration effort while administering and complying with protocols in place due to the COVID-19 pandemic.
- Due to the simultaneous impact of the hurricanes on neighboring utilities and other companies in Texas and Louisiana, including ELL, there was an extremely high demand for restoration resources.
- It required a massive undertaking to raise, coordinate and provide logistical support to an army of 6,333 distribution workers during the Hurricane Laura restoration and 1,882 distribution workers during the Hurricane Delta restoration. This is a highly important storm function, involving housing, food, water, ice, restroom facilities, and other amenities essential to keep restoration staff working at peak efficiency and safety. Safety protocols in place due to COVID-19 also challenged the availability and ability to provide this support.
- A high priority was to re-establish our transmission grid, which was essential to the restoration of our substations. With the loss of many of our transmission connections from Louisiana during Hurricane Laura, significant effort was put in place to shift and manage load at the distribution level. The Company also employed specialized equipment in the restoration effort. This specialized equipment included equipment such as drones, marsh buggies, excavators, skidders, high-water vehicles, and helicopters. Helicopters allowed effective and faster damage assessment.

Due to the storm surge, mostly in the Winnie and Port Arthur areas, more marsh-type equipment had to be utilized in the restoration effort than would otherwise be the case. Not only were we able to use helicopters to canvass large areas to identify pockets of damage, but they also proved useful in performing detailed assessment normally performed on foot or in a vehicle. Because of the destructiveness of Hurricanes Laura and Delta, foot and vehicular patrols were very difficult due to flooding and downed vegetation and debris.

Q48. WHAT SIGNIFICANT OBSTACLES DID THE COMPANY ENCOUNTER IN REPAIRING DAMAGE FROM THE HURRICANES?

A. The significant obstacles that the Company encountered can be generally grouped into three areas: (1) hurricane-caused obstacles, (2) inaccessibility of our electrical infrastructure because of location, construction or design, and (3) operational and logistical obstacles, complicated by the COVID-19 pandemic and resource availability.

Hurricane-caused obstacles included those hindrances directly caused by the hurricane and associated weather activity, which included the delay in deploying resources while the storm lingered over our service territory; obstacles to mobility such as trees and debris across roadways; trees and debris across or blocking access to rights-of-way; saturated ground from rains preventing truck access; trees and debris cluttering work sites; flooding along the coastal areas; domestic livestock and wildlife (alive and dead) displaced by hurricane or storm

surge impeding access to roads, rights-of-way and work sites; and storm surge damage to infrastructure such as roads and bridges.

The second group of obstacles was primarily related to the accessibility of our infrastructure. These obstacles would exist even without the devastation of a hurricane, though they were exacerbated by the debris left by the storm. An example of this was the difficulty in making repairs to facilities located in rear lots, alleys, or off-road locations. In these cases, truck access was often not available or was blocked by customer buildings and debris. This type of construction required that most work be done by carrying specialized equipment and materials to the rights-of-way and manually reconstructing the facilities without the assistance of trucks for digging holes, erecting poles, and lifting workers and equipment into position on the poles. Even under normal operating conditions, these types of facilities are more difficult and time-consuming to restore.

The third significant obstacle was supporting the workforce necessary to restore power to ETI's service territory and doing so while adhering to COVID-19 protocols. The main example was the significant operational challenge involved in managing and maintaining logistical support for thousands of workers from outside the local area. The provision of lodging, meals, ice, laundry, parking, fuel, and other resources required to support this effort presented unique challenges. These challenges were complicated by the COVID-19 pandemic and the need to operate under proper COVID-19 protocols for the health and safety of the workers. These challenges were further complicated because, as noted above, many other utilities and companies across the Gulf Coast region were affected by the series of

hurricanes that made landfall on the Gulf Coast in the unprecedented 2020 hurricane season, thereby significantly increasing the demand for the restoration personnel and logistical resources, equipment and supplies necessary to facilitate the restorations following both Hurricanes Laura and Delta.

Q49. DESCRIBE THE LOGISTICAL SUPPORT THAT WAS REQUIRED TO SUPPORT THE RESTORATION EFFORTS.

A. The Logistics Support organization for ETI is established in the Company's Emergency Storm Manual. The logistical support efforts for ETI for the Hurricane Laura and Hurricane Delta restorations were significant undertakings necessary to support the large number of personnel who were required to restore service to customers. Logistical support refers to resources to support restoration personnel that were necessary to reconstruct the system. Logistical support includes lodging, food, beverages, laundry, portable toilets, showers, dumpsters, transportation, staging area lighting, fuel, materials, vehicles, parking, security and other related functions. Lodging restoration workers proved to be the most significant logistical challenge during Hurricane Laura. Commercial lodging was utilized to the fullest extent available between Orange and Houston. Almost 2,000 rooms from 65 hotels were secured during the storms, and six hotels were powered by generators brought in by Entergy. Buses were used to bring the crews back and forth from their hotels to their staging sites. In addition to commercial lodging, ETI established alternative housing to provide lodging for personnel who were necessary for the restoration effort. Alternative housing included turn-key sites set up to provide lodging,

catering, fuel, showers, laundry, etc. This allowed for an expedited restoration by lodging workers to be closer to their worksites and reducing travel time from hotels in Houston, Conroe, and Baytown.

As discussed previously, the COVID-19 pandemic was a serious concern and presented unique challenges to the already significant undertakings. Usually, the crews would be housed two workers to a room for commercial lodging; and in bunk trailers, workers would be stacked in 3 rows of 10 or 12 bunks, depending on the trailer type. For COVID-19 safety compliance, we were required to assign one worker per commercial lodging room; and in the bunk trailers, every other bunk was left vacant. Due to the impact of Hurricane Laura and its demand on resources, the already monumental task was even more difficult to respond to Hurricane Delta.

Q50. PLEASE DESCRIBE THE "TURNKEY" SITES THAT YOU CREATED TO PROVIDE LOGISTICAL SUPPORT FOR RESTORATION PERSONNEL.

A. Based on the number of resources being secured to work on the restoration effort (including 6,333 personnel for the Laura restoration), the Logistics team was faced with a shortfall of nearly 2,000 commercial beds in the East Region most impacted by the storm. The first option was to house workers in hotels and motels in the Orange, Beaumont, and Port Arthur areas. Many of these facilities were without power and water, and others were at full occupancy due to the competing needs of other first responders and local businesses. We then began securing rooms available as far west as Baytown and central and northern Houston and provided buses to transport crews back and forth. The need to transport crews over such a distance

represented a 3-4 hour loss of productivity for each resource lodged in the west. This was a significant obstacle given the extreme impact to the ETI network and the goal of performing the necessary restoration work as quickly and safely as possible to restore our customers. We therefore made the determination to establish alternate lodging to house and support the incoming restoration personnel assigned to work in the East Region. We engaged turn-key vendors to provide additional lodging space more proximate to the areas of significant damage.

- Due to the widespread impact of the storm, multiple vendors were utilized throughout the affected areas. These vendors were engaged to provide support and assets such as mass housing (tents or bunk trailers), catering, sanitation, and other logistics coordination and procurement. Based on their available assets, a combination of tents and bunk trailers were established.
- The following major vendors provided major logistics resources across the ETI service territory:
    - Storm Services LLC provided a turn-key location in Beaumont for the Hurricane Laura restoration.
    - Swadley's Emergency Service Team LLC provided a turn-key site in Port Arthur for the Hurricane Laura restoration.
    - Base Logistics LLC provided 3 catering sites with laundry services in Orange, Port Arthur, and a site that started in Lumberton but was moved to the Orange area for the Hurricane Laura restoration.

- Courville's (Cajun Flavors) LLC provided a catering site located in Beaumont for the Hurricane Laura restoration, and opened an additional site in Orange for the Hurricane Delta restoration.
- Lodging Solutions provided a catering site in Port Arthur during the Hurricane Delta restoration.
- Hotard Coaches, Inc. provided transportation for work crews in the Hurricane Laura restoration.

Q51. DID YOU RELY ON THESE TURN-KEY SITES TO A GREATER DEGREE THAN YOU DID IN OTHER HURRICANE RESTORATIONS?

A. Not necessarily. We actually used more turn-key vendors in other major storms like Hurricanes Gustav and Ike, but the Entergy Storm Plans have evolved to use a balance of turn-key sites and commercial facilities to best get restoration workers as close to the work as possible. Based on the anticipated effect of the storms and the number of resources being secured by the State Command Center, the Logistics group secured the services of these full-service vendors for the Hurricanes Laura and Delta restorations as they were the best option to achieve the goal of supporting a timely restoration of electric service to our customers.

Q52. PLEASE PROVIDE A SUMMARY OF THE VOLUME OF LOGISTICAL RESOURCES UTILIZED IN THE DISTRIBUTION RESTORATION FOR THE 2020 HURRICANES.

A. The logistical effort was massive. To put it into perspective, the following logistics numbers in Table 2 are for the period August 27, 2020 through September 13, 2020, when restoration activities were heaviest, although restoration and needed logistical support continued beyond September 13. The fuel estimate also extends beyond September 13.

Table 2

Work Sites Supported	28
Meals Served	191,097
Bed-Nights	13,364
Gallons of Fuel	493,687

Q53. PLEASE DESCRIBE THE ROLE PERFORMED BY DAMAGE ASSESSMENT SCOUTS, SAFETY PERSONNEL, AND OTHERS.

A. ETI utilized approximately 880 damage assessment scouts for Hurricane Laura and 110 scouts for Hurricane Delta. For safety purposes, most of these personnel were dispatched to the impacted areas after landfall. They performed the necessary function of assessing the damage to the system as quickly and accurately as possible, utilizing aerial patrols in addition to traditional ground patrols. This allowed vegetation and line crews to be dispatched in a quick and efficient manner. ETI secured the services of scouts via its sister Entergy Operating Companies, mutual-assistance companies, and contract support companies.

In order to ensure the safety of restoration personnel and resources, ETI utilized safety professionals to deliver orientations to restoration workers as they were processed through the Gateways, to provide field safety audits, and to coach and counsel, as well as to enforce Occupational Safety and Health Administration

("OSHA") and Entergy safety policies and procedures. ETI secured the services of safety professionals from other Entergy Operating Companies to augment its own safety professionals.

ETI also relied upon non-operational personnel to support the restoration. During each of the restoration efforts, ETI utilized the services of many other support personnel, primarily Entergy non-operational employees who work in non-impacted geographic or functional areas, and retired Entergy employees with storm experience. These personnel provided a wide range of support activities, including but not limited to coordinating resources at staging sites, providing logistics support, or participating in back-office functions such as invoice review and payment processing. Without this support, restoration could not have occurred in the timely and efficient manner that it did. Further, as these personnel were primarily ETI employees or affiliate employees, the Company was able to utilize at-cost labor that was already familiar with the Entergy System.

Q54. DESCRIBE THE SAFETY PERFORMANCE OF THE HURRICANE RESTORATION WORKFORCE FOR HURRICANES LAURA AND DELTA.

A. ETI engaged in two back-to-back storm restorations in 2020. Hurricane Laura made landfall at the end of August, and the restoration lasted 12 days with the engagement of 6,333 distribution restoration personnel. Entergy employees had excellent safety performance, experiencing only one first aid injury involving a wasp sting. And contractor personnel successfully restored power with only one

significant injury where a contractor security guard tripped and fell fracturing their wrist. Another contract employee was bitten by a dog resulting in a first aid injury.

Hurricane Delta made landfall in October, and the restoration lasted 7 days with the engagement of 1,882 distribution restoration personnel. During that restoration, Entergy employees and contractors had exceptional safety performance with zero OSHA-recordable injuries.

There were also six non-controllable vehicle accidents and one controllable vehicle accident during the Hurricane Laura restoration. During the Hurricane Delta restoration, there was one controllable vehicle accident.

Q55. WHAT STEPS DID ETI TAKE TO ENSURE SAFETY AMONG ITS EMPLOYEES AND THE THOUSANDS OF CONTRACTOR PERSONNEL IN LINE CREWS, VEGETATION CREWS, AND OTHER CONTRACTORS YOU UTILIZED?

