- Damage assessment with social distancing and electronic data reporting.
- Operations assignment of work to crews, leaving crews together in same area.
- Corporate Support HR/business continuity, supply chain, IT, facilities, and security functions.
- Customer Operations deployment of proactive customer engagement and communications framework.

Q40. PLEASE DESCRIBE THE COMPANY'S LESSONS-LEARNED PROCESS FOLLOWING A STORM EVENT.

A. The lessons-learned process, or the Review phase described in the IRP, covers the time spent following ICS deactivation and returning back to the Ready phase. During the Review phase, members of the ICS identify any learnings and improvement opportunities, including those pertaining to technical, process, or IRP planning issues. Typically, the timeframe spent identifying learnings and improvement opportunities during the Review phase is short – normally two to three weeks after ICS deactivation – and is dependent on availability of key personnel to complete their tasks. Identification of these improvement opportunities is the responsibility of each Office and Section.

Company witness Ms. Bourg discusses the specific lessons learned that came out of the Hurricanes Laura, Delta, and Zeta restorations, including what worked well and the opportunities for improvement that exist.

Q41. HAS ENTERGY RECEIVED RECOGNITION FOR ITS STORM RESPONSE AND IMPLEMENTATION OF ITS STORM PLAN?

A. Yes. The EOCs continue to be nationally recognized for their leadership and excellence in utility emergency restoration events. The Entergy System is the only utility group to receive awards from the Edison Electric Institute ("EEI") for response excellence every year since the Institute established the award. In January 2021, Entergy Corporation was honored with five Emergency Response Awards, including recovery awards for Hurricane Laura and severe thunderstorms in April 2020, and assistance awards for Hurricanes Sally, Isaias, and Hanna.

Table 6
Entergy Restoration Awards

Year	Edison Electric Institute (EEI) Emergency Response Award(s)
2021	Emergency Recovery Awards, after Hurricane Laura and severe thunderstorms in April 2020; Emergency Assistance Awards for Hurricanes Sally, Isaias, and Hanna
2020	Emergency Recovery Award, after Hurricane Barry; Emergency Assistance Award, after severe windstorm in Dallas in June 2019
2019	Emergency Assistance Award, Duke Energy Carolinas and South Carolina Electric & Gas, after Hurricane Florence
2018	Emergency Recovery Award, after Hurricane Harvey; Emergency Assistance Award, after Hurricane Irma
2017	Emergency Recovery Award, after severe thunderstorms and flooding in Summer 2016; Emergency Assistance Award, Duke Energy Florida and Carolina, Florida Power & Light, Georgia Power and South Carolina Electric & Gas, for Hurricane Matthew
2016	Emergency Recovery Award, after severe storm in April 2015; Emergency Assistance Award, Alabama Power Company, after severe thunderstorms in July 2015
2015	Emergency Recovery Award, after five severe storms over the course of 2014
2014	Emergency Recovery Award, after a widespread winter storm and tornadoes in December 2012; Emergency Assistance Award, Alabama Power Company, after severe storms in March 2013
2013	Emergency Recovery Award, after Hurricane Isaac; Emergency Assistance Award, PHI, PECO, Public Service Gas & Electric, and Consolidated

	Edison, after Hurricane Sandy; and Kentucky Power and Appalachian Power, after June 2012 derecho weather event
2012	Emergency Recovery Award, after numerous severe weather events in 2011, including tornadoes, winter storms, river flooding, severe thunderstorms, a drought, and Tropical Storm Lee; Emergency Assistance Award, Atlantic City Electric, after Hurricane Irene
2011	Emergency Assistance Award, American Electric Power Co., after December 2009 snowstorm
2010	Emergency Recovery award, after January 2009 ice storm
2009	Emergency Recovery Award, after Hurricanes Gustav and Ike; Emergency Assistance Award, AEP Texas, after Hurricane Dolly
2008	Emergency Assistance Award, Public Service of Oklahoma, after severe winter ice storms
2007	Emergency Assistance Award, Ameren, after back-to-back severe Midwestern thunderstorms
2006	Emergency Recovery Award, after Tropical Storm Cindy, and Hurricanes Katrina and Rita; Emergency Assistance Award, Florida Power & Light, after Hurricane Wilma
2005	Emergency Assistance Award, numerous Florida-based utilities, after Hurricanes Charley, Frances, Ivan, and Jeanne
2004	Emergency Assistance Award, Dominion Virginia and Baltimore Gas & Electric, after Hurricane Isabel
2003	Emergency Assistance Award, Kansas City Power & Light and Oklahoma Gas & Light, after an ice storm
2002	Emergency Recovery Award, after Entergy's 2000 ice storm
2001	Emergency Assistance Award, Florida Power & Light, after Hurricane Irene
2000	Emergency Assistance Award, Florida Power & Light, after Hurricane Floyd
1999	Emergency Recovery Award, after Hurricane Georges

In addition, as discussed by Company witness Ms. Bourg, Entergy will be presented with the 2021 Southeastern Electric Exchange Industry Excellence Award (Transmission-Line Category) for its Hurricane Laura Restoration.

2. Implementation of the Incident Response Plan

Q42. HOW DOES THE COMPANY DETERMINE ITS PERSONNEL AND RESOURCE NEEDS AFTER A MAJOR STORM?

