II. PURPOSE AND SUMMARY OF TESTIMONY

A. Purpose of Testimony

Q6. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony presents ETI's reasonable and necessary system restoration costs in the total amount of roughly $19.5 million for the Transmission Class of costs incurred for system restoration activities, including those costs incurred through February 28, 2021 and estimates for certain storm-related projects for which all costs have not yet been billed. As outlined in my testimony, ETI's transmission-related system restoration costs were necessary to repair, in the most expeditious manner possible, the damage sustained by ETI's transmission system and to restore services associated with electric power outages affecting ETI's customers following Hurricanes Laura and Delta. As further discussed in my testimony, these costs were reasonable and necessary under the circumstances, and processes were put in place and followed to manage, control, and verify the costs incurred. My testimony also describes the reasonable and necessary costs incurred to prepare for and respond to Winter Storm Uri that affected ETI's service area.

B. Summary of System Restoration Costs

Q7. WHAT WERE THE TRANSMISSION-RELATED SYSTEM RESTORATION COSTS INCURRED BY ETI, INCLUDING THE ESTIMATED COSTS, THAT YOU ARE PRESENTING IN THIS PROCEEDING?

A. The transmission-related system restoration costs presented in my testimony are summarized in Table 1 as follows:

Table 1

Transmission Class System Restoration Costs	Hurricane Laura	Hurricane Delta	Winter Storm Uri	Total
ETI Direct Costs				
Contract Work	12,318,860	1,613,911	0	13,932,771
Labor	725,357	205,978	147,127	1,078,462
Employee Expenses	10,498	4,074	115	14,687
Materials	682,462	194,109	371	876,942
Other	838,737	166,921	20,420	1,026,078
Total Direct Costs	14,575,914	2,184,993	168,033	16,928,940
ETI Affiliate Costs				
ESL Billings	782,969	58,616	17,420	859,005
Loaned Resources	93,652	4,960	3,979	102,591
Total Affiliate Costs	876,621	63,576	21,399	961,596
Estimated Costs	0	1,561,710	0	1,561,710
Total ETI Costs	**$15,452,535**	**$3,810,279**	**$189,432**	**$19,452,246**

C. Summary of System Restoration Efforts and Challenges

Q8. PLEASE PROVIDE AN OVERVIEW OF THE 2020 HURRICANE SEASON.

A. The 2020 hurricane season was extraordinarily active with 30 named storms and 13 hurricanes, six of which became major hurricanes. The first major threats to the Gulf Coast began in late August as Hurricanes Marco and Laura were simultaneously active in the Gulf of Mexico by August 25. Hurricane Marco weakened as Hurricane Laura rapidly intensified and struck southwest Louisiana on August 27. About three weeks later, the Gulf of Mexico was threatened by a third significant storm when Hurricane Sally formed. Hurricane Sally ultimately moved east and impacted the Mobile, Alabama area on September 15. By September 18, Tropical Storm Beta was in the Gulf of Mexico and again utilities and their shared resources were forced to plan a response. A few days later, on

October 4, Tropical Storm Gamma was threatening the same region and just five days after that on October 9, Hurricane Delta struck southwest Louisiana again very near the same location that Hurricane Laura had come ashore as a Category 4 hurricane. Additional storms impacted other regions of the country requiring utilities in those regions to acquire resources to restore power for their respective regions. In summary, the entire coastal United States was threatened by multiple, successive storms in 2020, with responses planned for dozens of storms and hurricane restorations following a record 12 landfalls in the U.S.

Q9. CAN YOU SUMMARIZE THE IMPACT OF HURRICANE LAURA?

A. Yes. Hurricane Laura was the strongest hurricane to make landfall in Louisiana since 1856. All transmission tie lines between southwest Louisiana and southeast Texas were damaged or destroyed rendering them "out of service." These tie lines included two 500 kV lines, one 230 kV line, and five 138 kV lines.[2] In total, 62 transmission branches experienced an outage as a result of Hurricane Laura. Just across the Sabine River, transmission damages in southwest Louisiana were devastating. Long sections of transmission lines capable of transporting thousands of megawatts of energy were destroyed. In the Lake Charles area, over 1,400 transmission structures were destroyed and over 640 miles of transmission lines

[2] The following tie lines were out of service: Nelson – Hartburg 500 kV line; Hartburg – Layfield 500 kV line; Sabine – Big Three – Carlyss 230 kV line; Orange – Hollywood – Nelson 138 kV line; Cleco Cooper – Fawil 138 kV; Toldeo Bend – Fisher (Cleco) 138 kV line; Toldeo Bend – Leesville (Cleco) 138 kV line; and Orange – Toomey – Marshall – Mossville 138 kV line, which did not trip, but no electrical connection existed at Orange for this path to exist. For purposes of this testimony, it is listed as out of service.

were out of service at the peak of the event. The storm resulted in over 90 bulk power and load-serving substations being unable to deliver energy to customers. The city of Lake Charles experienced 13 days with no power and demand has not yet recovered to pre-storm levels in southwest Louisiana.

Q10. WHAT CRITICAL SITUATIONS DID ETI FACE IN RESTORING SERVICE AFTER HURRICANES LAURA?

A. The most immediate challenge to restoration was the damage to the tie lines between Texas and Louisiana. Without these ties, ETI was hampered in its ability to move power from its northern regions into areas in southeast Texas. In addition, ties to the AEP-West Control Area were opened by the Southwest Power Pool Reliability Coordinator in order to protect the stability of that system during and following the storm, which prevented imports of power from the north. As a result, ETI was forced to closely balance its load and generation without the benefits of the larger interconnected system to the east and north. Until multiple ties with Louisiana were restored, operations were limited in ETI. Thus, restoring ties to the east, primarily the 500 kV line to ELL's Nelson Station in Lake Charles, was essential to restoring reliable service to ETI's customers.

Other challenges included: managing transmission system usage to move power from the western part of ETI to the east to offset the inability to import electricity from Louisiana, accessing a restoration-critical transmission line in a remote and wooded area in order to remove a tree that had fallen from outside of the right-of-way onto the facility, and expediting the replacement of a transformer

that failed just prior to the storm in order to increase the capability to transfer power into southeast Texas.

Q11. HOW WAS THE HURRICANE LAURA RESTORATION EFFORT AFFECTED BY ONGOING RESTORATION EFFORTS IN LOUISIANA AND OTHER HURRICANES THAT STRUCK PORTIONS OF THE U.S. IN 2020?

A. When Hurricane Laura made landfall, other regional utilities were still recovering from the numerous hurricanes that impacted the U.S. in 2020, which presented a limited supply of and extreme demand for personnel, material and logistical resources required for the restoration effort ongoing in Texas and Louisiana. To overcome these challenges, ETI's transmission function brought in substation, relay, line and vegetation personnel from mutual-aid utilities and third-party contractors to assist in the restoration. Employees and contractors worked up to 16-hour shifts to restore service as quickly as possible.

Obtaining sufficient food and lodging were also challenges due to the widespread damage in Louisiana and ongoing restoration work in other areas. Additional challenges around providing these logistical support functions had to be overcome given the ongoing health requirements and protocols associated with the response to COVID-19. To overcome these challenges, ETI utilized commercial lodging where available as well as a variety of logistics contractors to provide alternative lodging sites, both fixed and mobile.

Q12. PLEASE SUMMARIZE THE IMPACT OF HURRICANE DELTA.

A. Hurricane Delta caused outages to an additional 33 ETI transmission lines. Damages were not as severe as those incurred from Hurricane Laura and included more ancillary structure damages such as cross-arms and hardware as opposed to more severe structural failures. However, challenges associated with the protracted response to earlier storms continued to mount. Mutual-assistance resources continued to release back to their home systems, requiring company resources to backfill restoration roles. As with Hurricane Laura, damage in the Lake Charles area was more significant than damage in Texas. This complicated restoration efforts, as impacted circuits and damage were spread across a wider area.

Q13. PLEASE SUMMARIZE THE TRANSMISSION-RELATED SYSTEM RESTORATION EFFORTS ASSOCIATED WITH WINTER STORM URI.

A. Restoration efforts resulting from Winter Storm Uri were largely limited to switching activities to restore lines once the winds had subsided such that the ice-covered lines stopped galloping.[3] In addition, there was a significant effort in advance of the storm to inspect facilities and prepare for the frigid temperatures.

[3] Galloping is a phenomenon caused by a combination of ice forming on the conductors of a transmission or distribution line and wind blowing across the line. This combination of factors can cause the line to physically oscillate, rising and falling in a periodic fashion. Should oscillations be severe, the line can experience outages as wires come into contact with adjacent wires.

III. ENTERGY TRANSMISSION ORGANIZATION

A. Overview of the Entergy Transmission Organization

Q14. HOW IS THE ENTERGY TRANSMISSION ORGANIZATION STRUCTURED?

A. The transmission systems of all EOCs, including ETI, are planned and operated as a single integrated transmission system by the Entergy Transmission Organization. The Entergy Transmission Organization is responsible for the planning, operation, maintenance management, and construction management of the electric transmission systems of the EOCs, including ETI. Entergy Transmission employees are employees of either ESL, which provides services in a consistent and efficient manner to all of the jurisdictional EOCs, or of one of the EOCs.

Q15. WHAT ARE THE RESPONSIBILITIES OF THE ENTERGY TRANSMISSION ORGANIZATION RELATIVE TO ETI?

A. All ETI personnel are responsible for local activities, which include various aspects of dispatching, maintenance, construction, and Energy Management System ("EMS") hardware and software support. In general, ESL's transmission personnel provide planning, design and construction management services, transmission real-time operations, maintenance management, technology transfer, safety, training, environmental services, business services, regulatory and litigation support, and emergency preparation for the transmission systems of all EOCs, including ETI. There is no duplication of responsibilities between ETI personnel and ESL personnel.

Q16. WHAT ARE THE FUNCTIONS AND RESPONSIBILITIES OF THE ENTERGY TRANSMISSION ORGANIZATION?

A. Within Entergy Transmission there are six functions: (1) Planning, (2) Engineering, (3) Project Management and Construction, (4) Operations, (5) Asset Management, and (6) Policy and Regulatory Support. Within the broader Entergy Operations Organization, an additional Capital Projects function is tasked with managing very large capital projects. This function was also instrumental in 2020 hurricane restorations. The functions are described as follows:

- The Planning function performs the long-range planning and develops projects and/or operating guides necessary to ensure the EOCs' transmission systems function reliably and efficiently. During storm restorations, the Planning function plans the restoration by monitoring system conditions as they change and then developing prioritized restoration plans for facilities that experienced outages during the storm.
- The Engineering function designs the planned transmission facilities necessary to implement the transmission line and substation capital projects. During a storm restoration, the Engineering function designs replacement facilities and performs analyses of facilities that were not destroyed to ensure they continue to meet design specifications post-storm.
- The Project Management and Construction function executes the planned capital projects. This includes managing costs and schedules and overseeing construction activities. During a storm restoration, this function provides engineering, scouting, damage assessment, procurement and

logistical support and assists the Asset Management function in rebuilding facilities destroyed by the storm.

- The Operations function encompasses short-term or operational planning functions and real-time operations. During a storm restoration, the Operations function monitors the loading on lines as they are restored, ensuring that no lines become overloaded and that no voltage problems are developing. They also coordinate the sequence of switching operations between substations.
- The Asset Management function is responsible for managing the condition of the EOCs' transmission grid and substation assets. During normal operations, this function executes its maintenance and vegetation programs and responds to outages and equipment problems when they arise. During a major storm restoration, this function provides personnel to help perform damage assessment, repair and restore facilities, and supervise contractor and mutual-aid personnel.
- Transmission Customer Services is the customer service function for transmission-interconnected customers such as large industrial facilities, electric cooperatives, municipals, etc. During a storm restoration, this function assists the Planning Function in ensuring restoration priorities include customers interconnected to the transmission system, including those not served by the EOCs, to ensure prioritization is fair and equitable.
- The Capital Projects function performs similar services as the Project Management and Construction function above, but performs those actions

for the largest capital projects. During a storm restoration, this function provides engineering, procurement, construction, and logistical support and supports Asset Management in rebuilding facilities destroyed by the storm.

B. ETI Transmission System

Q17. PLEASE BRIEFLY DESCRIBE THE TRANSMISSION SYSTEM THAT SERVES ETI.

A. Most electrical systems in the U.S. have strong electrical ties to their neighbors in either the Eastern or Western interconnected electrical grids. ETI, however, is rather like Florida. It is a transmission peninsula that has only limited connections to electrical flows from other companies and other sources. To the south, ETI is bounded by the Gulf of Mexico, and to the west, ETI is bordered by the Electric Reliability Council of Texas ("ERCOT"). ETI has no normally-closed connection with ERCOT.

The eastern border of the ETI transmission system is electrically connected to ELL and another Louisiana utility, Cleco, through five 138 kV lines, one 230 kV line, and two 500 kV lines. The ETI system is electrically connected to the AEP-West Control Area through one 345 kV transmission line through the Rocky Creek Substation, one 500 kV line through the Layfield Substation (via a portion of a 500 kV ETI-ELL tie line), and one normally-open 138 kV line outside the Mill Creek Substation owned by Jasper-Newton Electric Cooperative.

ETI's transmission infrastructure in Texas is comprised of approximately 2,644 miles of electric lines and 372 electrical stations,[4] all within a 27-county area in southeast Texas — from Burleson County at its most western point to the Sabine River on the east, and from Trinity County in the north to a slice of Galveston County in the south. Service centers to support transmission operations are located in the municipalities of Beaumont and Conroe.

The ETI transmission system can be considered as two zones in electrical terms: the Eastern Region, which includes Beaumont and Port Arthur, and the Western Region, which includes The Woodlands. The Beaumont and Port Arthur areas are comprised of significant amounts of industrial loads, co-generation and merchant facilities. The Western Region's load is much greater than its internal generation resources. Therefore, the Western Region relies heavily on imports via transmission ties.