A. All employees helping with the restoration efforts were given a safety orientation prior to starting work. A copy of the orientation was also given to all the supervisors of the visiting crews. The orientation included all safety rules, locations for medical attention, identification of local hazards, and contact numbers for all safety professionals in case questions arose. An Entergy safety coordinator was assigned to each area with instructions to contact all crews each day. Crew rosters were utilized to assure all crews received the safety orientation presentation.

Entergy Crew Leads were provided updated safety information every day to inform the visiting crews where hazards had been identified. In addition, a

"Safety Stand Down" topic was developed by the Entergy Safety department to be used in the Company-led safety meetings. Visiting contractors were encouraged to attend at least one safety meeting with their crews each day.

All accidents were required to be reported to Entergy Safety, and the First Aid Stations located in staging areas reported each instance of first aid and medical attention.

Q56. DID ANY OF THE RESTORATION PERSONNEL CONTRACT COVID-19 DURING THE HURRICANE LAURA OR HURRICANE DELTA RESTORATIONS?

A. No. There were zero COVID-19 cases reported for the ETI restorations for Hurricanes Laura and Delta.

Q57. PLEASE DESCRIBE THE COMPANY'S EFFORTS AND PROTOCOLS TO ADDRESS THE COVID-19 PANDEMIC DURING THE HURRICANE RESTORATIONS.

A. ETI's pandemic response has been driven by robust business continuity planning, incorporating the latest federal and state health official guidance. Entergy's pandemic response plan has been in place since 2007 and is evaluated each year by Entergy's incident response team. Specific risk-based measures taken in response to COVID-19 include the adoption of new health and safety protocols concerning face-to-face interactions; transitioning personnel to remote work to optimize social distancing; implementing trainings to address travel restrictions, use of personal

protective equipment ("PPE"), industrial hygiene, self-screening and temperature checks for on-site and field workers; establishing a 24-7 contact tracing program; and continual monitoring to identify and mitigate potential business continuity risks.

Similarly, ETI adjusted its incident response planning process to address the unique risks associated with responding to major weather events during a pandemic. Many of our normal storm response protocols have been modified with the aim of preventing COVID-19 infections among our restoration workforce. These measures include proactive changes to training and communication of COVID-19 protocols to all storm personnel, utilization of digital orientation processes during to limit exposure risks and conducting safety orientations with appropriate social distancing. Social-distancing measures were adopted with respect to lodging for restoration workers and meal service at staging sites. Vehicles used to transport restoration workers operated with capacity limits to enable social distancing. Interactions between crews was minimized and modifications to how restoration work was performed was undertaken to reduce exposure risk and enable social distancing. Increased cleaning supplies and additional hand-wash stations were made available to enable workers to practice good hygiene. Additionally, increased cleaning was performed at staging sites and in vehicles. COVID-specific signage was displayed at all staging sites. Finally, ETI utilized personnel tasked solely with COVID-19 protocol compliance. ETI always has been committed to ensuring the guidelines of both the Texas

Department of Health and Human Services and the federal Centers for Disease Control ("CDC") are followed.

Q58. WHY DID ETI DEEM IT IMPERATIVE TO RESTORE SERVICE TO ITS CUSTOMERS AS QUICKLY AS POSSIBLE FOLLOWING HURRICANES LAURA AND DELTA?

A. The availability of electric service following a major storm is critical to the initial recovery process for the affected areas, including the regional economic welfare. City and local areas have essential infrastructures that are dependent upon electrical power, such as water, sewage, and hospitals. Additionally, ETI has numerous large energy-related customers located in its service area that are essential to the local, state, and national economy (*e.g.*, the Department of Energy's Strategic Petroleum Reserve, petrochemical plants, and interstate transmission pipeline pumping facilities). ETI recognized that any delays in getting these customers back in service could have potentially serious consequences on a national scale.

Q59. WOULD ETI TRY TO RESTORE SERVICE JUST AS QUICKLY IF IT HAD TO DO IT OVER AGAIN?

A. Yes. Restoring service following a major storm involves many factors. In addition to the economic concerns I discussed earlier, a paramount concern is the health and safety of the community. This requires restoring service to hospitals, water facilities, and other critical facilities. Our overriding concern was to get the lights back on as quickly as possible, a message that ETI received clearly from

governmental officials. We focused on getting power restored as quickly and safely as possible. That is not to say that we proceeded indiscriminately regarding costs, efficiency, and prudence. As discussed throughout my testimony, we paid considerable attention to those concerns. ETI restored power as quickly and efficiently as we could after both Hurricane Laura and Delta, giving due consideration to those concerns, and we will do so again the next time we are faced with a major hurricane.

B. The Company's Restoration Plans and Implementation

1. System Investment

Q60. DESCRIBE THE COMPANY'S EFFORTS TO IMPROVE ITS DISTRIBUTION SYSTEM.

A. Below, I briefly summarize some of our on-going programs to improve our distribution system. These programs helped to mitigate the effects of Hurricanes Laura and Delta on the Company's infrastructure.

- **Cycle-Trimming Program** – This is a program in which our vegetation specialists maintain an optimized trimming cycle plan for each electrical circuit, utilizing criteria such as tree density, type of species, and right-of-way widths.
- **Danger Timber/Sky-lining Program** – This is a two-part program. The first part involves the removal of trees with deteriorated conditions outside our rights-of-way with the potential of endangering our facilities. The second part is the removal of all overhanging limbs above identified areas

on our feeder circuits, thus the term "sky-lining." In many cases, the removal of danger trees or "sky-line" limbs requires advanced coordination with and approval by the affected landowner.

- **Asset Planning Load Programs** – These includes load-justified, voltage-justified, and contingency programs utilizing the "SynerGEE" software modeling to address circuits with capacity needs and risk mitigation on a proactive basis.
- **Equipment Maintenance Program** – Includes annual inspections on reclosers, switch cabinets, capacitor banks, and voltage regulators to ensure operational performance. Inspections result in either replacement or repair of the equipment.
- **Pole Program** – Designed to provide a mechanism for pole maintenance as well as serve as the overhead inspection program as defined in the National Electrical Safety Code ("NESC") on a 10-year inspection cycle. The two inspection methods that Entergy utilizes are the full excavation method and the selective sound and bore method. The full excavation method involves excavating wood poles to effectively treat and prevent groundline and below-groundline pole decay. The selective sound and bore method involve sounding and selective boring on wood poles to identify poles that do not meet NESC loading criteria and treat internal decay. The inspections are completed by an external company, and poles that cannot be restored are replaced.

- **Backbone Program** – Inspections resulting in repairs to electrical facilities from the feeder breaker to the first device. Target Basic Insulation Level ("BIL") improvements are implemented, as well as other general improvements based on reliability performance of the breaker including fusing unfused taps, installation of animal guards, removing primary arrestors, addressing target vegetation issues, replacing damaged equipment (insulators, bushings, etc.), correcting clearance issues, etc. Recommended repairs mitigate future outages and improve the devices' performance.
- **Re-cable & Feeder Exit Cable Programs** – Inspection and replacement of underground cable. These programs target underground cable based on age and reliability performance.
- **Feeder Analysis Program** – Following a Company-wide analysis of all feeders based on low performing reliability scores (*i.e.*, System Average Interruption Frequency Index ("SAIFI") and System Average Interruption Duration Index ("SAIDI")), packages were assigned to feeders to improve overall reliability performance. Packages include:
    - Repair and replacement of wires: update older, poor performing wires to reduce conductor failure.
    - BIL: improve BIL to address feeders with significant lightning, storm, and animal-related outages.
    - Feeder hardening: strengthen and upgrade poles to increase resiliency and address storm or human outages.

- Sectionalizing devices: add smart sectionalizing devices to poorly performing feeders with high customer count to reduce impact.
- Add a tie and create self-healing network system: add tie between two feeders to create redundancy to enable load shifting to reduce the impact and frequency of outages.
- Divide and break feeder: split long feeders with high customer exposure to limit outage impact.
- Relocate feeder: re-route feeder or bring feeder to the road.
- Add a source: apply remote feeders alternatives to improve reliability.

- **FOCUS Program** – These are inspections resulting in repairs to electrical facilities within a device protection zone. Targeted BIL improvements are implemented, as well as other general improvements based on reliability performance of the device including fusing unfused taps, installation of animal guards, removing primary arrestors, addressing target vegetation issues, replacing damaged equipment (insulators, bushings, etc.). Recommended repairs mitigate future outages and improve device performance.
- **Reliability Program** – Smaller, network or Reliability Engineer identified projects that result in improved reliability for customers. Typical projects include repairing cross-arms, replacing fuses with multi-shot devices, relocating arrestors downstream of fuses, etc.

- **Sectionalization Program** – Entails the placement of sectionalizing devices (pole top switches, reclosers, etc.) to improve the restoration times for customers. Entergy's guideline is to have 500 customers or less between sectionalizing devices, ultimately resulting in quicker restoration times through step-by-step restoration. This program identifies circuits outside of this parameter and implements the placement of devices to improve reliability performance.
- **Distribution Automation Program** – This program includes identification and implementation of self-healing networks (also known as automatic load transfer systems). There are presently 71 (95 by the end of 2021) self-healing network systems installed on ETI's distribution system affecting over 106 circuits (138 circuits by the end of 2021).

Q61. FOLLOWING THE HURRICANES EXPERIENCED BY THE COMPANY IN 2005 AND 2008, HAVE THERE BEEN ANY CHANGES TO THE COMPANY'S HARDENING PROGRAMS OR THE WAY ETI CONSTRUCTS ITS FACILITIES?

A. Yes, there have been changes made to ETI's construction methods in the coastal areas because of ETI's experience with Hurricanes Rita and Ike. Changes were initially instituted in December 2007. For example:

- Use of only class 3 (or larger) poles for three-phase feeder construction for distribution lines located immediately adjacent to the coast.

- Use of steel distribution poles for new Interstate highway crossings along major evacuation routes. The purpose of using steel poles for this application is to eliminate the possibility of weakened poles due to future rot at the ground line for these new crossing poles.

Also, ETI's experience with those hurricanes reinforced its historical decision to follow two practices:

- ETI has always designed its distribution lines to meet or exceed the requirements of the NESC. Structures for distribution applications utilize pressure-treated wood poles or tubular steel poles. All structures are designed at installation to meet or exceed the wind requirements of the NESC.
- For years, ETI has installed storm guying on distribution feeders located in open marshy terrain immediately adjacent to the coast except where not practical due to right-of-way considerations or where not required due to soil conditions. Distribution lines located in open marshy coastal terrain are especially prone to being blown over during tropical storms and hurricanes due to (1) proximity to the coast and the associated higher winds during storms, (2) the general lack of tree protection from the winds, and (3) the softness of the ground itself. Storm guying refers to the practice of installing down-guys and anchors on each side of a pole, perpendicular to the direction of the conductors. The purpose of storm guying is to help strengthen the line of poles against winds blowing laterally against the conductors.