A. The Company employs damage prediction models as a first step in determining the personnel and resources that will be necessary following a storm. The primary tool used to evaluate initial resource requirements is a modeling program utilized by the System Outage Response ("SOR") group. The model estimates resources based on potential damages as related to the category of a hurricane, its known characteristics, and its projected path. From this model, ELL estimates the potential damage, and, based upon that estimate, the numbers of transmission, distribution, and vegetation workers required for the restoration are determined. Those model outputs are compared against past operational experience, which includes comparisons to previous storms with similar characteristics, and the estimated number and type of line and vegetation crews are determined and presented at a System Resource conference call prior to the storm's impact. I discuss this process in greater detail below. After a storm has made landfall, and as soon as the weather safely permits, actual damage assessment begins. The damage assessments provide a basis with which to adjust resource allocations among regions or networks or to request additional resources.

Q43. CAN YOU DESCRIBE THE DAMAGE ASSESSMENT PROCESS IN MORE DETAIL?

A. Yes. During a storm, limited utility crews that stayed on location begin patrolling and visually inspecting feeder trunks from their vehicles as long as it is safe to do so. Although it has been widely publicized that aerial bucket restoration activities cannot commence

until winds subside below 30 mph (*i.e.*, the manufacturer's limitation on handling material with aerial lift equipment), we do engage our line crews and scout teams to perform initial damage assessment activities at times when the wind speeds may exceed this threshold. Scouts, who can operate in small trucks, cars, and on foot, are able to initiate assessments as the weather allows. Nevertheless, safety is a priority for all restoration workers, and scouting/assessment activities commence or continue during a major storm event provided it is safe to do so. Any number of variables, including flooding, falling or flying debris, wind speed/gusts, visibility, rainfall, driving conditions, navigability of city streets, and fatigue of the work force, could stop scouting operations if conditions are no longer safe to continue.

Once the hurricane passes through the Company's service areas and additional scouts begin arriving, a full-scale damage assessment to the affected infrastructure can commence. At that point, helicopters are mobilized to expedite the damage assessment process. In addition, the use of advanced technology, such as drones, significantly improves our ability to perform damage assessments in areas where teams cannot safely scout. On the distribution system, scouts first patrol backbone feeders serving critical customers, followed by the rest of the feeder backbones. Major branches of each circuit are inspected next, followed by laterals, with individual customer service lines being assessed last. Assessment data is used to create a high-level summary of damage for poles, cross-arms, transformers, spans of wire, and vegetation needs. These summaries are used to plan material and equipment acquisition along with resource allocations. Circuit mapping captures detailed repair needs by location and is an essential planning tool used by the field management team on a daily basis.

In addition to ELL scouting personnel, the Company brought in over 1,000 damage assessors to support local assessment after Hurricanes Laura, Delta, and Zeta. Once they finished their damage assessment role, personnel utilized as scouts, depending on their qualifications, were added into the restoration effort and used by local teams according to their skill sets or discharged.

While the post-storm damage assessment facilitates the creation of an efficient restoration plan, it also enables reconciliation between the predictive damage models and the actual damage early enough in the process for resource requests to be adjusted up or down as needed without either delaying arrival of restoration workers or committing resources to areas where they are under-utilized.

Q44. HOW DOES THE COMPANY ACQUIRE RESOURCES TO RESTORE SERVICE TO ITS CUSTOMERS?

A. The Company recognizes the importance of restoring service as safely and quickly as possible for the health, safety, and needs of its customers and also for the sake of the regional and national economies. Thus, the Company pre-arranges for a variety of logistical and specialized equipment resources that are staged throughout the potentially affected service areas so that restoration can begin safely as soon as a storm passes. I discuss below the types of resources that the Company utilizes to restore service to its customers.

Q45. HOW DOES THE COMPANY MANAGE AND ALLOCATE INCOMING OFF-SYSTEM RESOURCES?

A. Standardized check-in procedures help the Region and Network Commands ensure that incoming crews understand safe work practices and the Company's distribution system, and that the condition of the crews' equipment will not endanger the public, themselves, or other restoration workers. After checking in, off-system crews are given a safety orientation and provided with important area-specific information. The Company also initiates electronic tracking of detailed off-system crew information, including inventorying the equipment that these crews have brought with them and the identity of each crew member present.

In addition to the initial safety orientation, a more specific safety meeting is conducted once a storm crew arrives at the local network office. Particulars about the local area, system, hospitals, contact points, and safe work practices are provided and reviewed by storm crew members. And during the 2020 hurricane season, special instructions about safety and health protocols related to COVID-19 were also provided to storm crews. During this time, the local network also disseminates local emergency response information and acquires information regarding the storm crew's skill set and equipment in stock in order to make an in-network restoration assignment to the crew. A storm crew not requiring rest time due to traveling to the service area will begin restoration activities immediately. Crews needing rest are directed to lodging facilities to begin an 8-hour rest period and preparation for the next work day. As a guideline, Entergy's workers (employees and contractors) follow a work schedule of 16 hours followed by 8 hours of rest during emergency restoration operations after hurricanes, ice storms, and other types

of emergency conditions. This schedule is designed to deliver maximum restoration productivity while also providing a safe work environment for individuals engaged in restoration efforts. Other factors, such as heat, humidity, mental fatigue, and restoration-effort duration may necessitate additional rest periods.

An Entergy Crew Leader is assigned to each storm crew to direct storm restoration efforts and maintain continuous interface with the storm crew until it is reassigned or released. This ensures that restoration personnel understand safe work practices, working hours, work assignments and location, records management requirements, construction standards, system configurations and voltages, switching procedures, communication protocols, and the logistics surrounding food, lodging, fuel, and material. Crew Leaders address the storm crew's questions/concerns should they have any or forward them along to the appropriate person to address them accordingly.