Q18. WHAT IS THE ROLE OF THE MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC. ("MISO")?

A. MISO has significant roles in planning and operating the Bulk Electric System, in addition to its more well-known market functions. As the Reliability Coordinator for the portion of the Bulk Electric System that includes ETI, and the other EOCs, MISO has the ultimate responsibility in determining what actions are necessary to safeguard the reliable operation of the Bulk Electric System. MISO can directly or

[4] This number includes the 245 ETI-owned substations (including switching stations) and 127 customer-owned / cooperative-owned / municipal-owned substations in the ETI service area.

indirectly, via operating instructions, control the commitment and dispatch of generation, the status of available transmission lines (opening or closing them to improve system reliability), and the demand served by the system. This is achieved through actions such as declaring conservative operations and imposing Maximum Generation restrictions, up to and including (as a last resort) directing the shedding of firm load. Hurricane Laura was MISO's first experience with operating a system devastated by a major hurricane and the long, complex, and challenging return of the transmission system, line by line, to normal operations.

IV. HURRICANES LAURA AND DELTA IMPACTS AND STORM PLANS

A. Hurricanes Laura and Delta Impacts on ETI

Q19. PLEASE DESCRIBE HURRICANE LAURA.

A. Hurricane Laura was an extremely large and powerful storm that made landfall in Cameron, Louisiana as a Category 4 storm with sustained winds of 150 mph on August 27, 2020. Hurricane-force winds extended outward up to 60 miles from the center and tropical-storm-force winds extended outward up to 175 miles. 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 and 60 – 70 mph gusts were observed in Beaumont, Texas. Progressing inland across southwestern Louisiana, Hurricane Laura maintained its destructive wind fields well inland with maximum sustained winds still near 100 mph as Laura became a Category 2 hurricane north of Fort Polk, Louisiana. Rainfall exceeded 10 inches near Sabine, Texas, and up to six

inches near Beaumont, Texas. Hurricane 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.

Q20. PLEASE DESCRIBE HURRICANE DELTA.

A. Following Hurricane Laura by just six weeks, Hurricane Delta, the third major hurricane of the record-breaking 2020 Atlantic hurricane season to threaten the Gulf Coast, made landfall near Creole, Louisiana on October 9 as a Category 2 hurricane 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 area of hurricane-force winds from Southeast Texas to South Central Louisiana. The Port Arthur, Texas, Jennings, Louisiana, Calcasieu Pass, Louisiana, and Acadiana, Louisiana areas 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 Hurricane Laura. Although Hurricane Delta moved along quickly, portions of Louisiana and Texas saw 6 – 12 inches of rainfall and southeast and central Louisiana saw 12 – 18 inches of rainfall. Hurricane Delta dropped to a Category 1 hurricane an hour after landfall as it traveled northeast through Louisiana. Six hours later, Hurricane Delta was downgraded to a tropical storm. It weakened to a tropical depression over western Mississippi and turned eastward where it degenerated over Georgia.

1. Damage and Outages Caused by the 2020 Hurricanes

Q21. PLEASE DESCRIBE THE DAMAGE TO THE TEXAS TRANSMISSION SYSTEM CAUSED BY HURRICANE LAURA.

A. Hurricane Laura's historic intensity caused catastrophic damage to Entergy's transmission system, particularly in southwest Louisiana. Often after a hurricane passes, restorations can begin with a few "quick-wins," where facilities that survived can be used to begin piecing the system back together and begin the process of getting power into areas in or near the point where the hurricane made landfall. For Hurricane Laura, the damages to key transmission facilities were so extensive and so severe that there were no viable paths to bring power into southwest Louisiana from points east or north for several days. These severe damages in southwest Louisiana also impacted Texas, as all of the transmission tie lines between ELL and ETI had been severed.

Hurricane Laura caused outages to 62 of the 254 transmission lines and 58 of the 372 electrical stations in the ETI area. The details of the line and substation outages (including facility voltage rating and outage duration) are provided in Exhibit CWL-2.

Q22. PLEASE DESCRIBE THE DAMAGE TO THE ETI TRANSMISSION SYSTEM CAUSED BY HURRICANE DELTA.

A Damages were not as severe as those incurred with Laura and included more ancillary structure damages such as cross-arms and hardware as opposed to more severe structural failures. Hurricane Delta caused outages to 36 of the 254

transmission lines and 33 of the 372 electrical stations in the ETI area. The details of these line and substation outages (including facility voltage rating and outage duration) are also provided in Exhibit CWL-2.

Q23. HAVE YOU ATTACHED ANY PHOTOS OF THE TRANSMISSION DAMAGE?

A. Yes. Exhibit CWL-3 is a collection of photographs of transmission line and substation damage that are representative of the destruction caused by Hurricanes Laura and Delta.

B. The Company's Restoration Plan and Implementation

1. Storm Plan

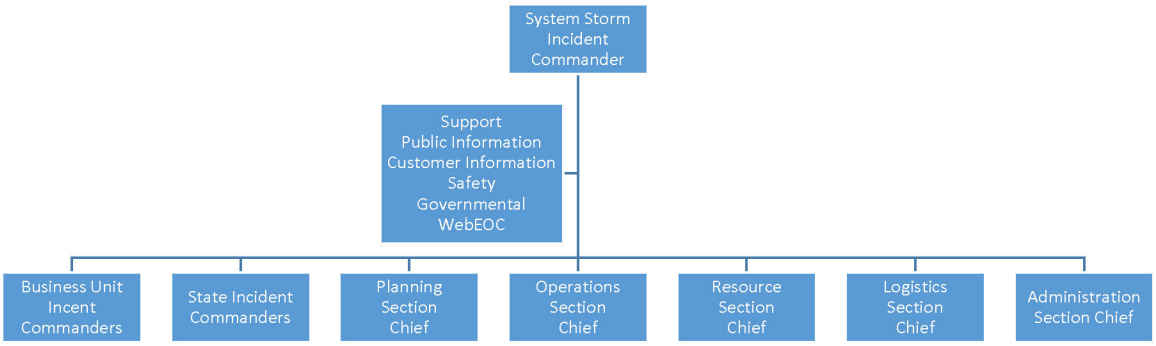
Q24. DESCRIBE ENTERGY TRANSMISSION'S PLANNING TO ADDRESS MAJOR STORMS.

A. Entergy maintains a thorough and comprehensive storm plan (The Incident Response Plan ("IRP") and conducts refresher training primarily in conjunction with an annual system-level drill to test processes and abilities. The overall Entergy storm plan is comprised of smaller, but well-coordinated, incident response plans at the department, business unit, state, and overall system levels. These plans, including the IRP, are updated on an ongoing basis. The IRP is accessible by all transmission employees via an internal company web site.

Q25. PLEASE DESCRIBE THE ORGANIZATIONAL STRUCTURE FOR MANAGING THE IRP.

A. The System Command Center ("SCC") is a functional organizational structure based on the National Incident Management System. All functions, including Transmission activities, are completely integrated within this command structure. The SCC organizational structure is shown in Figure 1.

Figure 1

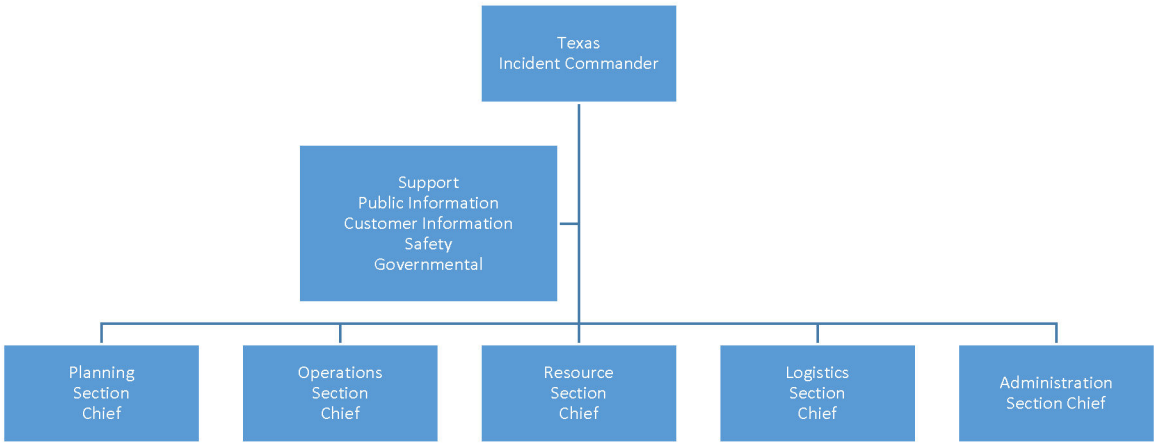


The Transmission IRP includes definitions of the roles and responsibilities of the key positions in our leadership structure and thorough checklists (see my Exhibit CWL-4) that are executed in staged time intervals in advance of the storm. Detailed contact information is included in the plan for employees and contractors.

As illustrated in Figure 1 (above), the System Storm Incident Commander is responsible for coordinating the response among all applicable organizations and functions, including ensuring communications with customers, as well as key governmental, regulatory and incident management contacts. I am the Planning Section Chief and had the same responsibilities for that role during Hurricanes

Laura and Delta. In my storm role, I report to the System Storm Incident Commander, who facilitates overall internal and external resource procurement and allocation among the EOCs and oversees prioritization decisions at the system level to ensure the success of the overall storm response and restoration effort.

Figure 2



The State Command Centers, including the Texas Command Center under the leadership of ETI President and CEO Sallie Rainer, direct prioritization and restoration efforts within their respective EOC, as shown in Figure 2 (above).

Q26. DOES ENTERGY CONDUCT PERIODIC DRILLS FOR STORM PLANNING AND PREPAREDNESS?

A. Yes, Entergy conducts a system drill each year. Entergy tests its storm plan and communication links with an annual hurricane drill that includes the System Command Center, the EOCs, Transmission and other Business Organizations, and Corporate support groups. The drill is not only a test of our readiness, but is also

used as a training tool. The drill allows participants an opportunity for "hands-on" experience in incident response and, therefore, is an opportunity to practice and improve the performance of incident response personnel and to test response processes. We find that participants in the drill are enthusiastic and readily engage in their roles, which leads to a realistic experience. The drill usually consists of two days of hurricane simulation with many other days of preparation and post-drill critiquing. The drill is comprised of hundreds of simulated messages where the participants' actions are observed by evaluators. Also, there are separate functions that may conduct their own drills independent of the system drill (*e.g.*, Business Continuity, Corporate Communications).

We have found these hurricane drills to be useful in many ways: (1) employees get a clear focus of their assigned roles and duties; (2) they are forced to think about the resources, data and tools they will need during an actual storm; and (3) we are able to test and refine the reporting and communication processes. We have also conducted annually a general review of incident plans with regulators and government officials, including a tour of our dispatch centers.

Q27. WHAT ELSE DOES ENTERGY DO IN REGARD TO STORM PLANNING?

A. Entergy annually reviews and adjusts its incident response plans in order to include new information and lessons learned from supporting other companies (in a mutual-assistance role) as well as from its own activities in storm restoration. Entergy conducts pre-hurricane season meetings with local leaders and the media to ensure that communication links are in place. Entergy is an active participant in

several mutual-assistance groups, including the Edison Electric Institute ("EEI"), the Southeastern Electric Exchange ("SEE"), Texas Mutual Assistance Group and the Midwest Mutual Assistance Group. Entergy also participates in national professional meetings on hazard mitigation, including the National Hurricane Conference. Entergy's System Outage Response group conducts training on key restoration software prior to each hurricane season. This group also conducts training on specific restoration processes, including the Gateway process for crew check-in and crew leader/worker documentation. Entergy continues to train in the use of the federal government's Incident Command System format in restoration activities and to push this work process down into the various levels of the organization. We are constantly refining our incident response plans based upon experiences gained from frequent, more common events such as severe thunderstorms. We also learn from experiences with other utilities, as we routinely (several times each year) provide mutual assistance to other utilities affected by significant storms and participate in regional and national mutual-assistance groups.

Q28. HAS ENTERGY RECEIVED ANY AWARDS FOR ITS WORK IN RESPONDING TO THE HURRICANES AND OTHER STORMS?

A. Entergy has received numerous awards for its storm restoration efforts. Entergy received the Edison Electric Institute Emergency Recovery Award for its efforts in restoring power following Hurricane Laura. This is the 23rd straight year that Entergy has received an EEI award for its storm restoration work. Entergy is the

only company to have received an EEI Emergency Response Award every year since the awards were created in 1998.

2. Implementation of the Storm Plan

Q29. HOW DID ENTERGY PREPARE FOR HURRICANES LAURA AND DELTA?

A. State Command Centers were utilized in preparation efforts prior to the arrival of each hurricane. The State Command Centers were also active in restoration activities in their own state or in support of the other EOCs. Prior to the arrival of Hurricane Laura, the SCC Planning Section was closely monitoring both Hurricane Marco, for potential effects on securing mutual-assistance support, and Hurricane Laura while providing continuous updates to Entergy management. Prior to Hurricane Delta making landfall, the System Planning Section was closely monitoring Tropical Storms Beta and Gamma. The SCC Planning Section also provided damage prediction information, based on the Tropical Prediction Center's weather data and other weather forecast services, to the System Resource and Logistics departments to assist in the determination of restoration resources and requirements. When it became apparent that Hurricane Laura would develop into a large hurricane that would affect the Louisiana and upper Texas coasts, the primary focus at the system level was the protection of existing restoration workers and the preparation of the EOCs' critical infrastructure for a hurricane landfall in southwest Louisiana and southeast Texas. Similarly, when Entergy recognized Hurricane Delta would develop into a major storm that would again impact the

Louisiana and upper Texas coasts, system-level preparations were initiated to prepare a prompt and orderly response and restoration effort.

Q30. WHAT ACTIONS WERE TAKEN AFTER THE HURRICANES MADE LANDFALL?