In October 2018, the Entergy Standards Department released a new pole philosophy:

- Only Class 1 poles for feeder poles in the zone along the coast. For this application, a feeder pole is any pole in that part of the circuit protected by a substation breaker or any pole with three phases of primary that has the ability to tie with any other three-phase line from another circuit, when needed.
- Nothing smaller than class 3 poles for all primary applications

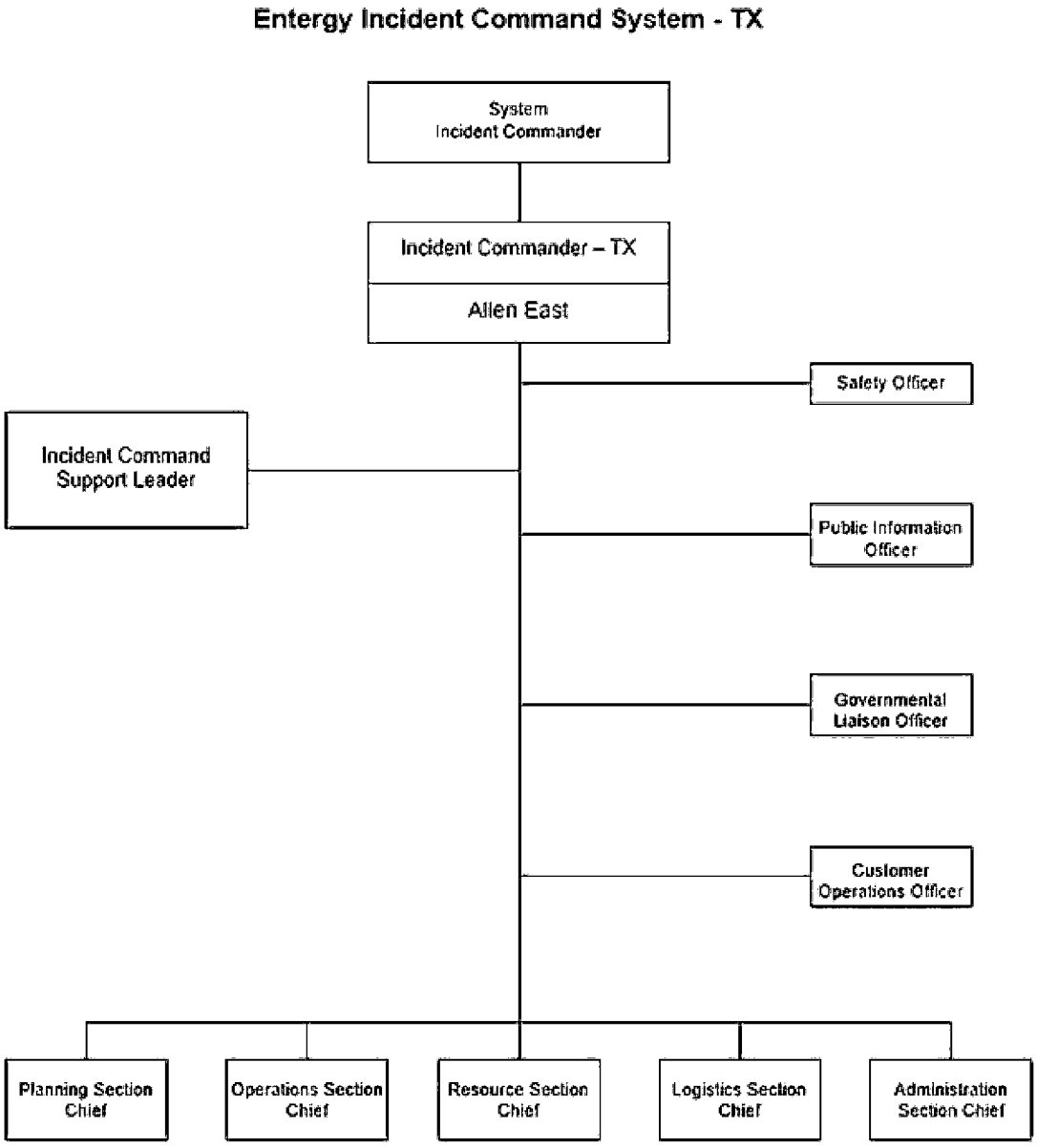
2. Storm Plan

Q62. DESCRIBE THE GENERAL PLANNING OF THE DISTRIBUTION OPERATIONS GROUP TO ADDRESS MAJOR STORMS.

A. Distribution Operations has the primary responsibility for prioritizing and executing the physical distribution restoration while also supporting the transmission restoration. Figure 7 below shows the organizational structure of the Distribution Incident Command System under my leadership. Within that organization are the key groups necessary to manage the multitude of efforts involved with carrying out such a large restoration. Those key groups include safety, communications, damage assessment, network restoration, crew procurement, vegetation, and logistics. There are also support functions for activities such as the operation of staging areas; management of transportation and fuel supplies; coordination of material requirements and deliveries; environmental management; operation and restoration of telecommunications, information

systems and infrastructure; management of security needs; and many other support functions necessary to a restoration.

Figure 7



The functions of these groups and the communication plan among them are included in the Storm Plan for Distribution Operations. The Storm Plan includes

contact information, staging-area locations and layouts, office locations, and the network management structure used to manage the restoration. The plan also contains checklists for key functions, contact information for those functions and post-damage assessment processes; identifies the incident command system down to front-line supervision; and identifies staging sites, logistics processes, the employee evacuation plan, the equipment evacuation plan, and system reporting.

Q63. DOES ETI CONDUCT TRAINING RELATED TO THE STORM PLAN AND ITS EXECUTION?

A. Yes. Distribution Operations has developed training modules that outline actions and expectations in even greater detail for the various functions. The Storm Plan, its adjunct portions, and its supporting training are included annually as part of Entergy's annual system storm drill, which serves not only as a test for readiness but also as a training opportunity for the employees and a chance to uncover any potential opportunities for improvement that require attention. The training and drill focus on all aspects of storm planning, preparation, resources, operations, damage assessment, logistics, accounting, and administrative functions. The COVID-19 pandemic was included as a component in the 2020 storm drill exercise.

Q64. PLEASE DESCRIBE THE STORM DRILL THAT WAS CONDUCTED IN 2020.

A. The annual storm drill for 2020 was conducted on May 7, 2020. It involved response planning during a pandemic with focus on the topics listed below. The 2020 storm drill included a dual-event scenario, whereby a major hurricane crossed

the Florida peninsula then intensified to a Category 3 storm that tracked to the Entergy service territory. One target scenario included landfall in eastern Louisiana and the other posited landfall in central Texas, just west of the ETI service territory. Given the prevailing circumstances in 2020, the storm drill also incorporated planning and training to address COVID-19 safety and health protocols. This training assisted Distribution Operations in preparing for the dual-event circumstances of Hurricanes Laura and Delta efficiently and safely. The focus topics of the 2020 storm drill were as follows:

- Incident Command activation for dual events;
- relocation (evacuation) from coastal areas;
- limitation of resources;
- extended outages;
- Electricity Subsector Coordinating Council ("ESCC") checklists designed to address dual events;
- suspension of large assemblies for off-system contractor check-in, and alternative use of other methods;
- worker health screening for COVID-19;
- logistics to account for smaller staging sites, single-room lodging, meal drop-off/pick-up;
- damage assessment with social distancing and electronic data reporting;

- operations assignment of work to crews, leaving crews together in same area;
- attention to corporate support, human resources, business continuity, supply chain, information technology, facilities, and security functions; and
- Customer Operations deployment of a proactive customer engagement and communications framework.

Q65. HAVE ETI AND THE ENTERGY SYSTEM BEEN RECOGNIZED IN THE INDUSTRY FOR THEIR PRACTICES IN PREPARING FOR AND PERFORMING POST-HURRICANE RESTORATIONS?

A. Yes. As explained in the testimony of Mr. Charles Long, the Entergy System has consistently been recognized and awarded for its expertise and accomplishments in preparing for and conducting post-hurricane restorations. The Edison Electric Institute ("EEI") has recognized the Entergy System numerous times for its restoration response to ice storms and hurricanes. For the summer period of 2020, EEI awarded Entergy with the EEI Emergency Response Assistance and Recovery Awards for the below events.

- Assistance: Hurricanes Sally, Isaias, Hannah
- Recovery: Hurricane Laura and Easter Severe Thunderstorms

Q66. HAS THE EXPERIENCE GAINED IN RESPONDING TO HURRICANES LAURA AND DELTA AFFECTED DISTRIBUTION OPERATIONS' PREPAREDNESS FOR THE 2021 HURRICANE SEASON?

A. Yes. After every significant storm, we have a lessons-learned session to address what occurred and determine what could be done better. Hurricanes Laura and Delta certainly offered opportunities to enhance and improve upon our plans and practices. Dealing with COVID-19 protocols presented several of those opportunities, which may be of benefit, as we may still be dealing with the pandemic during the 2021 hurricane season. We continue to refine our Storm Plan to address some of the issues we experienced in Hurricanes Laura and Delta, such as mobilization of massive logistical support and large resource deployment during a pandemic.

Q67. WHAT IS THE CURRENT FORECAST FOR THE 2021 ATLANTIC HURRICANE SEASON?

A. Our primary weather vendor, GeoTab, has forecasted another active hurricane season. For 2021, it is forecasting a total of 19 named storms, with 9 hurricanes and 5 major hurricanes, and it forecasts most Gulf land areas will have an above-normal risk of a land-falling hurricane.

3. Implementation of the Storm Plan

a. Internal Preparation

Q68. HOW DID THE COMPANY PREPARE FOR HURRICANES LAURA AND DELTA AS THEY DEVELOPED IN THE GULF OF MEXICO?

A. Well before each storm system entered the Gulf of Mexico, the Company was fully engaged in preparations for landfall. The preparations that were undertaken prior to Hurricane Laura were the same as those undertaken prior to Hurricane Delta. Entergy utilizes a contract vendor called Impact Weather to stay advised of developing weather situations. The Company is also very tuned into the local Houston and Beaumont television broadcasts to anticipate path, landfall and intensity. As both Hurricanes Laura and Delta entered the Gulf, we placed all of our employees and base-load contractors on alert and cancelled vacations. We conducted frequent conference calls with our State Command Center and key leadership in Texas, participated on Entergy System conference calls, and participated on conference calls with the State of Texas's State Operations Center ("TX SOC"), which is part of the Governor's Division of Emergency Management. We reviewed our Storm Plans and made preparations with our mutual-assistance utilities. As our service area became increasingly threatened by the projected storm path, we secured staging areas, obtained fuel and supplies, ramped up logistical support, pre-staged crews, prepared scouts (including scouting apparatus such as helicopters and drones), implemented evacuation plans for personnel and equipment, and augmented front-line management teams.

Q69. HOW DID THE COMPANY MOBILIZE ITS PERSONNEL TO PREPARE FOR THE STORM?

A. As I mentioned earlier, for both hurricanes, we cancelled all vacations and placed all employees, including base-load contractors, on alert once it was determined that each hurricane posed an imminent threat to the ETI service territory. Once Hurricanes Laura and Delta moved closer to our service area, we activated our State Command Center and our Employee Evacuation Plan. We provided specific instructions and contact information to our base-load contractors.

Q70. PLEASE DESCRIBE THE COMPANY'S EMPLOYEE EVACUATION PLAN.

A. Our Employee Evacuation Plan divides all employees in the coastal counties into three groups:

- **The Core Team** – This team is comprised of key operating personnel who continue to maintain critical services throughout the service area, including the target area, as long as it is safe to perform such duties. The employees in this group are also our "first responders."
- **The Evacuation Team** – This group of employees is evacuated out of the target area and returns as a group as the weather permits safe travel. These employees are our "second responders." For the Hurricane Delta restoration, these employees were evacuated to Conroe, Texas the day before landfall and returned the following evening after landfall and weather conditions allowed.

- **The Release Team** – This team is comprised of employees who have special family needs or duties that do not require them to be first or second responders. These employees are released during a public evacuation call and are given specific instructions on returning and contacts.

Almost half of ETI's employees normally reside in our West Region and were outside the area where public evacuations were ordered. These employees were mobilized as needed to respond to local outages.

As the projected path of both Hurricanes Laura and Delta became more apparent, with landfall just east of the Sabine River and Lake Charles, Louisiana, it became apparent that not all of the ETI service territory would be affected by the storms. However, in an abundance of caution, we activated the West Region Command Center and its respective Network Command Centers. We also worked closely with the System Command Center and our sister Entergy Operating Companies in identifying and pre-staging their employees and personnel from mutual-aid utilities and third-party contractors.

Q71. HOW DID THE COMPANY MOBILIZE MATERIAL RESOURCES IN PREPARATION FOR THE STORMS?

A. We established material staging sites near expected damage areas to expedite accessibility. As I explained above, COVID-19 protocols affected the amount of resources we could deploy in material staging sites to safely process material needs and handling. In preparation for both Hurricanes Laura and Delta, seven staging

sites were identified, secured and prepared, with locations based on the amount of potential and actual damage.

Prior to landfall, extra materials were transported to the Entergy Distribution Centers ("EDCs") in Beaumont and Conroe from other Entergy EDCs in pre-staged storm kits. These kits are comprised of common materials needed for storm restoration, such as insulators, various sizes of wire, splices, fuse links, fuse switches, cross-arms, and pole line hardware. Extra poles were stored in pole yards in Conroe and Beaumont. After landfall, materials and poles were moved to the appropriate local staging sites. Material vendors and suppliers also transported materials directly to these staging sites. EDC and stores personnel, as well as contractors, were brought in from unaffected areas at levels to allow safe operations (in compliance with the COVID-19 protocols) to help manage the material at staging sites. Our Supply Chain leveraged existing agreements to engage additional logistics support to ship incremental material to ETI from other EDCs to Beaumont.

b. Interaction with Customers

Q72. DESCRIBE THE COMPANY'S COMMUNICATIONS WITH ITS CUSTOMERS IN ADVANCE OF THE STORMS.