At the distribution level, work is generally dispatched to storm crews to repair damage to equipment affecting the greatest amount of customers, starting with substations, feeder trunk circuits, lateral and sub-lateral circuits, transformers, and service drops. ELL also considers critical customers and facility characteristics, and the general public welfare was of highest priority as resources were directed to restore critical governmental, military, police, fire, medical, flood control, water/sewer, food, and communications systems and services, as well as commercial and industrial customers impacting storm restoration and basic services.

When no longer needed for restoration activities in the area assigned, the off-system storm crew is reassigned to a different crew leader, network, or region, or it is released to return home or to support another utility in need of resources.

IV. HURRICANES LAURA, DELTA, AND ZETA IMPACTS

A. Description of Hurricanes Laura, Delta, and Zeta

1. Hurricane Laura

Q46. PLEASE DESCRIBE HURRICANE LAURA AND ITS MAGNITUDE.

A. Hurricane Laura was a deadly and very destructive Category 4 hurricane and was the strongest hurricane on record to affect southwest Louisiana. Hurricane Laura made landfall at Cameron, Louisiana, with sustained winds of 150 miles per hour on August 27, 2020. The region of southwest Louisiana in and around Lake Charles took the brunt of the storm's force. The National Weather Service in Lake Charles recorded a station record gust of 133 mph before the observation system was destroyed by the wind.

Progressing inland across southwest Louisiana, Hurricane Laura produced destructive winds over a wide area. Maximum sustained winds were near 100 mph as Laura decreased to Category 2 status north of Fort Polk, Louisiana. Hurricane-force winds extended outward up to 60 miles from the center, and tropical-storm-force winds extended outward up to 175 miles. At least 14 feet of storm surge was recorded in the majority of Cameron Parish, with the lowest being 9 feet and the highest being over 20 feet at Rutherford Beach. Rainfall totals from Laura peaked at 8-10 inches in areas near Lake Charles.

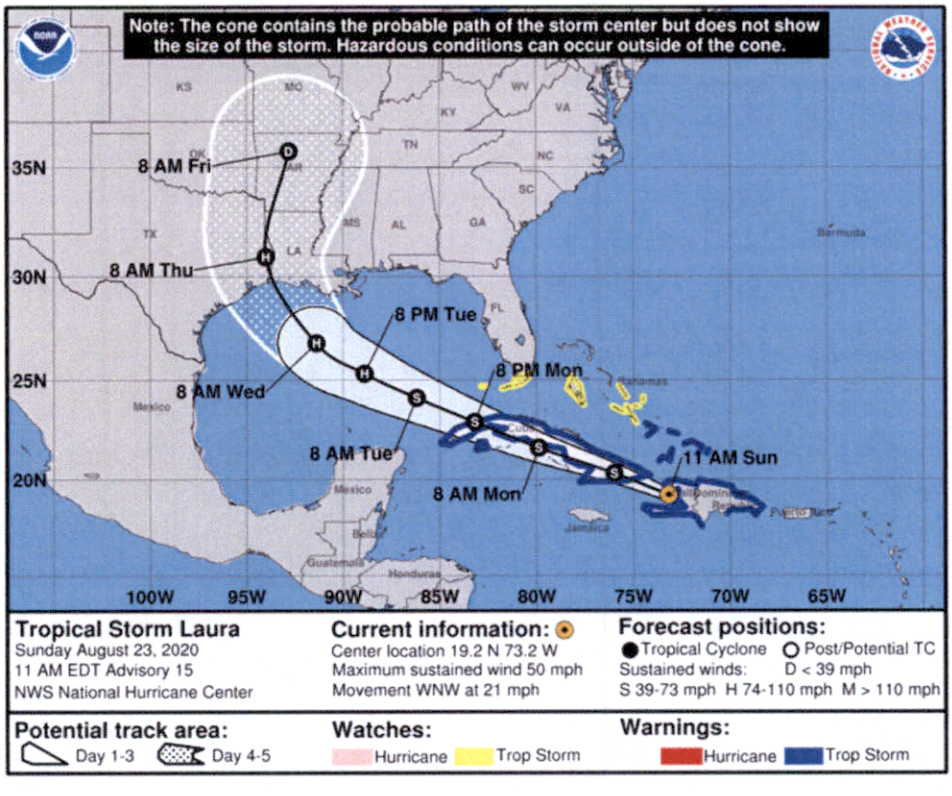
The storm continued across ELL's service area, arriving in central and north Louisiana as a Category 2 and Category 1 storm, respectively. Laura became a tropical storm later in the day on August 27 as it passed over northern Louisiana and into Arkansas.

Q47. HOW DID THE COMPANY MONITOR THE EXPECTED TRACK OF HURRICANE LAURA?

A. ELL paid careful attention to the forecasts provided by the National Hurricane Center ("NHC"), and we also utilized weather consultant StormGeo to keep the Company apprised of developments with the storm and related weather conditions. Hurricane Laura came fast on the heels of another hurricane in the Gulf, Hurricane Marco, which weakened to a tropical storm prior to making landfall just 3 days before Hurricane Laura, making it difficult for planners and forecasters to predict Hurricane Laura's exact track and intensity.

On August 23, the NHC predicted that Laura would come ashore near the Texas-Louisiana border as shown in Figure 3.