A. As soon as Hurricane Laura made landfall, the SCC began adjusting personnel and logistical resource deployments based on transmission and distribution damage prediction information, which was later augmented with damage assessment information from the field. The logistics efforts to support the arrival of additional workers were already underway, and sites were opened as soon as the winds dropped to a safe level.

Similarly, when Hurricane Delta made landfall, the SCC adjusted personnel and logistical resource deployments based on transmission and distribution damage prediction information and field assessments of the damage caused by Hurricane Delta. Logistical efforts followed to support the resources deployed once the SCC determined it was safe to do so.

Restoration conference calls were also held to provide overall coordination for the operational and support groups throughout Entergy for the Hurricane Laura and Delta restorations. We also continued having frequent conference calls with our mutual-assistance companies to coordinate resources. That line of communication was particularly important because as Hurricane Laura, for instance, continued its path through Arkansas and east toward the Mid-Atlantic, other utilities in those areas had to recall their resources in support of their home

systems. Those communications allowed Entergy to ensure enough workers were available to accomplish each storm restoration.

Q31. WHAT WERE ETI'S PRIORITIES IN RESTORING SERVICE?

A. The highest priorities were the safety of the public, the safety of the restoration workers, and the restoration of critical services to all of the affected communities in the 27 counties to which ETI provides service. The over-arching objective of ETI immediately following Hurricane Laura made landfall and exited the area was the restoration of key transmission lines that would improve the load-serving capability in ETI's service territory.

In general restorations are prioritized to facilitate:

(1) Generation availability and stability, which may include facilities necessary for fuel, water, auxiliary power needs, etc. and could include off-site power needs critical to nuclear safety;

(2) Transmission stability by establishing generation to load interconnectivity, capacity, security and redundancy;

(3) Matters of national security (*e.g.,* national fuel supply, military defense support);

(4) State and local government disaster recovery services such as fire, police, military, governmental and medical transportation/treatment facilities;

(5) National, state and local command center facilities and emergency services facilities, including national disaster response facilities, FEMA, and Homeland Security;

(6) Critical community support services such as pumping stations, food/water supply to communities, and evacuation centers; and

(7) Distribution general area load restoration including individual life support needs in non-evacuation areas, backbone circuits, street lighting, and traffic control.

V. RESTORATION OF THE TRANSMISSION SYSTEM

Q32. WHAT WERE THE SPECIFIC TASKS REQUIRED TO RESTORE THE COMPANY'S TRANSMISSION RESOURCES?

A. The tasks required to restore the transmission resources used to serve ETI are listed in the attached Exhibit CWL-4.

Q33. FOR PURPOSES OF ILLUSTRATION, PLEASE DESCRIBE SPECIFICALLY THE RESTORATION OF A COUPLE OF ETI'S SIGNIFICANT TRANSMISSION FACILITIES FOLLOWING THE 2020 HURRICANES.

A. I will discuss two restoration projects that followed Hurricane Laura.

Hartburg – Layfield 500 kV Transmission Line

The Hartburg – Layfield line is a section of one of ETI's major transmission ties to Louisiana upon which the Company relies heavily to import power into ETI's service territory. That line was taken out of service by a line-to-ground fault when

high winds uprooted a tall pine tree and forced it on to the line. Following the storm, crews were quickly dispatched to restore the line. Upon arrival, they found the normal right-of-way access blocked by a downed distribution structure. The crews had to cut through over 25 downed and standing trees to create a new access point that could accommodate their heavy equipment. In total, 15 crews worked over eight hours to return that line to service.

Hartburg Autotransformer

Following the restoration of ETI's major transmission ties to Louisiana, the Company's ability to import power across those restored transmission ties was still very limited until additional lesser ties could also be restored to support the stability of the transmission system. Thus, maintaining those imports across the major transmission ties was critical to the supply of power to ETI customers during the restoration process. Prior to the storm, an autotransformer on the Hartburg 500 kV line failed, which presented a risk that line could trip during the restoration process and further limit ETI's import capability. ETI quickly transported a spare autotransformer from the Cypress substation and placed it in service on the Hartburg line to mitigate that risk. ETI then expedited a heavy haul and repair work on the failed transformer so that the Company would have another spare if needed.

Q34. WHAT WAS THE TRANSMISSION-RELATED SAFETY RECORD OF ETI DURING THE HURRICANE LAURA AND DELTA RESTORATIONS?

A. Our aim is always to strive for an accident-free restoration effort for both our employees and our contractors. During the Hurricane Laura and Delta restoration

efforts in Texas, the Transmission Organization experienced a total of zero OSHA-reportable lost-time or medical attention events for its employees and contractors.

VI. HURRICANE LAURA AND DELTA RESTORATION RESOURCES AND COSTS

A. Restoration Resources

Q35. PLEASE SUMMARIZE THE TOTAL TRANSMISSION-RELATED PERSONNEL RESOURCES EMPLOYED TO RESTORE ETI'S SYSTEM FOLLOWING HURRICANES LAURA AND DELTA.

A. The transmission-related restoration workers included the following Table 2:

Table 2

Transmission Line Workers

	Laura	**Delta**
Entergy Employees	29	27
Mutual Assistance	38	122
Third-Party Contractors	321	34
Total	388	183

Substation Workers

	Laura	**Delta**
Substation Entergy Employees	73	31
Substation Mutual Assistance	0	0
Substation Third-Party Contractors	124	55
Substation Total	197	86

Vegetation Workers

	Laura	**Delta**
Vegetation Entergy Employees	3	3
Vegetation Third-Party Contractors (Transmission Only)	53	19
Vegetation Total	56	22

Many of the off-system resources were acquired through our memberships and contacts with national and regional mutual-assistance groups, including EEI, SEE, Midwest Mutual Assistance Association, and Texas Mutual Assistance Association. Through these associations, Entergy received the benefit of its mutual-assistance utility agreements, which provided for labor and materials at the assisting utility's cost with no mark-up.

Q36. HOW DID THE COMPANY DETERMINE THE APPROPRIATE NUMBER OF PERSONNEL RESOURCES NECESSARY TO RESTORE SERVICE FOLLOWING THE 2020 HURRICANES?

A. SCC Planning used two different damage prediction models to estimate the total number of restoration workers needed. Those models were developed in-house and used the forecasted track and intensity of the storm to estimate damage, and then based upon that estimate, the number of transmission and distribution workers required for the restoration. One model used the National Hurricane Center's 5-day forecasted track and wind fields to calculate the intensity and wind duration over substations within the forecasted path. The second model used a more general view of the hurricane track by selecting one of three possible solutions (east, central or west track across the Entergy system) and the hurricane's forecasted landfall intensity (tropical storm to Category 5 hurricane). That model also provides an estimated number of workforce resources that would be needed.

The model outputs were compared to determine a specific resource worker acquisition target. Information provided by our weather service contractors, which

included wind field intensity and duration forecasts, was overlaid upon our transmission land-based maps, and system damage was estimated based upon an "in harm's way" assessment of line miles, types of structures, and construction standards. That estimate was compared against past operational experience, which included comparisons to past storms of similar categories, and the estimated number and type of lines, vegetation, and substation crews were determined and presented at the System Resource conference meetings prior to landfall.

Actual damage assessment began as soon as wind speeds allowed aircraft inspections and roadway access permitted ground patrolling. Those assessments were compiled, and specific information was summarized concerning damage to vegetation, poles, structures, conductor, insulators, shield insulators, and other components.

1. Entergy Affiliate Resources

Q37. TO WHAT EXTENT DID ETI RELY ON THE RESOURCES OF ESL AND OTHER ENTERGY OPERATING COMPANIES TO ADDRESS THE STORMS' IMPACTS?

A. The support from many ESL employees was critical to our restoration efforts in Texas following Hurricanes Laura and Delta. Our System Command Center, located in Jackson, Mississippi, was primarily staffed with ESL employees and provided oversight of the storm event, such as coordinating the EOCs, Transmission, Generation, and many other departments engaged in restoration efforts. The day-to-day management of personnel and resources committed to

Texas restoration efforts, however, was conducted and coordinated by ETI management.

Other EOCs also supported the transmission restoration efforts by supplying "loaned resources," including workers, logistics personnel, safety specialists, scouts, and material Supply Chain personnel. The knowledge that these personnel had of Entergy's standards, operating procedures, and safety rules was important in safely and efficiently restoring power. The EOCs also supplied other resources such as materials and equipment.

2. Mutual-Aid Resources

Q38. TO WHAT EXTENT DID ENTERGY RELY ON OTHER ELECTRIC UTILITIES TO PROVIDE ASSISTANCE IN RECONSTRUCTING THE TRANSMISSION SYSTEM AFTER HURRICANES LAURA AND DELTA STRUCK ENTERGY'S SERVICE AREA?

A. Entergy relied upon mutual-assistance utilities such as Alabama Power Company, CenterPoint Energy, and Florida Power & Light Company to support the Hurricanes Laura and Delta restoration efforts. These utilities were able to supply transmission line crews as their own restoration efforts were completed. For the combined restorations, 160 mutual-assistance transmission line workers provided services to ETI.

Q39. WHAT SPECIFIC MUTUAL-AID AGREEMENTS DID THE TRANSMISSION ORGANIZATION RELY UPON?

A. The Transmission Organization relied upon four mutual-aid agreements at the times of Hurricane Laura and Hurricane Delta: EEI, SEE, Midwest Mutual Assistance Group, and Texas Mutual Assistance Group. All had agreements that are designed so that the supporting companies are reimbursed for their expenses at cost with no profit added.

Q40. WHAT ARE THE BENEFITS OF UTILIZING MUTUAL-AID UTILITIES IN HURRICANE RESTORATION ACTIVITIES?

A. By using mutual-aid support during times of emergency restoration, utilities can muster work forces many times larger than they could if they relied on contract labor alone. Workers from other utilities come with all the training, tools, and equipment needed to immediately begin restoration work. Entergy is an industry leader in supplying restoration support and has thereby established relationships through which it can readily obtain support in times of need. Furthermore, mutual-aid support is provided at the mutual-aid company's costs (including labor, equipment and other resources), so there is no mark-up and the price is therefore reasonable.

3. Third-Party Personnel Resources

Q41. HOW DOES ETI APPROACH ACQUIRING THE ADDITIONAL RESOURCES NEEDED TO RESPOND TO AN EVENT SUCH AS A HURRICANE?

A. Entergy relies on third-party contractors year-round for transmission line maintenance and vegetation management activities; however, Entergy relies upon its own internal crews for substation maintenance activities. For storm restoration, Entergy first draws on its internal maintenance and capital construction crews before requesting mutual assistance from other utilities or additional third-party contract crews.

Q42. PLEASE DESCRIBE FURTHER THE PROCESS THROUGH WHICH THE COMPANY ENGAGED CONTRACTORS TO ASSIST WITH THE 2020 HURRICANE RESTORATION WORK.

A. As soon as storm preparations were initiated following Hurricanes Laura and Delta, ETI's usual contractors were notified that they might be deployed into storm-affected areas. Next, Transmission Organization employees who were assigned the storm duty of acquiring off-system resources began calling contractors from a database of contractors we have used in the past. Contractors were polled for what resources and equipment they had available. When that list was exhausted, the resource acquisition team began to contact contractors not in the current database. When the decision was made to commit to resources, the resource acquisition team notified the contractors and began to collect their employee roster information.

This information was entered into the Personnel Deployment Database, which aided in the tracking of contractor costs and logistical needs. At the appropriate time, the contractors were mobilized to report to a staging location. From there, the contractors were given safety and logistical orientation and their first reporting assignments.

Q43. WHO WERE THE CONTRACTORS UTILIZED BY THE COMPANY FOR TRANSMISSION-RELATED RESTORATION ACTIVITIES, AND WHAT COSTS WERE CHARGED BY EACH?

A. The contractors utilized for transmission-related restoration activities for Hurricanes Laura and Delta and the costs charged by each are detailed in the attached Exhibit CWL-5. Additionally, attached as Exhibit CWL-6 is a summary description of the services provided by each of the more significant contractors (*i.e.*, those contractors from whom we received invoices in excess of $1,000,000).

Q44. PLEASE DESCRIBE THE PROCESS BY WHICH ENTERGY AND ETI RECEIVED, REVIEWED AND APPROVED THE INVOICES SUBMITTED BY THIRD-PARTY CONTRACTORS ASSISTING IN THE TRANSMISSION-RELATED RESTORATION PROCESS.

A. Entergy has a structured process in place to review the work performed by third-party contractors and ensure the legitimacy and accuracy of submitted invoices. Entergy utilized a post-storm, cross-functional "Contractor Invoice Processing Team" to review, reconcile, and approve payment of invoices submitted by third-

party contractors. Company witness Ryan O'Malley addresses contractor invoice processing in more detail in his testimony.

4. Materials Resources

Q45. HOW DOES ENTERGY NEGOTIATE AND ACQUIRE MATERIALS FOR A MAJOR STORM RESTORATION?

A. Entergy retains several key vendors to supply materials on an ongoing basis. These vendors are selected based upon price bidding and extensive performance evaluations. Based on the results, Entergy contractually binds selected suppliers for a minimum of three years. Material supply partners are expected to maintain predetermined emergency stock for contingent situations such as storm reconstruction. Demand for goods and services associated with major events such as Hurricane Laura or Delta can exhaust available inventories. For these events, Entergy agrees to pay reasonable and expected costs associated with production acceleration.

Additional vendors are also sought to manage supply/demand gaps. Entergy's Material and Contracts representatives negotiate pricing, terms, and conditions for these additional vendors to assure comparability to that of our partnered suppliers. While some price deviation from large contract pricing is expected from these additional vendors, these additional costs are necessary and justified to obtain necessary materials for expedited reconstruction. Vendors seeking to charge unreasonable or opportunistic prices for their products are not

utilized. Further, Entergy endeavors to utilize contractors with pre-existing rates before turning to additional vendors.

Q46. DOES ENTERGY MAINTAIN INVENTORIES THAT ARE SUFFICIENT TO ADDRESS THE DEGREE OF DAMAGE RESULTING FROM STORMS OF THE MAGNITUDE OF HURRICANES LAURA AND DELTA?