A. For several days prior to Hurricanes Laura and Delta making landfall, the Company communicated with customers through the news media. ETI issued news releases informing our customers that Entergy was monitoring the storm, preparing to withdraw workers if either hurricane threatened the ETI service territory, and preparing for the possible impact. ETI urged customers to do the same. The news

release also noted that the Company was in the process of acquiring additional resources to meet the threat from each hurricane. The Company also began placing hurricane preparedness advertisements on local radio and in print publications to inform customers and the general public. The Company also sent proactive messages to customers via text or email to alert customers of storm activities. In addition, several ETI spokespersons conducted live interviews with television and radio media and met with news media to discuss Entergy's storm preparations. Entergy's major accounts groups were in direct communication with the large industrial customers in the target area so that we were aware of their operational plans to maintain the generation-to-load balance.

Q73. DESCRIBE THE COMPANY'S INTERACTION WITH ITS CUSTOMERS DURING AND FOLLOWING THE STORMS.

A. As part of its response to both Hurricane Laura and Hurricane Delta, ETI officials communicated and interacted daily with customers in our service territory. Additionally, ETI customers could call our 1-800-ENTERGY and 1-800-9OUTAGE telephone numbers to talk to agents in our system network on a 24-hour basis. ETI customers were encouraged to sign up for an app to report outages or receive valuable information and alerts. Customers also had the option to receive text alerts and report outages via text. ETI hosted conference calls, to which the local officials and media were invited, to communicate the progress of the restoration effort at critical points during each restoration effort. ETI's management participated frequently on local television newscasts and radio talk

shows. ETI's Corporate Communication also communicated with customers on social media sites.

c. Interaction with Others

Q74. DESCRIBE THE COMPANY'S EFFORTS TO COORDINATE WITH LOCAL GOVERNMENTAL OFFICIALS AND "FIRST RESPONDERS" IN ADVANCE OF, DURING AND AFTER THE STORM.

A. In advance of the landfall of both Hurricane Laura and Hurricane Delta, ETI tracked the storms as they made their approach. During these periods, ETI officials communicated multiple times a day with city, county, and emergency management personnel. After each storm's landfall, ETI officials hosted a daily conference call with city, county and emergency management personnel in the impacted areas of the ETI service territory to share planning and restoration strategies. Local Customer Service Managers met with city and county officials daily to provide updates on local restoration efforts. Sallie Rainer, President and CEO of ETI, also gave restoration updates each evening on video-conference meetings. ETI officials also communicated regularly with the Public Utility Commission of Texas and had representatives on site at the Texas SOC located in Austin. Activities at the Texas SOC included communicating the extent of outages, expected restoration times, and restoration progress; coordination of critical customers; and participation on the State's conference calls with local officials to discuss the previous items listed.

Q75. DESCRIBE THE COMPANY'S EFFORTS TO COORDINATE WITH NEIGHBORING UTILITIES IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. Once forecasts for the path of both Hurricane Laura and Hurricane Delta indicated the ETI and ELL service territories were at risk, the Entergy System Resource Branch initiated mutual-assistance conference calls with the regional mutual-assistance group of utilities to request and plan assistance. Due to amount of resources requested, not only by the Entergy Operating Companies but also by neighboring utilities, it was evident the regional group could not meet the requests, and additional regional groups were invited to join in the response efforts. In total, utilities from across the nation (with the exception of the western regional group on the West Coast) participated in providing assistance. For the Hurricane Laura response, calls were conducted from August 23-29 to coordinate the acquisition of resources. For the Hurricane Delta response, calls were conducted October 7-10 to coordinate the provision of mutual-assistance resources.

Q76. DESCRIBE THE COMPANY'S EFFORTS TO COORDINATE WITH ITS KEY SUPPLIERS IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. Under ETI's Storm Plan, our key material and equipment suppliers were put on alert by ETI Supply Chain prior to the storm. Critical material was then ordered into the affected EDCs in advance of the storm. In addition, Supply Chain forwarded to the vendors a matrix showing previous storm material usage for similar size storms. This helped each vendor in forecasting ETI's potential needs.

Supply Chain stayed in close contact with key suppliers throughout the storm and restoration via telephone and e-mail to keep the flow of material coming in response to field demands. Supply Chain personnel were redirected to the affected EDCs to be on site to help with material requests. In addition, Supply Chain brought in a necessary and safe amount of resources from contractors and other utilities to support the materials process. Each Category Management Supply Chain employee was assigned specific commodities, and they worked with the key suppliers of that commodity. Category Management sent daily updates to the key suppliers aiding them in forecasting. As each storm restoration ramped down, the Procurement personnel worked toward stopping delivery of material that was no longer needed. Key suppliers were willing to credit some material not consumed during the events.

d. Reconstruction Tasks

Q77. DESCRIBE SOME OF THE SPECIFIC DISTRIBUTION RESTORATION TASKS THAT ARE INCLUDED IN THE SYSTEM RESTORATION COSTS FOR THE DISTRIBUTION FUNCTION.

A. There are numerous specific distribution restoration tasks, many of which are also listed and described in Exhibit ATE-3 (Description of Restoration Tasks — Distribution). A few of the major tasks are grouped in nine cost categories as follows:

- **Restoration Management** – This grouping includes many tasks performed by the State Command Center down through the network command centers,

such as prioritizing restoration order; allocation of resources; and coordinating vegetation, line, material, and equipment resources.

- **Safety Management** – This grouping includes the safety orientation of off-system crews, conducting safety meetings, conducting safety audits of worksites (including compliance with COVID-19 protocols), assessing the physical and mental condition of personnel, and providing necessary safety equipment as required.
- **Overhead Lines** – This grouping includes all aspects of repairing and replacing equipment associated with overhead electric lines, such as wood poles, transformers, conductors, services, and protective devices.
- **Underground Lines** – This grouping includes all aspects of repairing and replacing equipment associated with underground electric lines, such as pad-mounted transformers, pedestals, underground cable, services, and protective devices.
- **Street Lighting** – This grouping includes all aspects of repairing and replacing equipment associated with lighting, such as lighting fixtures, stems, control circuits, glassware, and photo controls.
- **Metering** – This grouping includes all aspects of repairing and replacing equipment associated with metering, such as meters, current transformers, potential transformers, meter enclosures, and controls.
- **Personnel/Logistics Support** – This grouping includes all tasks associated with securing and providing lodging, mass housing, feeding, fueling, laundering, parking, staging, sanitation services, environmental

management, medical services, waste management, security, site materials management, and mass transportation (including compliance with COVID protocols).

- **Material Management** – This grouping includes matching needs through procurement, delivery, and dissemination of material to staging and identified worksites. This grouping also includes reclamation and salvage of damaged equipment and materials.
- **Communications** – This grouping includes all aspects of communication regarding the progress of restoration of service to customers, government officials (including the Commission) and others.

Q78. FOR PURPOSES OF ILLUSTRATION, PLEASE DESCRIBE THE ACTIVITIES INVOLVED WITH THE RESTORATION OF ETI'S DISTRIBUTION FACILITIES.

A. The activities required to repair the distribution system following Hurricanes Laura and Delta were numerous. Some of the more numerous activities performed by distribution line crews were: repairing and/or replacing poles, repairing and/or replacing broken conductors, repairing and/or replacing damaged transformers, and repairing and/or replacing broken cross-arms. The utilization of specialized equipment was critical in our restoration. Repairing facilities in rear-lot easements behind homes, inaccessible wetlands and swamps, and other off-road locations made the use of airboats, track machines, and high-water vehicles essential for timely restoration. With these activities came the logistical efforts to move, stage,

and pre-position a large amount of specialized equipment and material needed for the restorations. I provide illustrative photographs of some of these activities, and I describe step-by-step the tasks required to complete those activities, in my Exhibit ATE-4 (Major Distribution Restoration Activities with Work Descriptions and Photos).

Q79. PLEASE DESCRIBE THE EXIGENT CIRCUMSTANCES SURROUNDING THE MANY TASKS PERFORMED AND THE MANAGEMENT OF THE RESTORATION OF ETI'S DISTRIBUTION SYSTEM.

A. The Hurricane Laura and Delta restorations posed many unique circumstances. Both storms targeted the southeast Texas and southwest Louisiana coastlines, so both ETI and ELL were prepared for landfall of a major hurricane. Although Laura proved to be the larger of the two hurricanes, Delta followed a very similar track and, although ETI avoided a direct hit, the damages proved to be extensive.

Managing major hurricane restorations just weeks apart during a national pandemic, while adhering to state and federal guidelines, was challenging. Additionally, the safety of the public and our restoration partners remained a top priority. As both Hurricanes Laura and Delta approached, and the landfall location and strength were uncertain, ETI continued to study storm projections, consulted our modeling data and weather vendors, and relied on historic accounts and damages from previous events such as Hurricanes Rita, Ike, and Harvey. This evolving and dynamic exercise allowed for fine-tuning of our projections and resource needs so we could plan and acquire the necessary resources.

As the forecast for each hurricane become better defined, ETI realized that timely restoration and reconstruction following Hurricanes Laura and Delta would require an enormous labor pool far beyond the contingent of contractors with whom we had pre-negotiated contracts and mutual-aid agreements. The requisition and assembly of a workforce of this magnitude was a significant feat. The various resource and logistical needs identified for restoration included, but were not limited to: line and vegetation tool workers, support personnel, lodging and meals, material and specialized equipment, and large amounts of COVID-19 PPE to protect the thousands of personnel engaged for the restoration.

ELL, which suffered greater damage than ETI, faced similar logistical challenges and was competing for the same lodging, fuel, and staging sites as ETI. COVID-19 restrictions and limitations, mass evacuations, and competition for resources required ETI to find innovative ways to resolve these issues so that personnel could begin to safely undertake the essential tasks of assessing and repairing damage to the distribution system.

Further, as Hurricane Laura approached, and its size and track became apparent, ETI's command structure re-located to our alternate command center in The Woodlands. Access to our historically reliable and available caterers, laundry services, medical facilities, fueling locations, lodging facilities, and auto repair facilities was limited. Additional challenges included the significant impact Hurricane Laura had on our ability to communicate via cell phone. Some areas were limited in voice capabilities while others could do nothing but text.

C. Distribution Class System Restoration Resources and Costs

1. Distribution Class Costs

Q80. WHAT ARE THE TOTAL DISTRIBUTION CLASS COSTS OF THE COMPANY'S RESTORATION EFFORT THROUGH FEBRUARY 28, 2021?

A. The total Distribution Class costs through February 28, 2021 were $169,467,050 for Hurricane Laura, $35,021,395 for Hurricane Delta, and $4,359,192 for Winter Storm Uri.[2] Please see the testimony of Company witness Ryan O'Malley at Exhibit RO-4, which includes the transactions underlying the costs in the Distribution Class that I sponsor.

Q81. PLEASE SUMMARIZE THE TOTAL NUMBER OF PERSONNEL RESOURCES EMPLOYED BY THE COMPANY TO ADDRESS HURRICANE LAURA AND HURRICANE DELTA AT THE DISTRIBUTION LEVEL.

A. As shown in the Table 3 below, ETI utilized 6,333 personnel to restore the distribution system after Hurricane Laura.

Table 3

Hurricane Laura Personnel Numbers	
ETI Linemen	258
Entergy Linemen	48
ETI Scouts	5
Off-System and Baseload Line Contractors	3,230
Off-System and Baseload Scouts	879
Mutual-Assistance Personnel	701
Vegetation Workers	1,088
Other Support	124
Total	**6,333**

[2] The charts included in this section include costs incurred for the restoration of the ETI Distribution system following Winter Storm Uri. Those costs are described in greater detail in Section V below.

As shown in Table 4 below, ETI utilized 1,882 personnel to restore the distribution system after Hurricane Delta.