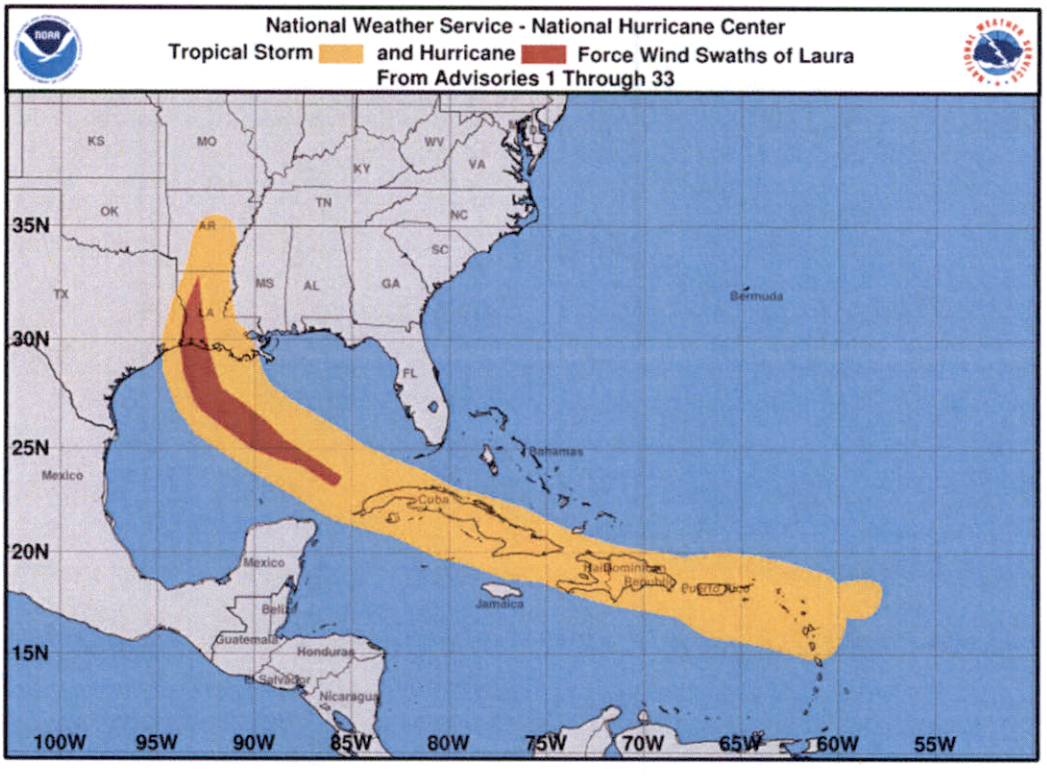
Figure 3



National Hurricane Center Forecast Image (August 23, 2020)

On August 25, the NHC classified then-Tropical Storm Laura as a hurricane, and later announced that it might rapidly intensify over the next 24 hours. On August 26, just 15 hours after that announcement, that forecast came true – Hurricane Laura had reached Category 4 strength. Shortly thereafter, Hurricane Laura made landfall as a Category 4 hurricane – a direct hit on southwest Louisiana – as depicted in Figure 4.

Figure 4



Areas subject to tropical storm and hurricane force winds based on NHC's Advisories 1 – 33 for Hurricane Laura

Q48. HOW DID THE COMPANY PREPARE FOR HURRICANE LAURA AS IT DEVELOPED IN THE GULF OF MEXICO?

A. As I noted above, both Hurricane Marco and what would become Hurricane Laura were forecasted to impact Louisiana as back-to-back strikes. Before each of the storm systems entered the Gulf, the Company began its preparations, which continued until landfall. The decision was made to fully activate the Entergy System Command Center and the Louisiana State Command Center on August 20, 2020. Our efforts included reviewing storm plans, reviewing and implementing checklist action items, stockpiling materials, pre-staging contractors, placing employees on alert, and moving equipment from possible flood areas. Thankfully, Marco weakened prior to making landfall, and the Company's efforts shifted to monitoring Laura's forecast and reevaluate predictive damages and resource requirements and, as discussed below, acquiring additional resources as the forecast worsened for Louisiana.

Beginning on Saturday, August 22, the Company began running damage prediction models based on historic data to proactively ensure that ELL had the necessary personnel and equipment on standby and available for restoration activities that could result from combined impact of the storms. As of Sunday, August 23, and based on the forecast track and projected intensity of the storms, the Company anticipated engaging approximately 3,400 employees, contractors, and support personnel to assist with restoration efforts in Louisiana. By Monday, August 24, the Company had begun assembling a restoration workforce of approximately 3,800 workers and continued to acquire more as forecasts indicated that Hurricane Laura would be making landfall in Louisiana (and once the threat from Hurricane Marco had passed). At that time, crews also were wrapping up

preparations such as inspecting critical circuits and bringing in special equipment, including high water vehicles, and drones, that could more quickly assess damage. The Company also began staging restoration crews in strategic locations in order to be ready to respond to customer outages as quickly as possible.

On Tuesday, August 25, Hurricane Laura was forecast to strike near the Texas/Louisiana border as a possible Category 3 hurricane. A storm team of approximately 5,300 workers was committed to Louisiana at that time, including 3,200 line workers, 1,200 vegetation workers, and nearly 900 damage assessment and support staff, and the Company had also requested additional resources based on the possibility of 100+ mph sustained winds and stronger gusts impacting Louisiana. The day before the storm, August 26, the Company had mobilized a storm team of nearly 5,600 based on the storm's path and intensity, and by August 27, that number had grown to 6,800 members.

We also took necessary steps to communicate with the public, government officials, parish and State emergency operations centers, and others to help them understand our plans for safely and quickly returning our communities and customers to normal operation, what would be involved in emergency-power restoration, public safety messages, and how to contact us after the storm.

Q49. PLEASE EXPLAIN THE COMPANY'S ACTIVITIES ONCE HURRICANE LAURA MADE LANDFALL.