A. Generally, no. While Entergy's material inventories are typically sufficient to address normal construction needs or damage resulting from smaller storm events, it would not be feasible or prudent for Entergy to maintain inventories sufficient to immediately address the wide-spread damage caused by major hurricanes, especially when multiple hurricanes occur back-to-back within the same season and area.

Entergy leverages its long-term partnered contracts to shift inventory requirements to its key vendors. These are prudent arrangements that reduce the amount of inventory required in Entergy stores, thereby reducing the inventory tax burden to ratepayers and shareholders. This strategy also reduces the amount of stores space required in Entergy facilities. Strategic storm reserves are part of negotiated contracts with these key vendors. The impacts of Hurricanes Laura and Delta on the EOCs depleted the strategic reserves and required additional materials, which were supplied by established suppliers and, in some cases, neighboring utilities. In addition, there were instances requiring expedited manufacturing and delivery services.

5. Logistics

a. Introduction and COVID Impact

Q47. WHAT IS MEANT BY THE TERMS "LOGISTICS" AND "LOGISTICAL SUPPORT"?

A. The terms "logistics" and "logistical support" refer to the resources required to support the restoration personnel who are necessary to restore the system. Logistical support includes lodging, food, beverages, laundry, portable toilets, showers, dumpsters, transportation, staging area lighting, generators, HVAC systems, fuel, materials, vehicles, parking, security and other related functions. Logistical support also includes the planning, preparing, managing, and delivery of such services in a manner that maintains safety and provides for an efficient restoration.

Q48. DID COVID-19 PRESENT ADDITIONAL CHALLENGES FOR STORM RESTORATION?

A. Yes. The COVID-19 pandemic especially presented logistical challenges associated with the 2020 hurricane restorations. There was a need to not only adhere to the usual safety protocols associated with system restoration after a major event, but also a requirement to include protocols associated with COVID-19 in order to ensure the health and safety of those involved in the restoration efforts. So, along with our standard storm preparations, we took additional steps to adjust crew staging locations in order to help team members maintain social distancing.

Q49. HOW IS LOGISTICAL SUPPORT COORDINATED AMONG THE OPERATING COMPANIES?

A. At the Entergy system level, logistical support must be coordinated and supplied for all functions of each of the affected EOCs in their respective service territories. When storms the size of Hurricanes Laura and Delta, or past storms such as Hurricanes Gustav and Ike, impact multiple EOCs within a short time span, the logistical support required to restore service as quickly and safely as possible is a massive and complicated undertaking.

b. The Logistics for Hurricanes Laura and Delta

Q50. PLEASE PROVIDE A SUMMARY OF THE VOLUME OF LOGISTICAL RESOURCES UTILIZED IN THE ETI SYSTEM RESTORATION PROCESS FOLLOWING HURRICANES LAURA AND DELTA.

A. The ETI logistical effort necessary to restore service following Hurricane Laura was a significant undertaking. ETI set up six major logistical sites following Hurricane Laura, and two of those were full-service logistical sites with lodging, food, and fuel. The Company utilized over 600 transmission restoration workers, all of whom needed basic necessities to work as safely and quickly as possible. Following Hurricane Delta, ETI set up one logistical site to serve over 250 transmission restoration workers.

Q51. WHAT STEPS DID ENTERGY TAKE DURING AND AFTER THE STORMS TO ENSURE THAT THE APPROPRIATE LEVEL OF RESOURCES WOULD BE AVAILABLE FOR STORM RESTORATION?

A. After landfall, damage assessments and feedback from the field resources provided additional information that resulted in adjustments to the level of logistics resources sought and the placement of those resources. Continuous communication between the System Outage Response group, the Transmission Organization and the ETI Storm Center ensured that adequate logistics resources were available to complete restoration based on a planned timeline.

B. Restoration Project Codes

Q52. ARE YOU FAMILIAR WITH THE COMPANY'S USE OF SYSTEM RESTORATION PROJECT CODES THAT ARE DESCRIBED BY COMPANY WITNESS O'MALLEY?

A. Yes. Entergy Transmission used those restoration project codes when recording the Transmission Class of costs incurred for restoration efforts.

C. Cost Categories

Q53. WHAT ARE THE TOTAL HURRICANE LAURA AND HURRICANE DELTA TRANSMISSION CLASS COSTS FOR THE COMPANY'S RESTORATION EFFORT THROUGH FEBRUARY 28, 2021?

A. ETI's total transmission-related costs for the Hurricane Laura restoration incurred through February 28, 2021 are $15,452,535. ETI's total transmission-related costs

for the Hurricane Delta restoration incurred through February 28, 2021, plus certain estimated costs, are $3,810,279. Please see the testimony of Mr. O'Malley for a database that lists the transactions underlying the costs in the Transmission Class incurred through February 28, 2021, that I sponsor.

Q54. WHAT ARE THE TRANSMISSION RESTORATION COST CATEGORIES?

A. There are five ETI resource cost categories: (1) Contract Work, (2) Employee Expenses, (3) Labor, (4) Materials, and (5) Other. There are also two affiliate cost categories: (1) ESL Billings, and (2) Loaned Resources. Finally, there is one category for certain estimated costs: Estimated Costs.

1. Contract Work

Q55. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RECONSTRUCTION COST CATEGORY "CONTRACT WORK"?

A. Contract Work costs through February 28, 2021 were $12,318,860 for Hurricane Laura and $1,613,911 for Hurricane Delta.

Q56. DESCRIBE THE COSTS INCLUDED IN THIS COST CATEGORY.

A. Contract Work captures the costs related to the 606 third-party contractor personnel (including both line and vegetation workers) and 160 mutual-aid crewmembers who took part in the transmission restoration following Hurricanes Laura and Delta. As detailed in Table 2 above, these workers were primarily transmission line workers, substation workers, and vegetation workers. This category also includes

the costs of vendors that provided specialized equipment and vehicles and vendors that provided logistical services (described earlier).

Q57. WHAT SERVICES WERE PERFORMED BY LINE MAINTENANCE AND CONSTRUCTION CONTRACTORS?

A. Line maintenance and construction contractors were engaged to rebuild or repair damage to transmission lines caused by Hurricanes Laura and Delta. Work included repairing broken wire; clearing highways, rights-of-way and waterways of downed conductor; removing damaged transmission line structures, conductor, steel towers and foundations; installing new foundations; installing new pole structures; erecting new steel towers along and across roads, marshes and rivers; pulling in miles of new conductor and shield wire; and cleaning up roads and rights-of-way of debris left from the storm and restoration efforts. This work was necessary to restore a viable transmission delivery network for bulk power delivery across the ETI service area. A total of 38 mutual-assistance and 321 contracted line maintenance and construction workers were engaged in the transmission restoration effort following Hurricane Laura in the ETI service territory. A total of 122 mutual-assistance and 34 contracted line maintenance and construction workers were engaged in the transmission restoration effort following Hurricane Delta in the ETI service territory.

Q58. WHAT SERVICES WERE PERFORMED BY SUBSTATION MAINTENANCE AND CONSTRUCTION CONTRACTORS?

A. Substation maintenance and construction contractors were engaged to reconstruct, replace, repair, or otherwise make operationally ready substation assets such as steel supporting structures, fences, battery sets, protective relays, circuit breakers, regulators, transformers, lightning arrestors, switches, bus insulators, control wiring, conductors, supervisory control and data acquisition ("SCADA") remote terminal units, radio/fiber optic communications, and site control houses.

This work was necessary to re-energize substations to restore load to ETI customers as transmission lines were restored to service. Contract resources were utilized in this area to augment Entergy manpower resources to avoid delays as line restoration work proceeded expeditiously. A total of 124 contracted substation maintenance and construction workers were engaged in the transmission restoration effort following Hurricane Laura in the ETI service territory. A total of 55 contracted substation maintenance and construction workers were engaged in the restoration effort following Hurricane Delta in the ETI service territory.

Q59. WHAT SERVICES WERE PERFORMED BY VEGETATION CONTRACTORS?

A. Vegetation cutting and removal contractors were engaged to clear trees, limbs, and vegetation debris from access roadways and rights-of-way. Services included the provision of manpower and equipment for cutting, lifting, chipping, hauling, and disposal of vegetation material. I note that the crews used for vegetation removal

from transmission lines are usually not the same as (nor interchangeable with) the crews used to remove vegetation from distribution circuits. Transmission lines are usually on open rights-of-way and require track-mounted machinery with a taller reach than the equipment used to remove vegetation from distribution lines, which can be tire-mounted and have a shorter reach. Transmission and distribution vegetation crews often have been trained with different skill sets, as well.

These services were necessary to restore access to ETI's transmission facilities and to clear fallen trees and limbs from transmission conductors and structures. A total of 53 contracted vegetation workers were used to address the transmission system damages caused by Hurricane Laura in the ETI service territory. A total of 19 contracted vegetation workers were used in response to the transmission system damages caused by Hurricane Delta in the ETI service territory.

Q60. WERE ETI'S COSTS FOR CONTRACT WORK REASONABLE AND NECESSARY?

A. Yes. The costs incurred were reasonable and necessary based on a number of factors: (1) ETI estimated the number of necessary resource personnel based on its modeling and experience with other storms; (2) ETI continually monitored the number of resource personnel and began releasing personnel as soon as possible; (3) a large number of the personnel were from mutual-assistance utilities that provided at-cost personnel with no profit for storm-related work; (4) many of the other third-party contractors performed services pursuant to contracts that were in

existence prior to the storm, which means that they were entered into during non-emergency conditions and typically based on a competitive bidding process; (5) when ETI executed new contracts, it attempted to engage contractors with whom it had prior experience upon terms consistent with the prior services; and (6) ETI had a system in place to verify that invoices complied with contracted rates and that the work billed was actually performed.

2. Labor

Q61. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RESTORATION COST CATEGORY "LABOR"?

A. Labor costs through February 28, 2021 were $725,357 for the Hurricane Laura restoration and $205,978 for the Hurricane Delta restoration.

Q62. DESCRIBE THE COSTS INCLUDED IN THIS COST CATEGORY.

A. This cost category includes expenses for all direct payroll associated with ETI employees involved in the restoration effort. The services provided by ETI employees in this category were incremental to their normal job functions. These employees' services were necessary because they had first-hand knowledge of ETI's systems and operating procedures and were uniquely suited to assist with the restoration.

Q63. DOES THE COST CATEGORY "LABOR" INCLUDE OVERTIME?

A. ETI employee overtime is included in the cost category "Labor." Overtime was incurred due to the need to expedite restoration and the need for ETI employees familiar with the transmission system to work as much as possible in order to restore power quickly. Additionally, there are overtime charges included in the charges for third-party vendors in the Contract Work category.

Q64. WERE THE LABOR COSTS REASONABLE AND NECESSARY?

A. Yes. The labor costs were reasonable and necessary because they were provided at the employee's normal wage, so we were thereby ensured that there was no premium added for storm work. Moreover, these employees were typically familiar with ETI operating procedures and its service areas.

3. Employee Expenses

Q65. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RESTORATION COST CATEGORY "EMPLOYEE EXPENSES"?

A. Employee Expense costs through February 28, 2021 were $10,498 for the Hurricane Laura restoration and $4,074 for the Hurricane Delta restoration.

Q66. DESCRIBE THE COSTS INCLUDED IN THIS COST CATEGORY.

A. This cost category primarily includes expenses for the logistical effort of providing lodging and meals to Entergy employees and some contractors that are not captured under the logistical supply contractor costs in the Contract Work category. These

costs also include travel expenses (mileage, airfare, small vehicle rentals, etc.) and other employee expenses (such as per diem rates when provided in lieu of lodging and meals, and other incidental personal supply needs).

Q67. WERE THE EMPLOYEE EXPENSE COSTS REASONABLE?

A. Yes. The magnitude of transmission system damage and the duration of restoration efforts required that work crews be located in proximity to the work they were performing. Extended work schedules were developed to provide a safe but expedient restoration effort. Sustaining an effort such as this required that crews be provided bedding, food, sanitation, and other essential facilities and services. Due to the ongoing restoration activities associated with earlier storms and hurricanes in the southern U.S., food and lodging facilities were in great demand. Additionally, the logistics provided by employees had to account for and ensure compliance with COVID-19 protocols. Based on my experience in storm restorations, these costs were reasonable in view of the size and nature of the event along with the scarcity of available, local resources.

4. Materials

Q68. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RECONSTRUCTION COST CATEGORY "MATERIALS"?

A. Materials costs through February 28, 2021 were $682,462 for the Hurricane Laura restoration and $194,109 for the Hurricane Delta restoration.

Q69. DESCRIBE THE COSTS INCLUDED IN THIS COST CATEGORY.

A. As discussed previously in my testimony, this cost category includes expenses for the actual materials used in the transmission restoration effort, including towers, poles, wires, conductors, insulators, circuit breakers, hardware, and related materials. The majority of the transmission-related materials were acquired from Entergy's inventory while other materials were purchased from Entergy's key suppliers, who, I would note, provided outstanding support during the restoration. Those materials were essential in the restoration of the transmission system in order to restore a stable generation and transmission network in the ETI service area.

Q70. HOW DID ETI DETERMINE THE AMOUNT OF MATERIALS THAT WOULD BE NEEDED TO COMPLETE THE 2020 HURRICANE RECONSTRUCTIONS?

A. Damage assessment analyses from SCC Planning were provided to Entergy Supply Chain representatives in the early stages of system restoration in order to prepare estimates for material ordering requirements. As detailed damage assessment information became available, and as restoration crews completed "wreck-out" of destroyed facilities, material requirements were re-evaluated to avoid shortages and over-runs. As part of the daily planning and prioritization conference meetings, material issues were reported by the Transmission Line and Substation Managers, and adjustments were made to material requisitions and/or staging locations to meet demands.

Q71. WERE THE TRANSMISSION-CLASS MATERIALS COSTS REASONABLE AND NECESSARY?