Table 4

Hurricane Delta Personnel Numbers	
ETI Linemen	201
Entergy Linemen	57
ETI Scouts	44
Off-System and Baseload Line Contractors	1,119
Off-System and Baseload Scouts	66
Mutual-Assistance Personnel	70
Vegetation Workers	299
Other Support	26
Total	**1,882**

I describe the mutual-assistance arrangements in more detail in section IV.C.3.a.i below.

Q82. HOW WERE COSTS CAPTURED AND MONITORED?

A. Costs were captured using the Hurricane Laura and Delta storm project codes described in subsection 2 below. Entergy employee payroll costs were charged directly to the storm project codes using the Entergy and time and labor system. These costs were reviewed and approved by each employee's supervisor prior to being submitted for payment. Mutual-assistance and third-party contract companies presented invoices that detailed their costs. ETI followed the Entergy standard process to review these invoices to ensure that they were accurate.

Q83. PLEASE DESCRIBE THE PROCESS FOR REVIEWING INVOICES RECEIVED FROM CONTRACTORS AND VENDORS THAT ASSISTED WITH THE HURRICANE RESTORATIONS.

A. ETI has implemented a structured process to review the invoices received from contractors to ensure they are accurate. Invoices were sent to the Entergy Contractor Invoice Processing Team ("CIPT"), where they were matched against documentation provided by the Operations personnel that received the services. Invoices were reviewed using this documentation, such as approved time records and deployment documentation, to make sure that the work was performed and proper for payment.

As restoration workers were assigned to Texas, both personnel and equipment were logged electronically. Any changes in personnel, equipment or assignment during the restoration period were noted and approved. Each week during the restoration and at the time the workers were released, timesheets for each worker or crew were reviewed for accuracy and signed by an Entergy representative. This documentation was provided to the CIPT, along with the correct project code for the charges.

The actual invoices were sent directly to the Entergy CIPT, where they were matched with the appropriate documentation described above. The invoices were reviewed against this field documentation for accuracy. Any disputed invoices were disallowed or sent back to the contractors for additional information.

Company witness Ryan O'Malley further describes the CIPT process for capturing, monitoring and verifying costs.

Q84. WERE THE COSTS INCURRED BY ETI TO ADDRESS HURRICANES LAURA AND DELTA THAT YOU SPONSOR REASONABLE AND NECESSARY?

A. Yes. For the reasons I describe in my testimony, the costs incurred by ETI for both the Hurricane Laura and Hurricane Delta restorations were reasonable and necessary to restore service to customers and reconstruct our distribution system in the fastest and safest manner possible in the wake of the significant and extensive damage caused by the hurricanes in ETI's service area. While the amounts expended on materials, labor, and the other cost categories were substantial, it was essential that ETI restore service as quickly as reasonably possible. Had ETI not acquired these resources in the manner that it did, the restoration of the distribution system to provide power to essential facilities like water plants, sewage plants, hospitals, nursing homes, and law enforcement facilities, as well as the City of Houston water supply, the Strategic Petroleum Reserve, and critical pipelines, would have taken substantially longer, as would the time period for restoring power to other customers throughout the system. Thus, the costs were necessary to restore power safely, timely and efficiently.

The costs were reasonable because ETI put in place appropriate measures to procure and monitor the material and personnel resources that it utilized for the restoration of its distribution system. A large majority of the restoration costs were incurred pursuant to pre-existing contracts and cost-based agreements, which ensured that ETI did not have to pay a premium for those resources. With respect to the costs incurred from other service providers and vendors, ETI utilized

appropriate measures to procure and monitor those resources so that the prices were reasonable, the vendors were not overpaid, and the vendors' services were terminated as soon as they were no longer needed for the restoration efforts. As noted above, Company witness Ryan O'Malley addresses the invoice and cost monitoring process in greater detail in his testimony.

Q85. DID THE COMPANY HAVE TO PAY PREMIUM PRICES FOR THE CONTRACT LABOR AND RESOURCES IT ENGAGED FOR THE HURRICANE RESTORATIONS?

A. Given the urgent demand for timely service restoration, the Company was not in a position to bargain-shop for services and materials. The priorities of service restoration, protecting public health and welfare, preserving strategic energy supplies, and supporting emergency responders took precedence over the pursuit of cost reductions. Moreover, as described above, the exigent circumstances of the restorations for both hurricanes (*e.g.*, the high demand for restoration personnel and resources due to numerous hurricanes making landfall along the Gulf Coast during the 2020 hurricane season, compliance with protocols to address the COVID-19 pandemic) presented significant challenges to ETI in restoring service after both hurricanes. Nevertheless, the Company has significant experience in preparing for and conducting hurricane restorations. ETI is a highly skilled purchaser of services and materials for its facilities, and the Company was very familiar with the products and services of the vendors with which it was working. Accordingly, the Company

was able to ensure that the prices and terms under which it purchased services and materials were fair and reasonable under the circumstances.

There may be instances in which the Company paid higher prices than it would have in a non-emergency situation, as the supply of some materials, housing, and essential service providers was constricted by the conditions resulting from the timing of these hurricanes. For example, some prices were higher simply because it cost more for the supplier to acquire materials that were in short supply and for which market prices had increased (*e.g.*, fuel prices). However, the outside contractors and vendors we utilized treated us fairly in providing services and materials, and ETI's processes and experience ensured that the prices and costs it did pay were reasonable under the circumstances. ETI did not experience "price gouging."

Many decisions by the State Command Center were influenced by the costs of services and materials. The Company recognized the importance of quickly restoring service to state and local essential and emergency facilities as well as service to key facilities that could impact the national economy. Had ETI not gone to these lengths, restoration of service would have taken weeks or even months longer. Therefore, decisions were made to accept some prices that were reasonable under the conditions but were higher than the prices ETI might have been willing to pay under normal circumstances. Doing so was prudent and unavoidable under the circumstances.

2. Project Codes

Q86. ARE YOU FAMILIAR WITH THE COMPANY'S USE OF PROJECT CODES?

A. Yes. I am familiar with the Company's use of project codes, as described in the testimony of Company witnesses Ryan O'Malley and Barbara Heard.

Q87. WHAT WERE THE PROJECT CODES TO WHICH THE DISTRIBUTION CLASS SYSTEM RESTORATION COSTS FOR HURRICANE LAURA WERE BOOKED?

A. Of the $169,467,050 of Distribution Class restoration costs booked for Hurricane Laura:

- $169,434,656 of the Distribution Class costs were booked to project code "C7PPSJ7424," which includes the distribution costs associated with restoring service to customers, the replacement of property, tree trimming, customer inquiries, transportation, and communications.
- $32,394 of the Distribution Class costs were booked to project code "E2PPOMTXLR," which are costs associated with repair to buildings and facilities such as service centers and other offices.

Q88. WHAT WERE THE PROJECT CODES TO WHICH THE DISTRIBUTION CLASS SYSTEM RESTORATION COSTS FOR HURRICANE DELTA WERE BOOKED?

A. Of the $35,021,395 of Distribution Class restoration costs booked for Hurricane Delta:

- $35,004,361 of the Distribution Class costs were booked to project code "C7PPSJ7426," which includes the distribution costs associated with restoring service to customers, the replacement of property, tree trimming, customer inquiries, transportation, and communications.
- $17,034 of the Distribution Class costs were booked to project code "E2PPOMTXDE," which are costs associated with repair to buildings and facilities such as service centers and other offices.

Q89. WHAT WERE THE PROJECT CODES TO WHICH THE DISTRIBUTION CLASS SYSTEM RESTORATION COSTS FOR WINTER STORM URI WERE BOOKED?

A. Of the $4,359,192 of Distribution Class restoration costs booked for Winter Storm Uri:

- $4,358,861 of the Distribution Class costs were booked to project code "C7PPSJ7431," which includes the distribution costs associated with restoring service to customers, the replacement of property, tree trimming, customer inquiries, transportation, and communications.
- $330 of the Distribution Class costs were booked to project code "E2PPWJ0227" which are associated with affiliated payroll and billings.

3. Distribution Class Cost Categories

Q90. WHAT ARE THE DISTRIBUTION CLASS RESTORATION COST CATEGORIES?

A. In the Distribution Class of costs, we have five ETI cost categories and two affiliate cost categories. The cost categories are (1) Contract Work, (2) Employee Expenses, (3) Labor, (4) Materials, and (5) Other. The affiliate cost categories are (1) ESI Billings and (2) Loaned Resources.

a. Contract Work

Q91. WHAT DISTRIBUTION CLASS COSTS ARE ASSOCIATED WITH THE RESTORATION COST CATEGORY "CONTRACT WORK"?

A. As detailed in Table 5 below, as of February 28, 2021, the Distribution Class Contract Work costs were:

Table 5
Distribution Contract Work Costs

Hurricane Laura	$140,295,996
Hurricane Delta	$27,127,266
Winter Storm Uri	$296,410
Total	**$167,719,672**

Q92. DESCRIBE THE COSTS INCLUDED IN THIS COST CATEGORY.

A. This cost category includes the costs of contractors who assisted in the restoration effort. The types of contractors include: mutual-aid utility, line, vegetation, logistics, trucking and equipment, temporary staffing, investment recovery, engineering, and environmental.

Q93. PLEASE EXPLAIN THE PROCESS USED IN DETERMINING AND MANAGING THE NUMBER OF RESOURCES NEEDED TO RESTORE SERVICE.

A. As part of pre-storm planning, ETI calculated the appropriate number of resources required for restoration following Hurricanes Laura and Delta based on previous storm experience and the SOR crew allotment program, which estimates necessary crew numbers based on projected landfall and storm intensity. Resources were then pre-staged or en route to Texas prior to the hurricanes making landfall. After each storm made landfall, the number of required resources was adjusted based on damage assessments, the resources necessary to facilitate a rapid restoration effort, and the management/logistical support needed to effectively deploy, monitor, and provide services for the increased number of workers. As restoration efforts were completed in a particular geographic area, resources were shifted to other areas that could effectively manage the workers. Crew deployments were evaluated constantly, and once it was determined that resources could not effectively be deployed and utilized, they were released or offered to neighboring utilities. Mutual-assistance companies and their base-load contractors were released first based on the mutual-assistance agreements. Non-ETI Entergy resources were released next in order to return to their normal duties. The remaining contractors were evaluated and released based on contract pricing, as well as other factors.

Q94. ONCE OVERALL RESOURCE REQUIREMENTS WERE DETERMINED, HOW WERE THEY ALLOCATED AMONG THE VARIOUS GEOGRAPHICAL AREAS?

A. Crew deployment into the damaged areas following Hurricanes Laura and Delta occurred in two distinct levels. The first level of deployment was an allocation by the State Command Center to the networks. These deployment decisions were made based on damage estimates, restoration progress, critical customer requirements, key infrastructure, and the placement of management and support to effectively manage those resources. These decisions were made by management at the State Command Center based on twice-daily input from the network supervisors. The managers at the State Command Center had the broadest perspective on the restoration progress and needs.

The second level of deployment was the actual assignment of resources to specific areas, circuits, tasks, etc. This second level of deployment was based on specific damage assessment data, critical services and infrastructure, key circuit ties, and circuit trunks that resulted in the quickest restoration of service for the greatest number of customers. These deployment decisions were made by supervisors closest to the damage who could best determine the priority of restoration at this level.

Q95. DID YOU COORDINATE THE RESOURCE MANAGEMENT OF CREWS WITH THE TRANSMISSION FUNCTION?

A. Yes. The ETI Command Center partnered with the Transmission Command Center. The key benefit of this joint effort during restoration was the coordination and prioritization needed to achieve grid stability and improve restoration efforts. Daily meetings with the Transmission Storm Manager were held to plan circuit restoration, manpower requirements, and materials needed. In addition, we coordinated with the Transmission and Generation groups to stabilize the grid, ensuring load was ready for service. Lastly, the release of crews was jointly coordinated between the Transmission and Distribution functions to evaluate options of shifting those resources between functions before release.

Q96. WHAT WAS ETI'S POLICY FOR RELEASING CONTRACTOR CREWS AS WORK WAS COMPLETED?