A. By the time the storm made landfall, we had completed the items mentioned above, and our first priority was to establish communication links with the Louisiana Regional Command Centers to ensure all Core Teams were safe. As of August 28, the day after the

storm made landfall, the Company had secured more than 13,300 resources consisting of ELL's own crews, contractors, and mutual assistance partners from across the country. Approximately 7,000 were on site already, and the remainder of the crews arrived in waves, which allowed the Company to productively manage the large influx of resources and to conduct safety orientations and COVID-19 screenings.

The allocation of scouting and repair crews was made based on pre-landfall damage estimates, with adjustments made as early damage assessments became available. As I discussed above, scouting the Company's facilities after a hurricane, and before directing repair crews to neighborhoods, is essential to planning and executing an effective restoration. An additional benefit of scouting is that it allows for unsafe situations and obstacles to be identified in advance of crews arriving on the scene, which is especially important considering the amount of out of state workers that were involved in the restoration process following Hurricane Laura and that were not familiar with their surroundings. Even though aerial bucket truck restoration could not commence until winds fell below 30 mph, early damage assessments were made by circuit bosses doing ground patrols even while winds were well above 30 mph. And as I noted above, the Company also made use of advanced technology, including drones, which allowed for damage assessments to be completed more efficiently, quickly, and safely than ever before, and with less cost and impact to customers as well. The preliminary assessments required us to make some adjustments to the allocation of scouts and repair crews to various regions.

As assessments came in, I reviewed preliminary damage reports to understand the condition of our transmission and distribution grids. I monitored the daily damage assessments and restoration progress along with the deployment of resources to ensure all

areas had adequate material and restoration workers. I also made field visits to personally observe the level of damage from the storm and assess the field restoration progress, as well as the effectiveness of my management team's plan and its execution. I also kept senior management informed throughout the restoration process.

Q50. HOW MANY CUSTOMER OUTAGES RESULTED FROM HURRICANE LAURA?

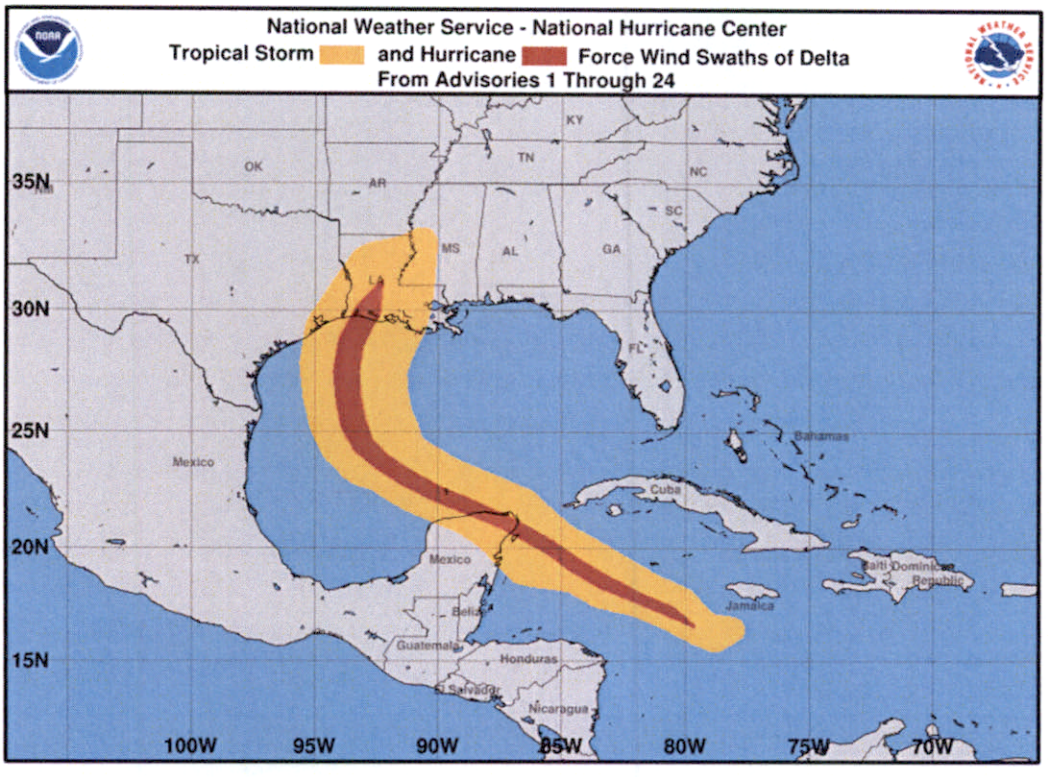
A. In total, approximately 436,000 ELL customers sustained outages in the wake of Hurricane Laura between the dates of August 27 and September 8, 2020. I discuss the pace of restoration following Hurricane Laura later in my testimony.

2. Hurricane Delta

Q51. PLEASE DESCRIBE HURRICANE DELTA.

A. Hurricane Delta was the third significant hurricane of the record-breaking 2020 Atlantic Hurricane Season to make landfall in the Entergy service area, coming on the heels of Hurricane Marco on August 24, and Hurricane Laura on August 27. Hurricane Delta struck Louisiana as a high-end Category 2 storm on October 9, making landfall near Creole, Louisiana, just 12 miles to the east of where Hurricane Laura came ashore six weeks prior. As indicated in Figure 5 below, after becoming the first ever Greek-letter hurricane to hit the U.S., Hurricane Delta brought powerful winds to the same area that had been devastated by Hurricane Laura.