A. Yes, these costs were necessary to restore a stable generation and transmission network in the ETI service area. The costs were reasonable because a large portion of ETI's materials came from Entergy's own inventory, which means that they were purchased from key suppliers during non-emergency conditions and there was no premium for expedited manufacture or delivery. Almost all of the rest of ETI's materials expenditures were made with its key partnered vendors in accordance with pricing agreements that were not affected by the storm (one exception was in regard to the expedited repair of the Hartburg autotransformer I discussed previously, for which a slight premium was paid pursuant to contract terms).

5. Other

Q72. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RESTORATION COST CATEGORY "OTHER"?

A. Costs included in the "Other" category through February 28, 2021 were $838,737 for the Hurricane Laura restoration and $166,921 for the Hurricane Delta restoration.

Q73. DESCRIBE THE COSTS INCLUDED IN THIS CATEGORY.

A. This cost category includes expenses from several sub-categories but mostly consists of indirect capital expense labor costs for all Transmission Organization employees supporting capital work but not charging time directly to system

restoration project codes. Labor charged to capital expense includes services for transmission and substation design; material procurement services; technical support for relay settings and SCADA configuration development; operations planning and switching services; general field and contractor supervision; and project management services. Other sub-categories within "Other" include capital overhead charges associated with an allowance for funds used during construction, restoration of public land/property damage resulting from right-of-way ingress/egress, and miscellaneous small equipment rentals.

Q74. WHAT PROCESSES WERE IN PLACE TO ENSURE THAT THESE COSTS WERE ACCURATE?

A. All supervisory-level Entergy personnel are periodically reminded of the importance of accurate payroll time entry with regard to storm restoration and support activity. All timesheet entries (including labor charged to capital suspense) in the storm project must be verified for accuracy and approved by a minimum of one level of supervision/management before being uploaded into the Entergy payroll system. Specifically, during storm restorations, the administration section of the system incident command organization also provides specific guidance to those engaged in restoration on how to charge time appropriately for the event.

Q75. WERE THESE "OTHER" COSTS REASONABLE AND NECESSARY?

A. Yes, these costs were necessary to enable ETI to perform the work required to restore and reconstruct the transmission system. These costs were reasonable

because all timesheet entries (including labor charged to capital suspense) in the storm project were verified for accuracy and approved by a minimum of one level of supervision/management before being uploaded into the Entergy payroll system.

6. Affiliate Costs

Q76. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RESTORATION AFFILIATE COST CATEGORY "ESL BILLINGS"?

A. ESL Billings through February 28, 2021 were $782,969 for the Hurricane Laura restoration and $58,616 for the Hurricane Delta restoration.

Q77. WHAT COSTS ARE INCLUDED IN THIS COST CATEGORY?

A. This affiliate cost category includes expenses for ESL employee salaries (including overtime) employee expenses, material, and transportation associated with ESL services provided and charged directly to, or in a few limited cases allocated to, the ETI system restoration codes. These services include engineering design and support, logistics support, operational planning, project management, right-of-way, technical support, systems operations support, damage assessment, contractor supervision, and others.

Q78. WHAT TRANSMISSION DOLLARS ARE ASSOCIATED WITH THE RESTORATION AFFILIATE COST CATEGORY "LOANED RESOURCES"?

A. Loaned Resources costs through February 28, 2021 were $93,652 for the Hurricane Laura restoration and $4,960 for the Hurricane Delta restoration.

Q79. DESCRIBE THE COSTS INCLUDED IN THIS CATEGORY.

A. This cost category includes expenses for the salaries of other EOC employees, including overtime, who worked on or supported the ETI restoration effort. Such costs were charged to the ETI storm project. For example, such expenses include salaries for loaned transmission line construction crew personnel from other EOCs.

Q80. HOW WERE THE AFFILIATE COSTS TRACKED AND RECORDED?

A. In ETI's accounting system, the costs for Hurricanes Laura and Delta system restoration were tracked primarily by project code (*i.e.*, a specific project code was established to capture costs associated with each particular task). For example, one project code was set up to capture costs attributable to repairs of transmission lines. Company witness Barbara Heard provides further detail regarding the tracking and recording of affiliate costs via the project codes.

Q81. WERE THE AFFILIATE COSTS INCURRED FOR THE TRANSMISSION CLASS REASONABLE AND NECESSARY?

A. Yes. For the reasons previously discussed in my testimony, these costs, which represent only 5.7% of the transmission-related restoration costs (excluding estimates) for Hurricane Laura and 2.8% for Hurricane Delta, were reasonable and necessary to expeditiously restore electric service to ETI's customers. The affiliate costs were necessary because they were essential to enable ETI to restore service to its customers. It was reasonable to utilize affiliate resources for this relatively small percentage of costs, as the personnel involved — employees of ESL and the

other EOCs — were already familiar with ETI's system and were readily-available to perform the work at a time when personnel resources were in short supply. They also helped to provide centralized expertise, coordination and assistance that non-affiliate resources could not have provided. Affiliate resources were particularly valuable in performing SCC staffing, design and procurement, planning and operations, damage patrol and assessment, field logistics, manpower and resource procurement, as well as providing Entergy system-specific expertise through construction and maintenance crews from ETI's sister EOCs. Given the urgent circumstances and the difficulty of acquiring outside personnel resources at the time, which I have described above, it was particularly valuable to ETI to be able to call on the resources of ESL and the other EOCs for assistance.

Q82. WERE THE PRICES FOR THE COSTS INCURRED IN EACH CLASS NO HIGHER THAN THE PRICES CHARGED BY THE SUPPLYING AFFILIATE FOR THE SAME ITEM OR CLASS OF ITEMS TO OTHER AFFILIATES AND NON-AFFILIATES OF ETI?

A. Yes. Company witness Ms. Heard addresses this issue in her testimony.

Q83. DO THE AFFILIATE COSTS INCURRED IN THE TRANSMISSION CLASS REASONABLY APPROXIMATE THE ACTUAL COSTS OF THE SERVICES AND MATERIALS PROVIDED?

A. Yes. Company witness Ms. Heard addresses this issue in her testimony.

7. Estimated Costs

Q84. DOES YOUR REQUEST FOR SYSTEM RESTORATION COSTS INCLUDE ANY ESTIMATED AMOUNTS?

A. Yes, ETI is requesting estimated costs for projects that have been completed to restore ETI's transmission system to its pre-storm condition but for which ETI has not yet been billed. Those estimates are $1,561,710 related to services from mutual-aid resources.

VII. WINTER STORM URI SYSTEM RESTORATION COSTS

Q85. IS ETI REQUESTING RECOVERY OF SYSTEM RESTORATION COSTS INCURRED BY ETI PERTAINING TO WINTER STORM URI IN THIS DOCKET?

A. Yes, ETI is requesting recovery of system restoration costs associated with ETI's restoration efforts following the historic events of February 2021 associated with Winter Storm Uri. The transmission-related portion of these costs booked through February 28, 2021 is $189,432.

Q86. DID ETI'S TRANSMISSION SYSTEM SUSTAIN DAMAGES AS A RESULT OF WINTER STORM URI?

A. No. But costs were incurred to stage for Winter Storm Uri to inspect transmission facilities and prepare them for frigid temperatures. There were also costs incurred to manage the switching of circuits to remove at-risk lines from service and restore them when it was safe to do so.

Q87. PLEASE SUMMARIZE THE TRANSMISSION-RELATED COSTS THAT WERE INCURRED IN ETI'S PREPARATION AND SUBSEQUENT RESTORATION EFFORTS.

A. The costs related to Winter Storm Uri that ETI incurred fall into the same categories and types of costs as those presented above with respect to Hurricanes Laura and Delta. A summary of those costs is shown in Table 3 below.

Table 3

Transmission Class System Restoration Costs	**Winter Storm Uri**
ETI Direct Costs	
Contract Work	0
Labor	147,127
Employee Expenses	115
Materials	371
Other	20,420
Total Direct Costs	168,033
ETI Affiliate Costs	
ESL Billings	17,420
Loaned Resources	3,979
Total Affiliate Costs	21,399
Total ETI Costs	**189,432**

All affiliate expenses included in these amounts were incurred and recorded in the same manner I discussed previously.

Q88. IS ETI REQUESTING RECOVERY OF ANY ESTIMATED TRANSMISSION-RELATED SYSTEM RESTORATION COSTS INCURRED BY ETI PERTAINING TO WINTER STORM URI IN THIS DOCKET?

A. No.

Q89. WERE THESE SYSTEM RESTORATION COSTS REASONABLE AND NECESSARY?

A. Yes. ETI incurred these costs to prepare for Winter Storm Uri and return transmission lines to service as quickly, safely, and efficiently as possible. ETI made necessary expenditures for essential materials, labor, and other identified costs to carry out these activities. These costs were acquired in the requisite manner to ensure the reliability of the transmission system to provide power to customers.

Moreover, these costs were reasonable as confirmed by the internal control measures ETI relied on to procure and monitor the material and personnel resources that it utilized for the restoration of its system. As noted above, the Company is a highly skilled purchaser of services and materials for its facilities and is intimately familiar with the products and services of the vendors with which it was working. ETI was thus able to ensure that the prices and terms under which it purchased services and materials were fair and reasonable under the circumstances.

VIII. CONCLUSION

Q90. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, at this time.

Charles Long's Prior Testimonies

1. Docket No. 43958 – Testimony on behalf of Entergy Texas, Inc. at the Public Utility Commission of Texas
2. Docket No. 46416 – Testimony on behalf of Entergy Texas, Inc. at the Public Utility Commission of Texas
3. Docket No. 09-084-U – Testimony on behalf of Entergy Arkansas, Inc. at the Arkansas Public Service Commission
4. Docket No. 09-127-U – Testimony on behalf of Entergy Arkansas, Inc. at the Arkansas Public Service Commission
5. Docket No. 09-110-U – Testimony on behalf of Entergy Arkansas, Inc. at the Arkansas Public Service Commission
6. Docket No. 10-011-U – Testimony on behalf of Entergy Arkansas, Inc. at the Arkansas Public Service Commission
7. Docket No. 10-050-U – Testimony on behalf of Entergy Arkansas, Inc. at the Arkansas Public Service Commission
8. Docket No. U-33244 – Testimony on behalf of Entergy Louisiana, LLC. at the Louisiana Public Service Commission
9. Docket No. U-33770 – Testimony on behalf of Entergy Louisiana, LLC. at the Louisiana Public Service Commission
10. Docket No. U-34283 – Testimony on behalf of Entergy Louisiana, LLC. at the Louisiana Public Service Commission
11. Docket No. U-34631 – Testimony on behalf of Entergy Louisiana, LLC. at the Louisiana Public Service Commission
12. Docket No. U-34472 – Testimony on behalf of Entergy Louisiana, LLC. at the Louisiana Public Service Commission
13. Docket No. 2010-UA-171 – Testimony on behalf of Entergy Mississippi, LLC at the Mississippi Public Service Commission
14. Docket No. 2014-UN-132 – Testimony on behalf of Entergy Mississippi, LLC at the Mississippi Public Service Commission
15. Docket No. UD-14-02 – Testimony on behalf of Entergy New Orleans, LLC. at the Council of the City of New Orleans
16. Docket No. UD-16-02 – Testimony on behalf of Entergy New Orleans, LLC. at the Council of the City of New Orleans