A. As crews completed work at one location, we shifted them to other locations based on need and skill sets. As the restoration progressed and workers were shifted between networks, the State Command Center, with input from local management, made a determination regarding the number of crews that could effectively and safely work in an area. When it was determined that the effective number had been reached, we began releasing those resources and decommissioning the staging sites supporting those resources.

Q97. WHO WERE THE CONTRACTORS UTILIZED BY THE COMPANY FOR DISTRIBUTION-RELATED RESTORATION ACTIVITIES, AND WHAT COSTS WERE CHARGED BY EACH?

A. The contractors utilized for distribution-related restoration activities and the costs charged by each are detailed in the attached Exhibit ATE-5 (Distribution Contractor List). The distribution-related restoration activities these contractors provided include but are not limited to replacing poles (and related hardware), wire, transformers and other equipment. More detail can be found in my Exhibit ATE-3 (Distribution Restoration Tasks).

i. Mutual-Aid Utilities

Q98. TO WHAT EXTENT DID THE COMPANY RELY ON OTHER ELECTRIC UTILITIES TO PROVIDE ASSISTANCE IN RECONSTRUCTING THE COMPANY'S DISTRIBUTION FACILITIES?

A. As I explained above, ETI was able to utilize the resources of other utilities through mutual-aid agreements to which Entergy is a party. For safe, timely, and efficient restoration from major storms such as Hurricanes Laura and Delta, our industry depends on off-system resources to support restoration efforts. Over the years, Entergy has assisted many other electric utilities by sending support to aid in restoration efforts in states such as Texas, Alabama, Ohio, New Jersey, West Virginia, Maryland, Pennsylvania, and Delaware. Mutual-aid utilities were essential for the restorations for Hurricanes Laura and Delta due to the massive infrastructure damage, including damage to ETI's distribution system.

The Company recruited and deployed approximately 700 workers from mutual-aid utilities for the Hurricane Laura restoration effort and 70 workers for the Hurricane Delta restoration effort. The mutual-aid support consisted primarily of line crews supplied from other utilities. These companies also supported ETI by releasing many of their contract distribution line and vegetation crews to the Company. These resources were extremely valuable to the restoration effort because of their quick response and their knowledge of utility operations, construction, and safety procedures. In addition to their construction abilities, mutual-aid electric utilities provided other necessary support such as engineering, scouting, management, safety, and logistics.

The mutual-aid utilities were typically assigned the task of repairing the main trunk feeder circuits and lateral lines within an assigned geographic area. This work included replacing broken poles, damaged transformers, cross-arms and braces; repairing downed and damaged conductors; replacing or repairing downed services; and energizing lines.

ETI monitored and managed the overall work in areas assigned to mutual-aid utilities and controlled the energizing of the main circuits. Each mutual-aid utility was responsible for coordinating its restoration efforts within its assigned area(s). Some of the crews provided by mutual-aid utilities were largely self-contained in that they had, as part of their storm team, most of the support needed to function independently, such as management, scouts, logistics, lodging and caterers. These self-contained units were able to function with minimal support from ETI. This allowed ETI the opportunity to redeploy some of our local

resources to serve as crew leads or guides for outside crews, scout damage, handle emergency calls and perform other necessary restoration duties.

Q99. WHAT IS THE TOTAL AMOUNT OF MUTUAL-AID COSTS INCURRED FOR THE HURRICANE LAURA AND HURRICANE DELTA RESTORATIONS?

A. The total amount of restoration costs incurred for mutual-aid assistance is $11,954,239 for the Hurricane Laura restoration and $1,642,725 for the Hurricane Delta restoration. Due to the timing of invoices, the majority of the costs for mutual-aid assistance are included in the estimated costs I describe in section IV.C.3.g below as opposed to the costs booked as of February 28, 2021 identified above.

Q100. WHAT ARE THE BENEFITS OF UTILIZING MUTUAL-AID UTILITIES IN HURRICANE RESTORATION?

A. Mutual assistance is an essential part of the electric power industry's service restoration process and contingency planning. Electric utilities impacted by a major outage event are able to increase the size of their workforce by "borrowing" restoration workers from other utilities. When called upon, a utility will send skilled restoration workers, both utility employees and contractors, along with specialized equipment to help with the restoration efforts of a fellow utility.

Q101. WHAT WAS THE BASIS FOR THE TERMS OF SERVICE PROVIDED BY THE MUTUAL-AID UTILITIES?

A. The basis for mutual-aid is to provide assistance in restoring electric service when it has been disrupted and cannot be restored in a safe and timely manner by the affected company or companies using their personnel alone. With this approach, utility members of the regional mutual-assistance groups recognize the significant differences between work performed under normal circumstances and emergency restoration, as well as the fact that each member will at some time both require and supply emergency assistance. Therefore, members have reached agreement to adhere to the procedures and guidelines developed without the necessity of formal bilateral contractual arrangements. Under existing mutual-aid agreements and protocols, ETI was required to reimburse the providing mutual-aid utilities at their cost to provide the service. The providing utility does not make any profit on those services.

ETI has provided mutual-aid for other utilities on numerous occasions. The "at-cost" pricing of the mutual-aid services is standard industry practice and is designed to enable storm-afflicted utilities to expeditiously secure assistance in an efficient and cost-effective manner while ensuring that the providing utility does not have to provide assistance at a loss. The charges incurred by ETI from mutual-aid utilities were reasonable because the charges were monitored for compliance with the at-cost provisions of the mutual-assistance agreements.

Q102. UNDER WHAT MUTUAL-ASSISTANCE AGREEMENTS DOES ENTERGY OPERATE?

A. Entergy is a member of the Southeast Electric Exchange ("SEE"), Edison Electric Institute Mutual Assistance Association, Midwest Mutual Assistance Association, and Texas Mutual Assistance Association. The majority of mutual-aid utilities are also members of at least one of these regional mutual assistance groups and/or EEI. The SEE and EEI Mutual Assistance Associations have become the most prominent groups. Of the member utilities, there are approximately 64 holding companies that include a total of approximately 144 entities. The agreements for these two groups are provided as Exhibits ATE-6 (SEE Agreement) and ATE-7 (EEI Agreement).

Q103. PLEASE IDENTIFY THE MAJOR MUTUAL-AID UTILITIES THAT ASSISTED ETI AND THE COSTS CHARGED BY EACH FOR HURRICANES LAURA AND DELTA.

A. The major mutual-aid utilities that assisted ETI in the Hurricane Laura and Delta restorations provided needed supervision, linemen, support personnel, and equipment. Tables 6 and 7 below identify the major mutual-aid utilities for ETI's 2020 Hurricane restoration efforts, the costs charged by each, the network in which they operated, and related details.

Table 6
Hurricane Laura Mutual-Aid Utilities

Utility Name	Cost	Network Location	Mutual-Assistance Relationship
Alabama Power Company	$1,564,750	Beaumont	SEE
CenterPoint Energy, Inc.	$1,900,868	Beaumont Port Arthur	SEE
Cleveland Electric Illuminating Co.	$1,136,250	Port Arthur	EEI
Jersey Central Power and Light Co.	$982,675	Orange	SEE
Monongahela Power Company	$1,256,360	Port Arthur Orange	SEE
The Potomac Edison Company	$920,190	Orange	SEE
West Penn Power Company	$1,501,240	Conroe Orange	EEI
OG&E Electric Services	$880,493	Orange	SEE
PECO Energy	$591,260	Orange	EEI
Delmarva Power	$674,800	Orange	SEE
Texas New Mexico Power Company	$545,353	Port Arthur Orange	SEE
TOTAL	**$11,954,239**		

Table 7
Hurricane Delta Mutual-Aid Utilities

Utility Name	Cost	Network Location	Mutual-Assistance Relationship
CenterPoint Energy, Inc.	$1,642,725	Port Arthur	SEE
TOTAL	**$1,642,725**		

ii. Off-System Contractors

Q104. TO WHAT EXTENT DID THE COMPANY RELY ON OFF-SYSTEM CONTRACTORS TO ADDRESS DAMAGE FROM THE HURRICANES?

A. Off-system contractors were critical to our restoration efforts for both Hurricane Laura and Hurricane Delta. Assistance from off-system contractors constituted the majority of the resources used in the Hurricane Laura and Delta restorations.

- The companies supporting the Hurricane Laura restoration provided:
  - 3,230 line workers;
  - 879 damage-assessment scouts;
  - 1,088 vegetation workers; and
  - other contractors helped in other restoration support roles.
- The companies supporting the Hurricane Delta restoration provided:
  - 1,119 line workers;
  - 66 damage-assessment scouts;
  - 299 vegetation workers; and
  - other contractors helped in other restoration support roles.

Q105. PLEASE DESCRIBE THE PROCESS BY WHICH ETI ENGAGED CONTRACTORS TO ASSIST WITH THE RESTORATION EFFORTS.

A. Securing and engaging contractors was managed by our Entergy System Command Center in response to our State Command Center's requests for line, vegetation, scouting and other support resources. This process allowed the State Command Center to focus entirely on the restoration while others worked out the details of

securing and engaging contractors according to our standard contractual agreements.

Many of our contractors had pre-existing contracts with Entergy that were negotiated prior to the emergency conditions. These pre-existing contracts contain terms that are based on established history with the contractors, are consistent with ETI's prior course of dealings in these areas, and conform to industry standards. As explained more fully below, processes were in place to ensure that the rates charged by contractors during the restoration matched the pre-existing contracts' terms, thus ensuring that the costs were reasonable.

ETI also used contractors with which it did not have pre-existing contracts and/or prior history at the time of the request. These contractors were used in cases where additional resources were needed and ETI employees, affiliate resources, mutual-aid utility resources, and contractors with whom pre-existing contracts were in place, were not available. The SOR group focused on executing contracts with these contractors at comparable rates. It is possible that some of these contractors obtained rates more favorable than others. However, this risk was balanced against ETI's need for quick restoration and the lack of available resources.

Line contractors were engaged for restoration via the following methods:

- base-load contractors that were already working on ETI property at the time of the storms;
- off-system contractors contributed by other utilities during the mutual-assistance process;

- off-system contractors from non-utility companies, contacted directly due to previous use and having contracts;
- off-system contractors obtained for restoration and released by other utilities through the mutual-assistance process; and
- off-system contractors that contacted Entergy offering resources.

(a) Line Contractors

Q106. PLEASE DESCRIBE THE LINE CONTRACTORS AND HOW THEY WERE SELECTED.

A. Augmenting Company resources and mutual-aid utilities with line contractors was necessary to acquire a sufficient number of resources to restore service in an expedited manner. For the Hurricane Laura restoration, ETI contracted with 40 companies to obtain 3,230 distribution line workers. For the Hurricane Delta restoration, ETI contracted with 22 companies to obtain 1,119 distribution line workers. Line crews came from locations as distant as Ohio, New Jersey, Maryland, Pennsylvania, and Delaware.

At the beginning of the 2020 hurricane season, Entergy had 87 distribution line contractors under contract. These contracts were negotiated at competitive rates and at terms typical of those negotiated during similar circumstances.

Entergy had an additional 7 distribution line contractors with which it had past working experience and with whom we had communicated in anticipation of the 2020 hurricane season. No contracts were written with them, but we felt their rates would be acceptable during a storm event. We had operational knowledge of

their skills, capabilities, work product, and safety practices. Some of the items discussed or negotiated were travel expenses, work and rest hours, equipment, tools, voltage capabilities, crew compliment, and other personnel expenses.

Q107. WHAT SERVICES WERE PERFORMED BY THE MAJOR LINE CONTRACTORS?

A. The major line contractors performed all aspects of restoration, including repairing main trunk feeder circuits and lateral lines, replacing and repairing poles and braces, cross-arms, conductors (wire), transformers, services, street light repairs, and re-energizing lines.

Q108. HOW WERE ASSIGNMENTS FOR THE CONTRACTOR CREWS COORDINATED?

A. Upon arrival, crews were assigned to the Network Restoration Management Teams based on the amount of damage, type of damage, and number of customers out of power. These Management Teams, made up of Entergy employees, then assigned the crews to Crew Leaders who managed the restoration efforts in their assigned areas. Crew Leaders made daily work assignments to the crews, managed required switching procedures, assured work quality, prepared daily progress reports, managed emergency requests and, most importantly, ensured the crews were working safely and efficiently. The Crew Leaders also assessed the adequacy of crew numbers on an ongoing basis to ensure that ETI did not have too few or too many crews. Any adjustments were directed to the pertinent Network Management

Team and, if further adjustments were needed, they were directed to the State Command Center.