Figure 5



Areas subject to tropical storm and hurricane force winds based on NHC's Advisories 1 – 24 for Hurricane Delta

After landfall, Hurricane Delta's wind field expanded, extending the range of hurricane force winds into south central Louisiana. Areas of Lake Arthur and Lake Charles, Louisiana, received wind gusts of at least 95 mph. Other areas of southwest Louisiana received gusts of at least 90 mph. Although these high winds were not as intense as those from Hurricane Laura, Hurricane Delta's large circulation covered more ground than Laura did. Delta produced storm surge levels of 6 to 9 feet to the east of its landfall location along coastal portions of Iberia, St. Mary, and Vermilion Parishes. In addition to its expansive wind field, Delta had a large rain shield that resulted in widespread flooding, especially across the central portions of Louisiana. The heaviest rainfall produced by Delta

fell primarily across southwest and central Louisiana, where totals ranged from 15 to 20 inches between Lake Charles and Alexandria. Baton Rouge received nearly 10 inches of rain, which resulting in flooding in some areas of the city.

Hurricane Delta moved relatively quickly after landfall. It dropped to Category 1 status an hour after landfall as it traveled northeast through Louisiana. Six hours later, Delta was downgraded to a tropical storm.

Q52. HOW DID THE COMPANY DETERMINE THE NUMBER OF OUTSIDE RESOURCES THAT WERE NECESSARY FOR THE RESTORATION EFFORT FOLLOWING HURRICANE DELTA?

A. Just as was the case with Hurricane Laura, the Company made use of damage prediction models based on historic data to determine the number of resources that would be necessary for restoration activities following Hurricane Delta. As of mid-day on October 9, the Company had mobilized a storm team of over 6,500 workers, including transmission and distribution line workers, vegetation workers, damage assessment workers, and support staff to respond to any impacts from Hurricane Delta. The Company continued to monitor the storm in order to adjust the size of the storm team if necessary based on the storm's size, path, and intensity. By October 12, that workforce had increased to approximately 8,600, including Company employees, contractors, and mutual-aid resources.

Q53. HOW MANY CUSTOMER OUTAGES RESULTED FROM HURRICANE DELTA?

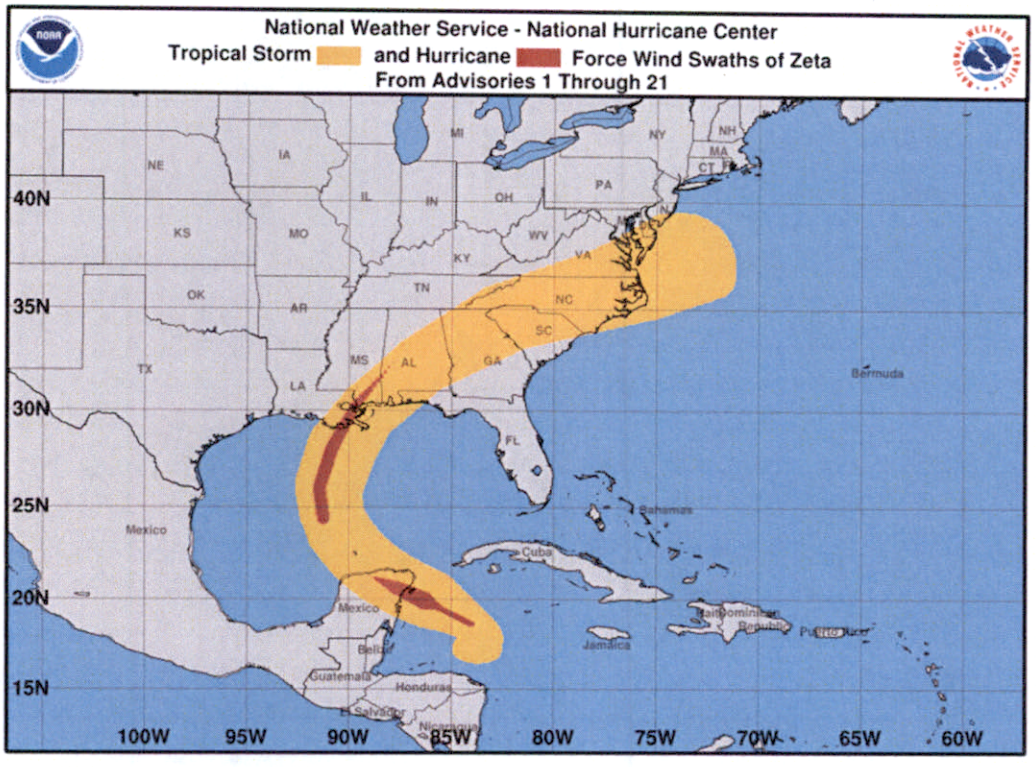
A. In total, approximately 616,000 ELL customers sustained outages in the wake of Hurricane Delta between the dates of October 9 and October 14, 2020. I discuss the pace of restoration following Hurricane Delta later in my testimony.

3. Hurricane Zeta

Q54. PLEASE DESCRIBE HURRICANE ZETA.

A. On the afternoon of Wednesday, October 28, 2020, Hurricane Zeta made landfall near Cocodrie, Louisiana, as a strong Category 2 hurricane with sustained winds of 110 mph, just one mph shy of Category 3 strength. This was the latest in the season that a Category 2 hurricane made landfall in Louisiana, and it was the strongest hurricane to make landfall in the United States that late in the calendar year since the Halloween Hurricane of 1899. Zeta's intensity surprised forecasters; the storm's winds increased by 45 mph in the last 26 hours before landfall. Zeta also had rapid forward motion that was nearly double the speed of many other hurricanes that have made landfall along the Gulf Coast; this meant that the storm was more intense and that hurricane-force winds were carried much farther inland than forecasters were expecting. Figure 6 below displays wind swaths for the storm.