Hurricane	Voltage	Line Jurisdiction	Substation Jurisdiction	Line Number	Length (Miles)	Branch	Date/Time Out	Date/Time Line in	Outage Duration (hours)
Laura	500 kV	ELL/ETI	ELL/ETI	559	128.23	HARTBURG - AEP LAYFIELD 500 kV	8/27/2020 6:31	8/27/2020 22:45	16
Laura	230 kV	ETI	ETI	483	14.31	CHISHOLM RD 230KV - HARTBURG 230 kV	8/27/2020 3:14	8/27/2020 3:15	0
Laura	138 kV	EGSL/ETI	EGSL/ETI	20	5.03	CLECO COOPER - FAWIL 138 kV	8/27/2020 2:38	9/5/2020 8:43	222
Laura	138 kV	ETI	ETI	820	5.95	CONROE BULK - FOREST (ETI) 138KV 138 kV	8/27/2020 12:04	8/27/2020 14:51	3
Laura	138 kV	ETI	ETI	556	2.53	COW - BUNCH GULLY (CO) 138 kV	8/27/2020 2:44	9/6/2020 15:44	253
Laura	138 kV	ETI	ETI	420	14.66	FAWIL - NEWTON BULK 138 kV	8/27/2020 2:52	8/30/2020 12:54	82
Laura	138 kV	ETI	ETI	518	1.66	FLATLAND 138KV - MID COUNTY 138 kV	8/27/2020 1:47	9/5/2020 10:55	225
Laura	138 kV	ETI	ETI	869	4.18	GOSLIN - ALDEN 138 kV	8/27/2020 12:06	8/27/2020 15:03	3
Laura	138 kV	ETI	ETI	187	44.31	HIGHTOWER - CYPRESS 138 kV	8/26/2020 15:19	8/26/2020 17:47	2
Laura	138 kV	EGSL/ETI	EGSL/ETI	296	35.76	HOLLYWOOD - ORANGE	8/27/2020 0:37	9/20/2020 21:58	597
Laura	138 kV	ETI	ETI	887	8.96	JACINTO - HIGHTOWER 138 kV	8/26/2020 15:18	8/26/2020 17:46	2
Laura	138 kV	ETI	ETI	434	N/A	JNEC BUNA - EVADALE (CUSTOMER OWNED) 138 kV	8/27/2020 2:30	8/27/2020 2:30	0
Laura	138 kV	ETI	ETI	434	N/A	JNEC BUNA - EVADALE (CUSTOMER OWNED) 138 kV	8/27/2020 3:16	8/27/2020 18:17	15
Laura	138 kV	ETI	ETI	438	N/A	JNEC BUNA - JNEC CALL (CUSTOMER OWNED) 138 kV	8/27/2020 3:49	9/4/2020 10:01	198
Laura	138 kV	ETI	ETI	437	N/A	JNEC CALL - JNEC UNION (CUSTOMER OWNED) 138 kV	8/27/2020 3:49	8/27/2020 18:12	14
Laura	138 kV	ETI	ETI	431	N/A	JNEC MILL CREEK - SAM DAM CO (CUSTOMER OWNED) 138 kV	8/27/2020 1:00	8/31/2020 16:43	112
Laura	138 kV	ETI	ETI	432	N/A	JNEC PEACHTREE - JNEC UNION (CUSTOMER OWNED) 138 kV	8/27/2020 3:41	8/27/2020 12:56	9
Laura	138 kV	ETI	ETI	588	19.31	KOUNTZE BULK - WARREN 138 kV	8/30/2020 12:06	8/31/2020 15:02	27
Laura	138 kV	ETI	ETI	449	24.99	LEACH CO - NEWTON BULK 138 kV	8/27/2020 4:05	9/2/2020 16:36	157
Laura	138 kV	ETI	ETI	540	2.26	LEACH CO - TOLEDO BEND 138 kV	8/27/2020 11:52	9/2/2020 16:07	148
Laura	138 kV	ETI	ETI	596	7.74	LEWIS CREEK - LONGMIRE 138 kV	8/27/2020 13:41	8/27/2020 22:24	9
Laura	138 kV	ETI	ETI	172	14.43	NECHES STATION - SABINE 138KV 138 kV	8/27/2020 2:24	8/31/2020 20:46	114
Laura	138 kV	ETI	ETI	92	7.51	NEW CANEY - PARKWAY 138/13.8KV 138 kV	8/27/2020 13:49	8/27/2020 14:19	0
Laura	138 kV	ETI	ETI	584	4.42	ORANGE - BUNCH GULLY (CO) 138 kV	8/27/2020 1:31	8/30/2020 12:28	83
Laura	139 kV	EGSL/ETI	EGSL/ETI	295	32.51	ORANGE - MOSSVILLE	8/27/2020 0:35	9/29/2020 0:35	812
Laura	138 kV	ETI	ETI	582	8.61	PORTER - OAK RIDGE TX) (138 kV	8/27/2020 12:06	8/27/2020 14:55	3
Laura	138 kV	ETI	ETI	492	9.74	SABINE 138KV - COW 138 kV	8/27/2020 1:00	9/2/2020 0:15	143
Laura	138 kV	ETI	ETI	514	9.7	SABINE 138KV - ORANGE 138 kV	8/26/2020 1:47	8/30/2020 12:04	106
Laura	138 kV	ETI	ETI	527	9.7	SABINE 138KV - ORANGE 138 kV	8/27/2020 1:20	8/28/2020 21:59	45
Laura	138 kV	ETI	ETI	515	7.19	SABINE 138KV - PORT NECHES BULK 138 kV	8/27/2020 0:34	8/27/2020 0:36	0
Laura	138 kV	ETI	ETI	425, 455, 597	30.22	SAM DAM CO - NEWTON BULK 138 kV	8/27/2020 4:31	8/29/2020 19:49	63
Laura	138 kV	ELL/ETI	ELL/ETI	481	2.42	TOLEDO BEND - FISHER (CLECO) 138 kV	8/27/2020 6:54	9/4/2020 20:46	206
Laura	138 kV	ELL/ETI	ELL/ETI	482	2.41	TOLEDO BEND - LEESVILLE (CLECO) 138 kV	8/27/2020 4:05	9/4/2020 20:47	209
Laura	138 kV	ELL/ETI	ELL/ETI	482	2.41	TOLEDO BEND - LEESVILLE(CLECO) 138 kV	8/27/2020 3:21	8/27/2020 3:44	0
Laura	69 kV	ETI	ETI	575	4.01	BRIDGE CITY - FIRESTONE ORANGE 69 kV	8/27/2020 1:00	8/29/2020 10:41	58
Laura	69 kV	ETI	ETI	505, 517	6.31	BRIDGE CITY - ORANGE 69 kV	8/27/2020 1:00	8/28/2020 22:47	46
Laura	69 kV	ETI	ETI	453	2.47	CORDREY - FRONT STREET (TX) 69 kV	8/27/2020 1:00	9/3/2020 13:36	181
Laura	69 kV	ETI	ETI	522, 590	2.52	COW - GULFRICH 69 kV	8/27/2020 0:44	8/27/2020 1:00	0
Laura	69 kV	ETI	ETI	522, 590	2.52	COW - GULFRICH 69 kV	8/27/2020 1:00	9/2/2020 0:15	143
Laura	69 kV	ETI	ETI	500	6.87	COW - ORANGE 69 kV	8/27/2020 1:00	9/7/2020 13:21	276
Laura	69 kV	ETI	ETI	81, 460	9.39	DEWYVILLE JNE CO - ECHO 69 kV	8/27/2020 1:49	9/2/2020 23:26	166
Laura	69 kV	ETI	ETI	409, 439	36.03	DEWYVILLE JNE CO - FAWIL 69 kV	8/27/2020 1:49	8/27/2020 2:21	1
Laura	69 kV	ETI	ETI	409, 439	36.03	DEWYVILLE JNE CO - FAWIL 69 kV	9/3/2020 21:22	9/5/2020 9:51	36
Laura	69 kV	ETI	ETI	409, 439	36.03	DEWYVILLE JNE CO - FAWIL 69 kV	8/27/2020 2:21	9/3/2020 21:22	187
Laura	69 kV	ETI	ETI	461	9.17	DUPONT BEAUMONT - KOLBS 69 kV	8/27/2020 8:32	8/27/2020 8:32	0
Laura	69 kV	ETI	ETI	461	9.17	DUPONT BEAUMONT - KOLBS 69 kV	8/27/2020 8:46	8/27/2020 8:47	0
Laura	69 kV	ETI	ETI	461	9.17	DUPONT BEAUMONT - KOLBS 69 kV	8/27/2020 1:32	8/27/2020 2:42	1
Laura	69 kV	ETI	ETI	498	6.41	DUPONT DEE - GOODRICH 69 kV	8/27/2020 1:00	8/29/2020 16:42	64
Laura	69 kV	ETI	ETI	502, 595	7.22	ECHO - CORDREY 69 kV	8/27/2020 1:50	9/4/2020 20:35	211
Laura	69 kV	ETI	ETI	414	1.53	FEDERAL - SPURLOCK 69 kV	8/27/2020 1:27	8/29/2020 9:31	56
Laura	69 kV	ETI	ETI	561	1.81	FIRESTONE ORANGE - FOREMAN RD. 69 kV	8/27/2020 1:11	9/6/2020 0:01	239
Laura	69 kV	ETI	ETI	125	0.25	FOREMAN RD - GULFRICH 69 kV	8/27/2020 1:00	9/2/2020 0:15	143
Laura	69 kV	ETI	ETI	76	0.37	FRONT STREET (TX) - AMERICAN BRIDGE 69 kV	8/27/2020 1:00	9/5/2020 0:35	216
Laura	69 kV	ETI	ETI	109	2.6	GROVES - ATLANTIC BULK 69 kV	8/27/2020 1:00	9/1/2020 20:04	139
Laura	69 kV	ETI	ETI	107	3.7	GROVES - PORT NECHES BULK 69 kV	8/27/2020 1:47	9/5/2020 8:44	223
Laura	69 kV	ETI	ETI	117, 189	9.85	KOLBS - ATLANTIC BULK 69 kV	8/27/2020 1:16	9/2/2020 17:08	160
Laura	69 kV	ETI	ETI	79	4.75	KOLBS - FORT WORTH 69 kV	8/27/2020 1:23	8/27/2020 1:24	0
Laura	69 kV	ETI	ETI	79	4.75	KOLBS - FORT WORTH 69 kV	8/27/2020 1:45	8/27/2020 1:46	0
Laura	69 kV	ETI	ETI	77	3.69	KOLBS - PORT NECHES BULK 69 kV	8/27/2020 1:36	8/31/2020 12:33	107
Laura	69 kV	ETI	ETI	497	6.79	MAGNOLIA CO - KOLBS 69 kV	8/27/2020 1:30	8/29/2020 20:46	67

Hurricane	Voltage	Line Jurisdiction	Substation Jurisdiction	Line Number	Length (Miles)	Branch	Date/Time Out	Date/Time Line in	Outage Duration (hours)
Laura	69 kV	ETI	ETI	67	6.02	NORTH END - HELBIG 69 kV	8/27/2020 1:56	8/27/2020 1:57	0
Laura	69 kV	ETI	ETI	495, 525, 804	18.73	ORANGE - ECHO 69 kV	8/27/2020 1:00	9/2/2020 21:07	164
Laura	69 kV	ETI	ETI	474, 506	4.61	ORANGE - FIRESTONE ORANGE 69 kV	8/27/2020 1:55	9/5/2020 23:20	237
Laura	69 kV	ETI	ETI	508	4.53	ORANGE - FRONT STREET(TX) 69 kV	8/27/2020 1:00	9/4/2020 22:53	214
Laura	69 kV	ETI	ETI	530	3.91	PORT NECHES BULK - ATLANTIC BULK 69 kV	8/30/2020 9:08	9/1/2020 19:28	58
Laura	69 kV	ETI	ETI	62	14.69	SOUTH BEAUMONT - PANSY 69 kV	8/27/2020 1:44	9/1/2020 19:40	138
Laura	69 kV	ETI	ETI	191, 446	5.85	TAYLOR BAYOU - FORT WORTH 69 kV	8/27/2020 1:00	8/31/2020 18:01	113