Q109. WHO WERE THE MAJOR LINE CONTRACTORS UTILIZED BY THE COMPANY FOR THE HURRICANE LAURA AND DELTA RESTORATIONS?

A. The major line contractors for the Hurricane Laura and Delta restorations are listed below in Tables 8 and 9, respectively. These contractors provided the additional linemen, support personnel, and equipment needed to rebuild the ETI distribution system.

Table 8
Hurricane Laura – Major Line Contractors

Contractor	Cost	Pre-Existing Contract	Multi Year Relationship
Volt Power, LLC	$5,394,988	Y	Y
JW Didado Electric, LLC	$5,174,974	N	Y
Pike Electric, LLC	$5,169,948	Y	Y
Utility Lines Construction Service, Inc.	$3,606,665	Y	Y
MJ Electric, LLC (a Quanta Services Co.)	$3,515,134	N	Y
Lee Electrical Construction	$2,822,644	Y	Y
Front Line Power Construction, LLC	$2,734,643	N	N
Intren, LLC	$2,392,703	N	Y
Jordan High Voltage, Inc.	$2,378,085	N	Y
Henkels & McCoy, Inc.	$2,377,888	Y	Y
Quality Lines, Inc.	$2,301,825	N	Y
Haugland Energy Group, LLC	$2,186,703	N	N
North Houston Pole Line, LP	$2,004,140	Y	Y
Irby Construction Co.	$1,745,574	Y	Y
Heart Utilities of Jacksonville, Inc.	$1,735,939	Y	Y
ARC American, Inc.	$1,674,001	N	N
Intercon Construction, Inc.	$1,579,725	N	N
Wilco Electrical, LLC	$1,299,716	N	N

Great Southwestern Construction, Inc.	$1,253,500	N	N
Michels Power	$1,250,878	Y	Y
Capital Electric Line Builders, Inc.	$1,097,878	N	N
Bright Star Solutions, Inc.	$1,073,845	Y	Y
Service Electric Company	$987,627	Y	Y
Hydaker Wheatlake Company	$963,850	Y	Y
Bird Electric Enterprises, LLC	$942,508	N	N
Wampole Miller, Inc. d/b/a Miller Bros.	$937,588	N	Y
Primoris T&D Services, LLC	$865,234	Y	Y
Lecom, Inc.	$819,387	N	N
MDR Construction, Inc.	$657,940	Y	Y
Power Line Services, Inc.	$629,094	Y	Y
PAR Electrical Contractors, Inc.	$623,190	N	Y
Plus Finance, Inc. d/b/a Bowlin Energy, LLC	$620,822	Y	N
Bobcat Electrical & Instrumentation, LLC	$616,486	N	N
CVTech Holdings, Inc. d/b/a Riggs Distler & Co.	$613,031	Y	Y
Mirarchi Brothers, Inc.	$576,750	N	Y
Chain Electric Company	$566,767	Y	Y
Plaska Transmission Line Construction	$534,930	N	N
Southern Electric Corp.	$516,681	Y	Y
The Robert Henry Corp.	$507,508	N	Y
Davis H. Elliot Construction Co., Inc.	$476,047	Y	Y
BHI Energy Power Services, LLC	$448,810	N	N
The Fishel Company d/b/a Team Power	$421,187	N	Y
Mastec North America, Inc.	$343,353	N	Y
PMI Energy Solutions, LLC	$337,457	N	N
Musgrove Construction, Inc.	$272,695	Y	Y
Irby Construction Co.	$269,955	Y	Y
Onesource Restoration, LLC	$264,571	Y	Y
Xtreme Powerline Construction, Inc.	$242,370	N	N
DC Industrial Mat, LLC	$211,405	N	N
Sparks Energy, Inc.	$204,924	Y	Y
B&B Electrical & Utility Contractors	$198,968	Y	Y
PowerGrid Services, LLC	$144,335	Y	Y

Howard Dedicated Operations	$125,884	Y	Y
Medcor, Inc.	$97,011	N	Y
James E Rachal DBA Jr & Sons Enterprises	$26,992	Y	Y
Guidant Group, Inc.	$25,118	Y	Y
AWP, Inc.	$16,469	N	N
Total	**$70,878,339**		

Table 9
Hurricane Delta – Major Line Contractors

Contractor	Cost	Pre Existing Contract	Multi Year Relationship
Tempest Energy, LLC	$3,024,873	N	N
Volt Power, LLC	$2,908,292	Y	Y
Bright Star Solutions, Inc.	$2,092,448	Y	Y
Lecom, Inc.	$1,871,390	Y	N
Primoris T&D Services, LLC	$1,558,523	Y	Y
Xtreme Powerline Construction, Inc.	$1,262,282	Y	N
Pike Electric, LLC	$1,250,997	Y	Y
Linetec Services, LLC	$909,520	Y	Y
MP Technologies, LLC	$781,491	Y	Y
Hydaker Wheatlake Co.	$767,879	Y	Y
Front Line Power Construction, LLC	$686,246	Y	N
MJ Electric, LLC (a Quanta Services Co.)	$613,211	Y	Y
Great Southwestern Construction, Inc.	$579,250	Y	N
North Houston Pole Line, LP	$523,163	Y	Y
Frankart Power Line Services, LLC	$452,020	Y	Y
BHI Energy Power Services, LLC	$440,098	Y	N
Southern Electric Corp.	$339,285	Y	Y
Davis H. Elliot Construction Co., Inc.	$282,509	Y	Y
Scrotec, Inc.	$225,121	Y	Y
William E. Groves Construction	$190,762	Y	Y
Civaeco	$178,130	N	N
Mastec North America, Inc.	$128,993	Y	Y
DC Industrial Mat, LLC	$116,057	N	N

Howard Dedicated Operations	$26,802	Y	Y
Guidant Group, Inc.	$16,834	Y	Y
Medcor, Inc.	$6,015	Y	Y
Total	**$21,232,190**		

(b) Vegetation Contractors

Q110. DESCRIBE THE NEED FOR VEGETATION WORKERS IN THE RESTORATION EFFORT.

A. ETI engaged approximately 1,100 vegetation workers for the Hurricane Laura restoration, and approximately 300 vegetation workers for the Hurricane Delta restoration in southeast Texas. This number of workers was necessary to address the damage caused by Hurricane Laura and Hurricane Delta to the typically dense tree growth and vegetation in and around ETI's rights-of-way in its service territory.

Q111. PLEASE DESCRIBE THE SERVICES THAT WERE PERFORMED BY VEGETATION CONTRACTORS AND HOW THEY WERE MANAGED.

A. The ETI service territory includes dense vegetation that contributes significantly to infrastructure damage and outages following catastrophic storms with wind-related damage such as caused by Hurricanes Laura and Delta. The vegetation contractors engaged by ETI performed four critical tasks, including: (1) clearing the way to access damaged equipment; (2) removing trees and tree limbs that had fallen on lines and poles; and (3) patrolling lines in the impacted areas to address damaged limbs/trees that posed a potential reliability threat; and (4) clearing roadways to enter damaged areas.

ETI monitored and managed the vegetation workforce through the use of Entergy Vegetation Management operations coordinators, contract foresters, and Entergy utility employees. Vegetation workers were assigned to networks based on damage assessments, critical feeders, and the sequence of restoration. As the workload changed, the network coordinators would adjust the number of required vegetation workers. Vegetation crews were assigned to line crews to safely and effectively coordinate restoration efforts. Vegetation Management operations coordinators monitored crew performance through feedback received from the line restoration crews and crew leads, as well as from in-the-field audits and inspections.

Q112. PLEASE IDENTIFY THE MAJOR VEGETATION CONTRACTORS AND THE COSTS CHARGED BY EACH.

A. Prior to the landfall of Hurricanes Laura and Delta, Entergy had pre-negotiated contracts with all the major vegetation contractors listed below except the two noted. Each of these contractor's charges were matched to the appropriate rate schedules to ensure that the storm-related charges complied with contract terms. These charges were necessary because the services these contractors provided matched the need created by the vegetation damage that I described above, and the rates for the services were reasonable due to the pre-existing contracts negotiated during non-emergency circumstances.

The major vegetation contractors included in this cost category are detailed in Table 10 below for the Hurricane Laura and Delta restorations combined:

Table 10
Major Vegetation Contractors

Contractors		Contract Type	Multi-Year Relationship
ABC Professional Tree Services, Inc.[3]	$6,392,309	Pre-Existing	Yes
Asplundh Tree Expert Co.	$ 3,658,300	Pre-Existing	Yes
Townsend Tree Service Co., LLC	$2,708,163	Storm Specific	Duration of Storm
Southern Line Contractors, Inc.	$580,923	Storm Specific	Duration of Storm
Burfords Tree, LLC	$254,469	Pre-Existing	Yes
Lakeside Environmental Consultants, LLC	$26,430	Pre-Existing	Yes
Total	**$13,620,594**		

Q113. PLEASE DESCRIBE THE PROCESS BY WHICH ENTERGY UTILIZED PRE-EXISTING CONTRACTS WITH THE MAJOR VEGETATION CONTRACTORS.

A. The rates for normal-cycle maintenance and for time and equipment ("T&E") are negotiated during the same bidding process. First, I will describe the cycle-maintenance bid process. Then I will discuss the bidding for T&E rates.

On a recurring basis, Entergy identifies, in general terms, the feeders in each network targeted for trimming over a two-year period. The contractors are provided maps that identify the number of line-miles on each feeder and price quotes for a set cost per-line-mile in each network. Price quotes are submitted to the Supply Chain organization, which then coordinates with the Vegetation Management

[3] This contractor worked the restorations for both Hurricanes Laura and Delta and provided approximately $500,000 in clean-up work as well reflected in this total. The others worked the restoration for Hurricane Laura only.

organization to award contracts based on competitive pricing, approved budget, and contractor safety record.

Supply Chain and Vegetation Management compare current bid prices to historical data. Using all of these tools helps Entergy make decisions regarding the reasonableness of the costs of the vegetation-management programs.

T&E rates are part of the bid prices that each contractor submits along with its line-mile costs for cycle-maintenance. T&E rates are used for billing purposes during a storm restoration. These billing rates are also reviewed before awarding contracts for the line-mile work. The T&E rates are bid for straight-time, over-time, and double-time for all classifications of tree trimmers. Equipment rates are submitted at straight-time rates for all operational hours. All base-load tree trimmers for Entergy have these rates; these rates are billed to Entergy regardless of the state in which the base-load tree trimmer normally works.

(c) Logistics Contractors

Q114. DESCRIBE THE ROLE OF LOGISTICS CONTRACTORS DURING THE RESTORATION EFFORTS.

A. Logistics contractors provided services to our restoration workforce by providing basic human necessities. Many of these contractors were engaged to provide support to staging areas such as mass housing, catering, sanitation, and other logistics coordination and procurement. In addition, some logistics contractors supported the staging areas in various functions such as directing traffic, fueling vehicles, delivering meals, moving supplies, and clean up. Transporting personnel

from staging sites to lodging locations was accomplished through the use of busing contractors. Medical contractors were utilized to provide minor medical attention to restoration personnel. Due to the large numbers of resources, equipment, and materials, as well as the unique circumstances where local law enforcement support was limited, it was necessary to procure contract security to ensure that order was maintained at staging and key operating sites.

Q115. PLEASE IDENTIFY THE MOST SIGNIFICANT LOGISTICS CONTRACTORS AND THE COSTS CHARGED BY EACH.

A. The major vendors that provided logistics resources across the ETI service territory were as follows:

- Storm Services, LLC provided a turn-key location in Beaumont for the Hurricane Laura restoration at a cost of $16,627,635.
- Swadley's Emergency Service Team, LLC provided a turn-key site in Port Arthur for the Hurricane Laura restoration at a cost of $22,634,742.
- Base Logistics, LLC provided three catering sites with laundry services in Orange, Port Arthur, and a site that started in Lumberton but was moved to the Orange area for the Hurricane Laura restoration at a cost of $2,499,659.
- Courville's (Cajun Flavors), LLC provided a catering site located in Beaumont for the Hurricane Laura restoration at a cost of $1,217,373 and opened an additional site in Orange for the Hurricane Delta restoration at a cost of $656,868.