Figure 6



Areas subject to tropical storm and hurricane force winds based on NHC's Advisories 1 – 21 for Hurricane Zeta

Hurricane Zeta's damage to infrastructure in the coastal parishes of southeast Louisiana, including Jefferson, Lafourche, Plaquemines, St. Bernard, and Terrebonne, was extensive. After landfall, Zeta's center moved directly over Orleans Parish, and its damaging winds and powerful thunderstorm activity brought down trees, limbs, utility poles, and lines throughout the metropolitan New Orleans area. Zeta's path continued on through southern Mississippi, and it remained a hurricane until crossing into Alabama.

Q55. HOW DID THE COMPANY DETERMINE THE NUMBER OF OUTSIDE RESOURCES THAT WERE NECESSARY FOR THE RESTORATION EFFORT FOLLOWING HURRICANE ZETA?

A. As with Hurricanes Laura and Delta, through the use of damage predictions models, the Company was prepared to mobilize a storm team sufficient in size to support the Hurricane Zeta restoration. As of the morning of October 28, the Company had confirmed approximately 3,700 employees and contractors. After the storm made landfall, and continuing into November 3, a workforce of 6,200 employees and contractors was either present in or en route to Louisiana to restore service for customers whose power was affected by Hurricane Zeta.

Q56. HOW MANY CUSTOMER OUTAGES RESULTED FROM HURRICANE ZETA?

A. In total, approximately 303,097 ELL customers sustained outages in the wake of Hurricane Zeta between the dates of October 28 and November 5, 2020. I discuss the pace of restoration following Hurricane Zeta later in my testimony.

B. Damages Caused by Hurricanes Laura, Delta, and Zeta

Q57. PLEASE SUMMARIZE THE DAMAGE TO THE COMPANY'S DISTRIBUTION SYSTEM AS A RESULT OF HURRICANE LAURA.

A. Hurricane Laura was the most devastating weather event to ever strike ELL's utility system. Damage to the Company's distribution systems was unprecedented and included destroyed and damaged structures and associated facilities, downed trees on lines, vegetation and other debris that blocked the roads and ROWs, and wind damage to

substations. In total, by the time the storm subsided, ELL's distribution system was impacted as follows:

- 12,453 distribution poles were damaged and/or destroyed;
- 4,264 transformers were damaged and/or destroyed;
- 27,166 spans of distribution wire damaged and/or destroyed, roughly equivalent to over 770 miles; and
- 9,263 cross-arms were damaged or destroyed.

Q58. PLEASE SUMMARIZE THE DAMAGE THE COMPANY INCURRED AS A RESULT OF HURRICANE DELTA.

A. As a result of Hurricane Delta, ELL's distribution system sustained the following damages:

- 969 distribution poles were damaged and/or destroyed;
- 356 transformers were damaged and/or destroyed
- 2,407 spans distribution wire damaged and/or destroyed; and
- 793 cross-arms were damaged and/or destroyed.

It is notable that, although we had more outages after Hurricane Delta, the damage on the distribution lines was less severe than what we experienced during Hurricane Laura. That certainly reflects that Hurricane Laura brought more intense winds to many areas, but it also reflects that the swift planning and execution of the Laura restoration resulted in a more resilient distribution system in southwest Louisiana that allowed for faster restoration of service to customers after Hurricane Delta. ELL installed Class 1 distribution poles in

and around Lake Charles after Hurricane Laura, and many of those poles were tested and fared well through Hurricane Delta.

Q59. PLEASE SUMMARIZE THE DAMAGE THE COMPANY INCURRED AS A RESULT OF HURRICANE ZETA.

A. Hurricane Zeta resulted in the following damages to ELL's distribution system:

- 2,424 distribution poles were damaged and/or destroyed;
- 481 transformers were damaged and/or destroyed;
- 1,593 spans distribution wire damaged and/or destroyed; and
- 655 cross-arms were damaged and/or destroyed.

Q60. DO YOU OFFER WITH YOUR TESTIMONY ANY IMAGES OF THE STORM DAMAGE TO ELL'S DISTRIBUTION SYSTEM?

A. Yes, I do. Exhibit JWH-4 is a collection of photographs of damaged distribution and other facilities that are representative of the destruction caused by Hurricanes Laura, Delta, and Zeta. Exhibit JWH-4 also demonstrates various components of ELL's successful restoration of the distribution system.

Q61. HAVE RECENT GRID INVESTMENTS IMPROVED THE COMPANY'S ABILITY TO RESTORE SERVICE TO CUSTOMERS FOLLOWING A STORM?

A. Yes. Following Hurricane Zeta, the EOCs were able to leverage AMS technology for the first-time during a storm restoration to close out over 1,000 outage cases, reducing truck rolls and call backs to customers. In addition, grid investments implemented by the EOCs

avoided an estimated 38,000 customer interruptions based upon equipment operational data. As ELL completes its AMI rollout, the Company expects improvements in outage mapping and customer communications during future storm restorations.

V. INTERACTION WITH CUSTOMERS AND STAKEHOLDERS

Q62. PLEASE DESCRIBE THE COMPANY'S COMMUNICATION WITH ITS CUSTOMERS IN ADVANCE OF HURRICANES LAURA, DELTA, AND ZETA.