TRANSMISSION LINE AND SUBSTATION OUTAGE REPORT
HURRICANE LAURA

Hurricane	Voltage	Line Jurisdiction	Substation Jurisdiction	Line Number	Length (Miles)	Branch	Date/Time Out	Date/Time Line in	Outage Duration (hours)
Laura	500 kV	ELL/ETI	ELL/ETI	559	128.23	HARTBURG - AEP LAYFIELD 500 kV	8/27/2020 6:31	8/27/2020 22:45	16
Laura	230 kV	ETI	ETI	483	14.31	CHISHOLM RD 230KV - HARTBURG 230 kV	8/27/2020 3:14	8/27/2020 3:15	0
Laura	138 kV	EGSL/ETI	EGSL/ETI	20	5.03	CLECO COOPER - FAWIL 138 kV	8/27/2020 2:38	9/5/2020 8:43	222
Laura	138 kV	ETI	ETI	820	5.95	CONROE BULK - FOREST (ETI) 138KV 138 kV	8/27/2020 12:04	8/27/2020 14:51	3
Laura	138 kV	ETI	ETI	556	2.53	COW - BUNCH GULLY (CO) 138 kV	8/27/2020 2:44	9/6/2020 15:44	253
Laura	138 kV	ETI	ETI	420	14.66	FAWIL - NEWTON BULK 138 kV	8/27/2020 2:52	8/30/2020 12:54	82
Laura	138 kV	ETI	ETI	518	1.66	FLATLAND 138KV - MID COUNTY 138 kV	8/27/2020 1:47	9/5/2020 10:55	225
Laura	138 kV	ETI	ETI	869	4.18	GOSLIN - ALDEN 138 kV	8/27/2020 12:06	8/27/2020 15:03	3
Laura	138 kV	ETI	ETI	187	44.31	HIGHTOWER - CYPRESS 138 kV	8/26/2020 15:19	8/26/2020 17:47	2
Laura	138 kV	EGSL/ETI	EGSL/ETI	296	35.76	HOLLYWOOD - ORANGE	8/27/2020 0:37	9/20/2020 21:58	597
Laura	138 kV	ETI	ETI	887	8.96	JACINTO - HIGHTOWER 138 kV	8/26/2020 15:18	8/26/2020 17:46	2
Laura	138 kV	ETI	ETI	434	N/A	JNEC BUNA - EVADALE (CUSTOMER OWNED) 138 kV	8/27/2020 2:30	8/27/2020 2:30	0
Laura	138 kV	ETI	ETI	434	N/A	JNEC BUNA - EVADALE (CUSTOMER OWNED) 138 kV	8/27/2020 3:16	8/27/2020 18:17	15
Laura	138 kV	ETI	ETI	438	N/A	JNEC BUNA - JNEC CALL (CUSTOMER OWNED) 138 kV	8/27/2020 3:49	9/4/2020 10:01	198
Laura	138 kV	ETI	ETI	437	N/A	JNEC CALL - JNEC UNION (CUSTOMER OWNED) 138 kV	8/27/2020 3:49	8/27/2020 18:12	14
Laura	138 kV	ETI	ETI	431	N/A	JNEC MILL CREEK - SAM DAM CO (CUSTOMER OWNED) 138 kV	8/27/2020 1:00	8/31/2020 16:43	112
Laura	138 kV	ETI	ETI	432	N/A	JNEC PEACHTREE - JNEC UNION (CUSTOMER OWNED) 138 kV	8/27/2020 3:41	8/27/2020 12:56	9
Laura	138 kV	ETI	ETI	588	19.31	KOUNTZE BULK - WARREN 138 kV	8/30/2020 12:06	8/31/2020 15:02	27
Laura	138 kV	ETI	ETI	449	24.99	LEACH CO - NEWTON BULK 138 kV	8/27/2020 4:05	9/2/2020 16:36	157
Laura	138 kV	ETI	ETI	540	2.26	LEACH CO - TOLEDO BEND 138 kV	8/27/2020 11:52	9/2/2020 16:07	148
Laura	138 kV	ETI	ETI	596	7.74	LEWIS CREEK - LONGMIRE 138 kV	8/27/2020 13:41	8/27/2020 22:24	9
Laura	138 kV	ETI	ETI	172	14.43	NECHES STATION - SABINE 138KV 138 kV	8/27/2020 2:24	8/31/2020 20:46	114
Laura	138 kV	ETI	ETI	92	7.51	NEW CANEY - PARKWAY 138/13.8KV 138 kV	8/27/2020 13:49	8/27/2020 14:19	0
Laura	138 kV	ETI	ETI	584	4.42	ORANGE - BUNCH GULLY (CO) 138 kV	8/27/2020 1:31	8/30/2020 12:28	83
Laura	139 kV	EGSL/ETI	EGSL/ETI	295	32.51	ORANGE - MOSSVILLE	8/27/2020 0:35	9/29/2020 0:35	812
Laura	138 kV	ETI	ETI	582	8.61	PORTER - OAK RIDGE TX) (138 kV	8/27/2020 12:06	8/27/2020 14:55	3
Laura	138 kV	ETI	ETI	492	9.74	SABINE 138KV - COW 138 kV	8/27/2020 1:00	9/2/2020 0:15	143
Laura	138 kV	ETI	ETI	514	9.7	SABINE 138KV - ORANGE 138 kV	8/26/2020 1:47	8/30/2020 12:04	106
Laura	138 kV	ETI	ETI	527	9.7	SABINE 138KV - ORANGE 138 kV	8/27/2020 1:20	8/28/2020 21:59	45
Laura	138 kV	ETI	ETI	515	7.19	SABINE 138KV - PORT NECHES BULK 138 kV	8/27/2020 0:34	8/27/2020 0:36	0
Laura	138 kV	ETI	ETI	425, 455, 597	30.22	SAM DAM CO - NEWTON BULK 138 kV	8/27/2020 4:31	8/29/2020 19:49	63
Laura	138 kV	ELL/ETI	ELL/ETI	481	2.42	TOLEDO BEND - FISHER (CLECO) 138 kV	8/27/2020 6:54	9/4/2020 20:46	206
Laura	138 kV	ELL/ETI	ELL/ETI	482	2.41	TOLEDO BEND - LEESVILLE (CLECO) 138 kV	8/27/2020 4:05	9/4/2020 20:47	209
Laura	138 kV	ELL/ETI	ELL/ETI	482	2.41	TOLEDO BEND - LEESVILLE(CLECO) 138 kV	8/27/2020 3:21	8/27/2020 3:44	0
Laura	69 kV	ETI	ETI	575	4.01	BRIDGE CITY - FIRESTONE ORANGE 69 kV	8/27/2020 1:00	8/29/2020 10:41	58
Laura	69 kV	ETI	ETI	505, 517	6.31	BRIDGE CITY - ORANGE 69 kV	8/27/2020 1:00	8/28/2020 22:47	46
Laura	69 kV	ETI	ETI	453	2.47	CORDREY - FRONT STREET (TX) 69 kV	8/27/2020 1:00	9/3/2020 13:36	181
Laura	69 kV	ETI	ETI	522, 590	2.52	COW - GULFRICH 69 kV	8/27/2020 0:44	8/27/2020 1:00	0
Laura	69 kV	ETI	ETI	522, 590	2.52	COW - GULFRICH 69 kV	8/27/2020 1:00	9/2/2020 0:15	143
Laura	69 kV	ETI	ETI	500	6.87	COW - ORANGE 69 kV	8/27/2020 1:00	9/7/2020 13:21	276
Laura	69 kV	ETI	ETI	81, 460	9.39	DEWYVILLE JNE CO - ECHO 69 kV	8/27/2020 1:49	9/2/2020 23:26	166
Laura	69 kV	ETI	ETI	409, 439	36.03	DEWYVILLE JNE CO - FAWIL 69 kV	8/27/2020 1:49	8/27/2020 2:21	1
Laura	69 kV	ETI	ETI	409, 439	36.03	DEWYVILLE JNE CO - FAWIL 69 kV	9/3/2020 21:22	9/5/2020 9:51	36
Laura	69 kV	ETI	ETI	409, 439	36.03	DEWYVILLE JNE CO - FAWIL 69 kV	8/27/2020 2:21	9/3/2020 21:22	187
Laura	69 kV	ETI	ETI	461	9.17	DUPONT BEAUMONT - KOLBS 69 kV	8/27/2020 8:32	8/27/2020 8:32	0
Laura	69 kV	ETI	ETI	461	9.17	DUPONT BEAUMONT - KOLBS 69 kV	8/27/2020 8:46	8/27/2020 8:47	0
Laura	69 kV	ETI	ETI	461	9.17	DUPONT BEAUMONT - KOLBS 69 kV	8/27/2020 1:32	8/27/2020 2:42	1
Laura	69 kV	ETI	ETI	498	6.41	DUPONT DEE - GOODRICH 69 kV	8/27/2020 1:00	8/29/2020 16:42	64
Laura	69 kV	ETI	ETI	502, 595	7.22	ECHO - CORDREY 69 kV	8/27/2020 1:50	9/4/2020 20:35	211
Laura	69 kV	ETI	ETI	414	1.53	FEDERAL - SPURLOCK 69 kV	8/27/2020 1:27	8/29/2020 9:31	56
Laura	69 kV	ETI	ETI	561	1.81	FIRESTONE ORANGE - FOREMAN RD. 69 kV	8/27/2020 1:11	9/6/2020 0:01	239
Laura	69 kV	ETI	ETI	125	0.25	FOREMAN RD - GULFRICH 69 kV	8/27/2020 1:00	9/2/2020 0:15	143
Laura	69 kV	ETI	ETI	76	0.37	FRONT STREET (TX) - AMERICAN BRIDGE 69 kV	8/27/2020 1:00	9/5/2020 0:35	216
Laura	69 kV	ETI	ETI	109	2.6	GROVES - ATLANTIC BULK 69 kV	8/27/2020 1:00	9/1/2020 20:04	139
Laura	69 kV	ETI	ETI	107	3.7	GROVES - PORT NECHES BULK 69 kV	8/27/2020 1:47	9/5/2020 8:44	223
Laura	69 kV	ETI	ETI	117, 189	9.85	KOLBS - ATLANTIC BULK 69 kV	8/27/2020 1:16	9/2/2020 17:08	160
Laura	69 kV	ETI	ETI	79	4.75	KOLBS - FORT WORTH 69 kV	8/27/2020 1:23	8/27/2020 1:24	0
Laura	69 kV	ETI	ETI	79	4.75	KOLBS - FORT WORTH 69 kV	8/27/2020 1:45	8/27/2020 1:46	0

TRANSMISSION LINE AND SUBSTATION OUTAGE REPORT
HURRICANE LAURA

Hurricane	Voltage	Line Jurisdiction	Substation Jurisdiction	Line Number	Length (Miles)	Branch	Date/Time Out	Date/Time Line in	Outage Duration (hours)
Laura	69 kV	ETI	ETI	77	3.69	KOLBS - PORT NECHES BULK 69 kV	8/27/2020 1:36	8/31/2020 12:33	107
Laura	69 kV	ETI	ETI	497	6.79	MAGNOLIA CO - KOLBS 69 kV	8/27/2020 1:30	8/29/2020 20:46	67
Laura	69 kV	ETI	ETI	67	6.02	NORTH END - HELBIG 69 kV	8/27/2020 1:56	8/27/2020 1:57	0
Laura	69 kV	ETI	ETI	495, 525, 804	18.73	ORANGE - ECHO 69 kV	8/27/2020 1:00	9/2/2020 21:07	164
Laura	69 kV	ETI	ETI	474, 506	4.61	ORANGE - FIRESTONE ORANGE 69 kV	8/27/2020 1:55	9/5/2020 23:20	237
Laura	69 kV	ETI	ETI	508	4.53	ORANGE - FRONT STREET(TX) 69 kV	8/27/2020 1:00	9/4/2020 22:53	214
Laura	69 kV	ETI	ETI	530	3.91	PORT NECHES BULK - ATLANTIC BULK 69 kV	8/30/2020 9:08	9/1/2020 19:28	58
Laura	69 kV	ETI	ETI	62	14.69	SOUTH BEAUMONT - PANSY 69 kV	8/27/2020 1:44	9/1/2020 19:40	138
Laura	69 kV	ETI	ETI	191, 446	5.85	TAYLOR BAYOU - FORT WORTH 69 kV	8/27/2020 1:00	8/31/2020 18:01	113

TRANSMISSION LINE AND SUBSTATION OUTAGE REPORT
HURRICANE DELTA

Hurricane	voltage	Line Jurisdction	Substation Jurisdiction	Line Number	Line Length	Branch	Date/Time Out	Date/Time In	Outage Duration
Delta	230 kV	ETI	ETI	496	24.66	CHINA - GARDEN 230 kV	10/9/2020 18:21	10/9/2020 18:22	0
Delta	230 kV	ETI	ETI	583	23.78	CHINA - SHECO BATISTE CREEK 230 kV	10/9/2020 6:33	10/9/2020 6:36	0
Delta	230 kV	ETI	ETI	544	17.42	CHISHOLM RD - HELBIG 230 kV	10/9/2020 18:28	10/20/2020 9:32	255
Delta	230 kV	ETI	ETI	197	2.34	GULFWAY - VFW PARK CO 230 kV	10/9/2020 17:58	10/9/2020 18:25	0
Delta	230 kV	ETI	ETI	554	6.1	KOLBS - PORT ACRES BULK 230 kV	10/9/2020 17:58	10/20/2020 17:19	263
Delta	230 kV	ETI	ETI	493	8.28	MCFADDEN BEND 230KV - SABINE 230KV 230 kV	10/9/2020 16:28	10/12/2020 13:41	69
Delta	230 kV	ETI	ETI	591	4.88	MID COUNTY - PORT ACRES BULK 230 kV	10/9/2020 18:26	10/10/2020 22:21	28
Delta	230 kV	ETI	ETI	199	5.71	SABINE 230KV - VFW PARK CO 230 kV	10/9/2020 17:58	10/9/2020 18:26	0
Delta	138 kV	ETI	ETI	552	26.72	BIG HILL CO - MEMORIAL 138 kV	10/9/2020 15:36	10/11/2020 22:25	55
Delta	138 kV	ETI	ETI	424	26.72	CHINA - RAYWOOD 138 kV	10/9/2020 11:27	10/9/2020 11:29	0
Delta	138 kV	ETI	ETI	424	26.72	CHINA - RAYWOOD 138 kV	10/9/2020 11:44	10/9/2020 11:45	0
Delta	138 kV	ETI	ETI	424	26.72	CHINA - RAYWOOD 138 kV	10/9/2020 11:58	10/11/2020 0:56	37
Delta	138 kV	ETI	ETI	424	26.72	CHINA - RAYWOOD 138 kV	10/11/2020 1:04	10/13/2020 21:17	68
Delta	138 kV	EGSL/ETI	EGSL/ETI	20	27.67	CLECO COOPER - FAWIL 138 kV	10/9/2020 22:41	10/9/2020 22:43	0
Delta	138 kV	ETI	ETI	546, 551	5.03	DUPONT SABINE 3 CO - DUPONT SABINE 4 CO CUSTOMER OWNED) 138 kV	10/9/2020 19:04	10/9/2020 23:35	5
Delta	138 kV	ETI	ETI	528	0	NECHES STATION - CARROLL STREET PARK 138 kV	10/9/2020 18:26	10/17/2020 10:13	184
Delta	138 kV	EGSL/ETI	EGSL/ETI	295	32.51	ORANGE - MOSSVILLE	10/9/2020 20:53	10/9/2020 20:55	0
Delta	138 kV	ETI	ETI	527	3.17	SABINE 138KV - ORANGE 138 kV	10/9/2020 19:22	10/11/2020 15:22	44
Delta	138 kV	ELL/ETI	ELL/ETI	482	9.7	TOLEDO BEND - LEESVILLE (CLECO) 138 kV	10/9/2020 19:11	10/9/2020 19:20	0
Delta	138 kV	ELL/ETI	ELL/ETI	482	9.7	TOLEDO BEND - LEESVILLE (CLECO) 138 kV	10/9/2020 20:51	10/10/2020 21:19	24
Delta	69 kV	ETI	ETI	573	2.41	ALLIGATOR BAYOU - TAYLOR BAYOU 69 kV	10/9/2020 18:35	10/9/2020 21:26	3
Delta	69 kV	ETI	ETI	55, 102	2.11	BATSON - SOUR LAKE 69 kV	10/9/2020 15:44	10/10/2020 0:16	9
Delta	69 kV	ETI	ETI	522, 590	19.33	COW - GULFRICH 69 kV	10/9/2020 17:18	10/9/2020 17:18	0
Delta	69 kV	ETI	ETI	522, 590	19.33	COW - GULFRICH 69 kV	10/9/2020 19:17	10/9/2020 19:18	0
Delta	69 kV	ETI	ETI	522, 590	19.33	COW - GULFRICH 69 kV	10/9/2020 19:27	10/11/2020 19:12	48
Delta	69 kV	ETI	ETI	865	2.52	DORSEY - EXPLORER 69 kV	10/9/2020 18:15	10/10/2020 12:16	18
Delta	69 kV	ETI	ETI	574	1.01	EXPLORER - PORT ACRES BULK 69 kV	10/9/2020 18:09	10/22/2020 16:04	310
Delta	69 kV	ETI	ETI	564	1.17	FEDERAL - DORSEY 69 kV	10/9/2020 18:09	10/10/2020 12:06	18
Delta	69 kV	ETI	ETI	414	4.83	FEDERAL - SPURLOCK 69 kV	10/9/2020 18:09	10/10/2020 12:06	18
Delta	69 kV	ETI	ETI	467	1.53	HELBIG - SOUTH SILSBEE 69 kV	10/9/2020 18:53	10/9/2020 18:54	0
Delta	69 kV	ETI	ETI	79	14.49	KOLBS - FORT WORTH 69 kV	10/9/2020 21:33	10/9/2020 21:46	0
Delta	69 kV	ETI	ETI	79	14.49	KOLBS - FORT WORTH 69 kV	10/10/2020 3:57	10/11/2020 17:07	37
Delta	69 kV	ETI	ETI	497	4.75	MAGNOLIA CO - KOLBS 69 kV	10/9/2020 15:42	10/9/2020 15:43	0
Delta	69 kV	ETI	ETI	497	6.79	MAGNOLIA CO - KOLBS 69 kV	10/9/2020 18:24	10/13/2020 19:08	97
Delta	69 kV	ETI	ETI	72	5.53	MOBIL HEBERT - DUPONT BEAUMONT 69 kV	10/9/2020 18:21	10/10/2020 12:16	18
Delta	69 kV	ETI	ETI	807	0.74	MOBIL HEBERT - FEDERAL 69 kV	10/9/2020 18:20	10/10/2020 12:16	18
Delta	69 kV	ETI	ETI	470, 471	3.18	NORTH SILSBEE - SOUTH SILSBEE TAP 69 kV	10/9/2020 18:53	10/9/2020 18:54	0
Delta	69 kV	ETI	ETI	473	2.39	PORT ACRES BULK - ALLIGATOR BAYOU 69 kV	10/9/2020 18:09	10/10/2020 3:20	9
Delta	69 kV	ETI	ETI	805	2.58	PORT ACRES BULK - SAVANNAH 69 kV	10/9/2020 18:09	10/10/2020 3:17	9
Delta	69 kV	ETI	ETI	427	3.01	PORT NECHES BULK - GOODRICH 69 kV	10/9/2020 18:26	10/11/2020 3:32	33
Delta	69 kV	ETI	ETI	62	14.69	SOUTH BEAUMONT - PANSY 69 kV	10/9/2020 17:00	10/9/2020 17:01	0
Delta	69 kV	ETI	ETI	443, 576	8.04	SOUTH BEAUMONT - YANKEE DOODLE 69 kV	10/10/2020 13:52	10/12/2020 9:50	44
Delta	69 kV	ETI	ETI	191, 446	5.85	TAYLOR BAYOU - FORT WORTH 69 kV	10/9/2020 18:32	10/9/2020 18:35	0
Delta	69 kV	ETI	ETI	466	11.4	WEST END - GOODYEAR CHEEK 69 kV	10/9/2020 18:44	10/12/2020 14:46	68
Delta	69 kV	ETI	ETI	84	6.72	WEST END - HELBIG 69 kV	10/10/2020 7:09	10/14/2020 15:04	104