- Lodging Solutions provided a catering site in Port Arthur during the Hurricane Delta restoration at a cost of $569,712 and a small catering site during the Hurricane Laura restoration for $120,000.
- Hotard Coaches, Inc. provided transportation services for the Hurricane Laura restoration at a cost of $410,935.

(d) Other Contractors

Q116. WHAT SERVICES WERE PERFORMED BY OTHER CONTRACTORS?

A. The "Other" contractors included:

- **Investment Recovery Contractors** – These contractors were utilized in the recovery and disposal of damaged distribution line equipment and debris. In order to expedite restoration and maximize the use of skilled restoration labor, line crews were instructed to leave salvage material that required extensive effort to remove at the work site so that a labor force could recover the material at a less critical time and at a lower labor rate. This allowed restoration crews to focus on restoring service to our customers more quickly.
- **Environmental Contractors** – These contractors provided spill response, containment, and leak-management services. The Company placed a priority on addressing the potential impact of oil-filled equipment that faced mechanical failure and might pose an environmental threat. Again, to expedite restoration and effectively utilize skilled restoration labor, line crews were instructed and trained to contain spill locations so that a

specialized environmental labor force could respond and mitigate the potential damage.

- **Trucking and Equipment Contractors** – These contractors moved equipment, material, and supplies as needed. They also provided generators for temporary power at motels for crew lodging, heavy equipment with operators for clearing rights-of-way and specialized equipment rentals.
- **Temporary Staffing Contractors** – These contractors provided temporary staffing to support our restoration workforce as crew leaders, clerical, customer communications, and logistic support. Entergy retirees, who brought many years of knowledge and experience, were hired as temporary contractors to participate in various aspects of the restoration.

Q117. PLEASE IDENTIFY THE MOST SIGNIFICANT OTHER CONTRACTORS AND THE COSTS CHARGED BY EACH.

A. The Company used several significant other contractors in the 2020 hurricane restorations.

- **Engineering Contractors** – The contractors identified in Table 11 provided damage assessment services during Hurricane Laura and Hurricane Delta. During restoration, engineering contractors were utilized as scouts to assist in patrolling, to guide crews to locations that were difficult to access, and for other restoration activities. After the completion of service restoration, a small number of these contractors were utilized in the reconciliation of our mapping and data systems by gathering key

information needed to maintain proper records. These contractors were also utilized to identify additional repairs.

Table 11
Engineering Contractors

Contractor Name	Hurricane Laura Cost	Hurricane Delta Cost	Total Cost
Onesource Restoration, LLC	$3,587,703	$1,358,265	$4,945,967
Storm Services, LLC	$1,903,891		$1,903,891
M&S Engineering, LLC	$269,979	$150,153	$420,132
Osmose Utilities Services, Inc.	$393,329		$393,329
Techserv Consulting & Training Ltd.	$339,044		$339,044
Heart of Texas Utility Design, LLC	$98,490		$98,490
Disaster Resource Group, LLC	$84,838		$84,838
Total	**$6,677,273**	**$1,508,418**	**$8,185,811**

- **Transportation Contractors** – Transportation contractors repaired/replaced damaged tires, dead batteries and performed other minor vehicle repairs. This work was performed by independent shops with which ETI did not have pre-existing accounts. These contractors also provided fuel trucks for the fleet at the staging locations. These costs were necessary and reasonable to keep our fleet on the road restoring power. Significant transportation contractors are identified in Table 12.

Table 12
Transportation Contractors

Contractor Name	Hurricane Laura Cost	Hurricane Delta Cost	Total Cost
Macro Companies, Inc.	$3,082,314	$381,944	$3,464,258
Southern Tire Mart, LLC		$8,231	$8,231
Looneys Tire Service (dba LTS Wholesale)		$5,834	$5,834
Cain, Inc.		$1,916	$1,916
Continental Tire The Americas, LLC		$494	$494
Total	**$3,082,314**	**$398,418**	**$3,480,733**

- **Security Services** – The following contractors provided security services for personnel and facilities. These services were necessary for the restoration effort in order to protect personnel, restrict areas to essential personnel only, and secure materials and supplies. ETI chose to use these contractors for the Hurricane Laura and Delta restorations. The security services provided by these contractors were necessary and reasonable to support the restoration effort. Significant costs for security services are identified in Table 13 below:

Table 13
Security Services Contractors

Contractor Name	Hurricane Laura Cost	Hurricane Delta Cost	Total Cost
VRP Group, Inc. (dba Regius dba Vertus)	$1,135,561		$1,135,561
Lofton Security Services, Inc.	$28,195	$7,885	$36,079
Other	$774,421	$330,894	$1,105,315
Total	**$1,938,176**	**$338,779**	**$2,276,955**

- **Clean-Up and Restoration Services** – The following contractors provided clean-up and/or restoration services. Specifically, they provided the personnel and equipment necessary to remove damaged line hardware, wires, transformers, broken poles, cross-arms and braces from the field and salvage any useable materials. The work was necessary to remove and properly dispose of damaged materials. The Company had prior experience with these contractors during either the Hurricane Rita, Katrina, Ike or Gustav restoration efforts and found their work performance and costs to be satisfactory. With that experience, ETI chose to use their services for the Hurricane Laura and Delta restorations as well. The services were necessary to support the restoration efforts and were reasonable because they enabled higher-skilled and more costly line contractors to focus instead on restoring service to ETI customers while the other contractor personnel handled clean-up or other restoration duties. Significant costs for clean-up and restoration services are identified in Table 14 below:

Table 14
Clean-Up and Restoration Services Contractors

Contractor Name	Hurricane Laura	Hurricane Delta	Total Cost
ABC Professional Tree Services, Inc.	$231,193	$336,283	$567,477[4]
Proforce, LLC	$630,209		$630,209
Total	**$336,283**	**$861,402**	**$1,197,685**

[4] Amount overlaps with vegetation costs above as this vendor provided both types of services.

- **Environmental Services** – ETI paid SET Environmental, Inc. $397,228 for environmental services and recovery of oil-filled equipment. SET Environmental supported the restoration effort by providing skilled labor and specialized equipment to protect the environment from damaged oil-filled equipment. The specialized services provided by SET Environmental were necessary to ensure proper handling of environmental issues.

iii. Summary of Contract Work

Q118. PLEASE SUMMARIZE THE LEVEL OF DISTRIBUTION-RELATED "CONTRACT WORK" COSTS INCURRED IN THE HURRICANE LAURA AND DELTA RESTORATIONS AND WHY THOSE COSTS WERE REASONABLE AND NECESSARY.

A. The total amount of Contract Work costs incurred by ETI in the Distribution Class for the Hurricane Laura, Hurricane Delta, and Winter Storm Uri restorations are summarized in Table 15 below:

Table 15
Distribution Contract Work Costs

Hurricane Laura	$140,295,996
Hurricane Delta	$27,127,266
Winter Storm Uri	$296,410
Total	**$167,719,672**

As described in my testimony, those costs were necessary to restore service to ETI's customers and repair the extensive damage to the distribution system. Given the massive damage to the system and the urgent need to restore service for

the health, safety, and convenience of customers and the regional and national economy, ETI brought in contract personnel from a wide array of mutual-aid utilities and contractors. An impressive restoration army established by ETI was activated in our service territory to address the damage caused by these storms. Working together with ETI's employees, these contractors did an outstanding job, working long hours in very difficult circumstances, to restore service to our customers as quickly as reasonably possible. We are grateful for the assistance they provided us and the professionalism with which they performed their services.

As described in my testimony, ETI engaged these contractors as expeditiously as we could to commence rapid system restoration efforts. We continuously monitored the level of contract resources we employed, initially to make sure we had adequate resources to cover all parts of the system that were damaged, and then to make sure that we ramped down the number of resources as the restoration progressed and the level of contract resources needed diminished. This continued on a constant basis throughout the restoration and reconstruction process.

Furthermore, we implemented measures to ensure that the costs paid were reasonable. Before bringing in additional resources, ETI made sure our internal resources were fully utilized. We then called upon our utility partners in mutual-aid agreements to provide crews to assist with our restoration. The pricing terms under those mutual-aid agreements were reasonable in that the providing utility supplied its crews on an at-cost, non-profit basis.

To the maximum extent possible, we utilized contractors with which we had pre-existing relationships (*i.e.*, their crews were already assigned to the ETI system) and pre-existing contracts. By utilizing contractors with pre-existing contracts, we ensured that the prices for the services had been determined on a competitively procured basis and/or that they had been subject to negotiation with ETI under non-emergency circumstances, such that the unique circumstances presented in the aftermath of Hurricanes Laura and Delta and Winter Storm Uri had not influenced the pricing. Next, we turned to contractors with which we have worked in the past and whose services and costs we deemed to be reasonable. The pricing terms for the services of those contractors were negotiated in advance of their commencing service. Pricing terms were negotiated as favorably as possible under the circumstances. Of course, due to the emergency circumstances, ETI did not have significant leverage to negotiate reduced prices with those contractors, but I can say with confidence that the contractors with whom we dealt treated us fairly, were cooperative in helping us in our moment of great need, and did not take advantage of the situation to charge us unreasonable prices. For these reasons as discussed in more detail previously, the Contract Work costs were not only necessary, but also reasonable.

b. Employee Expenses

Q119. WHAT DISTRIBUTION CLASS DOLLARS ARE ASSOCIATED WITH THE RESTORATION COST CATEGORY "EMPLOYEE EXPENSES"?

A. As of February 28, 2021, the Employee Expenses costs were as follows in Table 16:

Table 16
Employee Expenses

Hurricane Laura	$7,012,297
Hurricane Delta	$1,292,261
Winter Storm Uri	$5,384
Total	**$8,309,942**

Q120. PLEASE DESCRIBE THE COSTS INCLUDED IN THIS CATEGORY.

A. The Employee Expenses cost category includes the costs of providing lodging, meals, and other logistical items to the restoration work force, with the exception of self-contained crews and the large logistical and catering vendors (the costs of which are included in cost category Contract Work). For Hurricanes Laura and Delta, this was particularly challenging due to the general devastation in the ETI service territory as well as maintaining COVID safety and health protocols. Winter Storm Uri still had the COVID safety and health protocols to be concerned with, but had less devastation and required fewer lodging and catering concerns. During the two hurricanes, many of the vendors who supplied catering or lodging were providing their services from damaged facilities or without power to begin with. These vendors' ability to procure supplies to feed and house restoration workers was severely challenged by the shortage of supplies and restricted transportation routes. In addition, these vendors were competing for supplies in a part of the country already in short supply due to the exigencies of the hurricanes experienced during the 2020 Gulf Coast hurricane season and at a time of demand for the same supplies by the other Gulf Coast utilities working to restore power after the hurricanes.

Of the $8.3 million of distribution-related costs in this category for Hurricanes Laura ($7,012,297) and Delta ($1,292,261) and for the Winter Storm Uri ($5,384), 97% are the costs of lodging the restoration and support personnel. Entergy was able to arrange lodging for Entergy, mutual-assistance, and contract restoration workers in the general area of the storm damage. These costs were for groups of workers for extended periods of time.

The remaining 3% of the costs includes meals for smaller work groups, laundry services, equipment to prepare and maintain staging sites, transportation for crews and logistics workers, and supplies for the workers at their job sites, such as ice, water, soft drinks, and snacks. The cost of large logistics vendors, including catering, lodging, and transportation, are included in the cost category Contract Work.

Q121. WERE THE EMPLOYEE EXPENSES COSTS REASONABLE AND NECESSARY?

A. Yes. The Employee Expenses costs were necessary because they were essential to support the restoration workforce by providing the basic human needs of food, rest, shelter, and hygiene. It is a reasonable and necessary business practice to provide lodging and meals for workers who are assigned to a job site for storm restoration events. The costs were reasonable because many of the vendors charged rates similar to those for the same services under non-storm circumstances. There were some vendors who were retained because they were the only ones available to