Transmission Damage in Texas Hurricanes Laura and Delta

Pictures of Damage to Entergy Texas, Inc.
Transmission Infrastructure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CAT

ANNUAL REVIEW FOR MAJOR EVENT PREPAREDNESS

1. Verify and communicate storm assignment for all Transmission Line Operations Support and Substation Damage Assessment personnel.
2. For employees located in Evacuation areas, ensure and communicate Evacuation assignment (Core, Evacuate, and Release).
3. Ensure contact information in Outlook is updated and available.
4. Ensure department, work group emergency plans updated and available.

READY

1. Make preparations and arrangements for manning the system command center.
2. Check and Adjust. Keep monitoring the situation and adjust as needed.
3. Make proper notifications that the System Transmission Line Supervisor is engaged to:
    a. State Transmission Director
    b. State Transmission Line Manager
4. Determine resources (personnel & equipment) to support the Jurisdiction for the expected event.
5. Coordinate resource requests though the System Command Center.
6. Assist the jurisdictions in accessing manpower needs prior to the storm.
7. Assist jurisdiction with identifying special equipment needs and verify communication has been established with the special equipment coordinator.
8. Ensure orderly coordination of crew & material restoration resources between affected jurisdictions.
9. Verify appropriate damage assessment plans are in place.
10. Verify available T-Line Engineering & PMC support has been identified and assigned to affected areas.
11. Verify communication with the vegetation operations group has been established and grounding support coordination is identified and available.
12. Designate a person to monitor line outages are entered correctly in COS.
13. Verify T-Line Material Support Coordinator verifies current stock levels, establishes communication with procurement resources, and verifies alliance partners are engaged.
14. Provide proactive communication to Transmission Line resources that may be involved in damage assessment and restoration to avoid cutting fiber optic cables if at all possible as part of response activities.
15. Ensure that any gaps with coordination, integration, & resources are closed.
16. Ensure that the jurisdictions are prepared for the storm.
17. Communicate any deficiencies to the operations manager.
18. Continually monitor the situation and adjust as needed.

REACT

1. Report to system command center for duty.
2. Take responsibility for the oversight of the effectiveness of the execution plan for Transmission Lines.

3. Verify base load and storm contract resources are coordinated between states.
4. Contact Damage Assessment function personnel to review assignments and storm reporting locations.
5. Keep monitoring the situation and adjust as needed.
6. Locate and/or assemble most current versions of system maps.
7. Locate and/or assemble major spare equipment inventory list(s).
8. Identify resources (personnel & equipment) and plan for conducting damage assessments. Assist the jurisdictions in assessing manpower needs prior to the storm.
9. Confirm that all SCC Damage Assessment personnel have access to COS.
10. Review state Damage Assessment supervisor (primary) and their backup contact list & info and storm locations.
11. Establish daily damage assessment conference call times, reporting expectations and reporting cycles.
12. Verify that all groups have access to established damage assessment checklists and protocols.
13. Monitor storm track to begin transition from damage prediction to damage assessment.

RESPOND

1. Report to system command center for duty.
2. Setup first Damage Assessment conference call.
3. Establish damage assessment reporting expectations and reporting cycles.
4. Identify transmission lines & substations where damage assessments are required.
5. Verify initial damage assessments commence as soon as the weather allows.
6. Commence metrics reporting.
7. Ensure that field work plans coincide with the restoration prioritization developed by the SCC Planning Section.
8. Verify safety, switching, design, material and configuration management activities are in place for affected areas.
9. Verify base load and storm contract resources are coordinated between states.
10. Verify material staging areas are adequate and functional.
11. Keep SCC and command center updated on Transmission lines & Substation damages & restorations by compiling list of impacted lines and substations.
12. Coordinate with state Situational Analysis Branch group personnel to consolidate damage reports into one report.
13. Ensure safety of all employees and the public.
14. Work with the Transmission Line and Substation Operations Support representatives to identify equipment needs.
15. Coordinate with the Transmission Restoration Prioritization Director to ensure that field work plans coincide with the restoration prioritization plan.
16. Continually monitor and support transmission line and substation restoration activities.
17. Provide oversight for the execution of storm response & restoration.
18. Ensure temporary repairs are recorded properly.

19. Verify LWMS and COS is updated as the storm assessment and restorations progresses.
20. Continually monitor and support transmission line restoration activities.

REVIEW/RECOVER

1. Verify all affected transmission lines are returned to normal.
2. Ensure crew releases are coordinated on a system level.
3. Ensure ROW and environmental personnel are contacted to initiate cleanup activities.
4. Verify LWMS & COS have been updated.
5. Verify all Configuration Management related activities have been completed as required.
6. Work with grid personnel to develop permanent solutions to all temporary repairs.
7. Verify emergency restoration material levels are returned to previously established levels as soon as possible.
8. Capture & review lessons learned. Submit key items.

CONTRACTORS LIST	
Contractor Name	**Transmission Cost**
VOLT POWER LLC	$4,049,916
WILLIAMSON CONSTRUCTION AND EQUIPMENT	$1,579,613
IRBY CONSTRUCTION COMPANY	$1,493,286
DASHIELL CORPORATION	$1,319,131
MACRO COMPANIES INC	$1,149,034
ROWC LLC DBA DIAMOND D INDUSTRIES	$988,807
SPX TRANSFORMER SOLUTIONS INC	$596,272
ASPLUNDH TREE EXPERT CO	$570,721
SOUTHERN ELECTRIC CORP	$491,845
WENDELL WHITE INC	$278,227
KARL HINRICHSIN	$250,000
WOODSON INC	$214,168
BURFORDS CONSTRUCTION LLC	$138,644
H BROWN INC	$133,000
EMPIRE MAT INC	$78,903
CAPITOL ULTRASONICS LLC	$76,493
PIKE ELECTRIC LLC	$71,744
LAKESIDE ENVIRONMENTAL CONSULTANTS LLC	$70,782
POWER ENGINEERS INC	$69,170
ERA GROUP INC DBA ERA HELICOPTERS LLC	$56,629
PFES DBA PLANET FORWARD ENERGY	$53,816
POWER GRID ENGINEERING LLC	$44,488
HAGAN FENCE COMPANY	$28,116
JBT ELECTRIC	$23,155
NOLAN POWER GROUP LLC	$22,557
WEED CONTROL SERVICES LLC	$16,918
AIR COMFORT INC	$15,296
REPUBLIC SERVICES INC DBA BFI WASTE	$13,789
ACRT INC	$11,639
NEWPARK MATS & INTEGRATED SERVICES LLC	$11,069
GUIDANT GROUP INC	$10,956
BELDEN INVESTMENTS LLC	$7,675
KIESCHNICK INDUSTRIES INC	$5,337
JOHNKER INC DBA EMERGENCY POWER SERVICE	$4,482
MBO PARTNERS INC	$3,973
CUSHMAN & WAKEFIELD OF TX INC	$2,904
RAILPROS FIELD SERVICES	$2,550
IK POWER SYSTEM SOLUTIONS INC	$1,595
TONYS BARBEQUE & STEAK	$481
JOURNAL ENTRY CORRECTION	($24,408)
Total	$13,932,771

Transmission Major Contract Services

Vendor Name	Transmission	Description of Services
Volt Power, LLC	$4,049,916	Volt Power provided general transmission construction services, including pole setting, framing, re-insulating, conductor pulling and re-hanging.
Williamson Construction and Equipment	$1,579,613	Williamson Construction and Equipment provided specialized equipment and matting for ROW access and completed ROW repairs.
Irby Construction Company	$1,493,286	Irby Construction Company provided general transmission construction services, including pole setting, framing, re-insulating, conductor pulling and re-hanging.
Dashiell Corporation	$1,319,131	Dashiell Corporation provided general transmission construction and design services, including pole setting, framing, re-insulating, conductor pulling and re-hanging.
Macro Companies, Inc.	$1,149,034	Macro Companies provided general fuel delivery services to field and staging locations

ENTERGY TEXAS, INC.
PUBLIC UTILITY COMMISSION OF TEXAS
DOCKET NO. 53719

Response of: Entergy Texas, Inc.	Prepared By: Jess K. Totten, Richard D. Starkweather, Bobby R. Sperandeo
to the Third Set of Data Requests	Sponsoring Witnesses: Jess K. Totten, Richard D. Starkweather, Bobby R. Sperandeo
of Requesting Party: Texas Industrial Energy Consumers	Beginning Sequence No. LR903
	Ending Sequence No. LR904

Question No.: TIEC 3-21 Part No.: Addendum:

Question:

Please provide any documents, including but not limited to analyses, comparing ETI' s performance relative to other utilities, regionally or nationally, in the following categories:

a. Efforts or achievements in conserving resources;

b. Quality of service;

c. Quality of management;

d. Retail rates;

e. Operations and maintenance costs; and

f. Bringing new generation online relative to the construction/acquisition schedule and budget estimates.

Response:

Pursuant to an agreement with counsel for TIEC, this RFI has been amended as follows:

> Please provide any analyses or studies conducted since 2017 comparing ETI's performance relative to other utilities, regionally or nationally, as well as all documents provided to, reviewed by, or prepared by or for Mr. Totten and Mr. Starkweather in anticipation of the expert's testimony in this proceeding that are not communications between counsel and expert witnesses except as provided for in Texas Rule of Civil Procedure § 195.5(c), in the following categories:
>
> a. Efforts or achievements in conserving resources;

b. Quality of service;
c. Quality of management;
d. Retail rates;
e. Operations and maintenance costs; and
f. Bringing new generation online relative to the construction/acquisition schedule and budget estimates.

The only responsive documents Jess K. Totten reviewed were the analyses provided in the Direct Testimony of Richard D. Starkweather and Bobby R. Sperandeo. Other than the analysis included in his testimony, Mr. Starkweather has not completed any analyses or conducted any studies directly comparing ETI's performance relative to other utilities, regionally or nationally, since 2017.

However, Entergy Texas Inc. ("ETI"), along with many other utilities, was included in the peer groups for analyses completed by Mr. Starkweather in the last five years for Southwestern Public Service Company. These analyses addressed retail rates, operations and maintenance expenses and capital investments (Docket Nos. 49831 and 51802).

Mr. Starkweather and Bobby R. Sperandeo are not aware of any other documents provided to, reviewed by, or prepared by or for them in anticipation of testimony in this proceeding.

ENTERGY TEXAS, INC.
PUBLIC UTILITY COMMISSION OF TEXAS
DOCKET NO. 53719

Response of: Entergy Texas, Inc. to the Third Set of Data Requests of Requesting Party: Texas Industrial Energy Consumers	Prepared By: Jess K. Totten Sponsoring Witness: Jess K. Totten Beginning Sequence No. LR894 Ending Sequence No. LR894

Question No.: TIEC 3-22 Part No.: Addendum:

Question:

Regarding Mr. Totten' s testimony that ETI had "effective responses to challenging circumstances, and the Company' s restoration efforts represent high-quality service " and efficient operations and demonstrate an effective management, please state whether Mr. Totten believes that Texas law, including the Commission' s rules, requires ETI to:

a. Effectively respond to challenging circumstances;

b. Provide high-quality service;

c. Conduct efficient operations; or

d. Provide effective management.

Response:

PURA Sec. 36.052 requires the Commission to consider applicable factors, including the following, in establishing a reasonable return on invested capital: (1) the efforts and achievements of the utility in conserving resources; (2) the quality of the utility's services; (3) the efficiency of the utility's operations; and (4) the quality of the utility's management. Jess K. Totten believes that Texas law, including the Commission' s rules, require utilities to perform effectively and efficiently in meeting customers' needs. This obligation does not imply that the Commission should ignore these factors in setting a utility's rate of return, as the consideration of such factors is required by PURA Section 36.052, and performance incentives can provide a value to customers. Moreover, Mr. Totten does not believe this obligation precludes the Commission from recognizing exceptional performance in these areas by an upward adjustment to a utility's return on invested capital.