A. The Company communicated to customers through news and social media several days prior to the landfall of each storm, placing hurricane preparedness advertisements on local radio and in print publications well in advance of each storm in an effort to inform customers and the general public on safety and preparedness issues. In addition, several ELL spokespersons conducted live interviews on television and radio stations throughout each area threatened by Hurricanes Laura, Delta, and Zeta to discuss our storm preparations. The Company also sent proactive messages to customers via text or email to alert customers of storm activities.

Q63. DESCRIBE THE COMPANY'S INTERACTION WITH ITS CUSTOMERS DURING AND FOLLOWING HURRICANES LAURA, DELTA, AND ZETA.

A. Officials on behalf of the Company communicated and interacted with customers on a daily basis. Customers could call the 1-800-ENTERGY and 1-800-9OUTAGE telephone numbers 24 hours per day to talk to agents in the system network. ELL customers were encouraged to sign up for an app to report outages or receive valuable information and alerts. Customers also had the option to receive text alerts and report outages via text.

Senior management appeared frequently on local television newscasts and radio talk shows, and the Company provided regular press releases and information updates to the media. ELL's Corporate Communication also communicated with customers on social media sites.

For all 3 storms combined, the Company's customer service representatives answered more than 250,000 storm-related inbound calls at an 80.96% service level (meaning a call was answered by a person within 30 seconds). The Company initiated over 2.5 million outbound calls and over 9.8 million text messages to customers with updated information, generated over 24 million impressions through our audiences on social media, received over 327,000 engagements on our social media content (including likes, comments, shares, and clicks), and reviewed over 34,000 customer inquiries received through social media and electronic mail.

Q64. WHAT EFFECT DID THE HURRICANES HAVE ON THE COMPANY'S CALL CENTER ORGANIZATION?

A. Entergy Customer Contact Centers were fully staffed throughout the duration of each of Hurricanes Laura, Delta, and Zeta. The contact centers ramped up throughout off-hours and weekends, totaling 14,350 hours staffed by agents and supplemental personnel, to handle the projected call volume due to the hurricanes. Entergy Customer Contact Centers continued working well after each weather event to assist customers throughout the restoration process and rebuilding activities.

Q65. PLEASE DESCRIBE THE COMPANY'S EFFORTS TO COMMUNICATE WITH THE LOUISIANA PUBLIC SERVICE COMMISSION, STATE GOVERNMENTAL OFFICIALS, AND THE STATE EMERGENCY OPERATIONS CENTER IN BATON ROUGE IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. The Company's Regulatory Affairs and Public Affairs organizations are primarily responsible for communication with the LPSC, its Staff, and other State Governmental Officials. Prior to each of Hurricanes Laura, Delta, and Zeta, Regulatory Affairs personnel were in direct communication with LPSC Commissioners, the Executive Secretary, and their Staffs, and plans were made for alternative means of communication in case of inaccessibility. During and after the storms, the Company's Regulatory Affairs staff provided customer outage reports to the LPSC via e-mail typically two times a day (morning and evening) in addition to periodic verbal updates. Those reports were also provided to governmental officials. And for Hurricane Laura, Customer Service and Public Affairs staff also hosted calls with those stakeholders to keep them informed.

ELL officials also met with and provided information regularly to the Governor and the Governor's Office following each storm, in addition to news releases and alert messages posted on Entergy's storm webpage. Additionally, the Company maintained communication with the Louisiana State Police and the Louisiana National Guard and coordinated resources and assistance from the National Guard during the restoration efforts.

Q66. PLEASE DESCRIBE THE COMPANY'S EFFORTS TO COMMUNICATE WITH LOCAL GOVERNMENTAL OFFICIALS AND "FIRST RESPONDERS" IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. In advance of the landfall of each of Hurricanes Laura, Delta, and Zeta, ELL tracked the storms as they made their approach. During these periods, ELL officials communicated multiple times a day with city, parish, and emergency management personnel. After each storm's landfall, ELL officials hosted a daily conference call with city, parish, and emergency management personnel in the impacted locations of ELL's service area to share planning and restoration strategies. Local Customer Service Managers met with city and parish officials daily to provide updates on local restoration efforts. Phillip May, President and CEO of ELL, also gave restoration updates through WebEx meetings.

Q67. PLEASE DESCRIBE THE COMPANY'S EFFORTS TO COMMUNICATE WITH FEDERAL GOVERNMENTAL OFFICIALS IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. The System Command Center was in regular contact with Federal Government agencies and departments during the storm restoration efforts. After each storm made landfall, System Command Center and Regulatory Affairs and Governmental Affairs personnel maintained regular communication with representatives of various federal agencies that were assembled at a joint operations facility in Baton Rouge, including the Department of Homeland Security, FEMA, the Department of Energy, the Department of Defense and the Army Corps of Engineers. Also, after each storm made landfall, Regulatory Affairs and Governmental Affairs personnel participated on daily conference calls with representatives

of various federal agencies, including FEMA and the Department of Energy. System and State Command Center personnel also participated in and provided restoration information during FEMA conference calls that included members of Louisiana's Congressional delegation. Furthermore, personnel at the System Command Center provided information and updates to SERC Reliability Corporation ("SERC") staff, who then participated on North American Electric Reliability Corporation ("NERC") conference calls, which included the Federal Energy Regulatory Commission ("FERC"), the Department of Energy, the Department of Defense, the Southwest Power Pool ("SPP"), the Midcontinent Independent System Operator ("MISO"), the PJM Interconnection ("PJM"), the Nuclear Regulatory Commission ("NRC"), the Department of Homeland Security, and the National Gas Association. Company representatives also had ongoing communications with the staffs of the FERC and NRC to apprise them of restoration developments.

Q68. PLEASE DESCRIBE THE COMPANY'S EFFORTS TO COORDINATE WITH MUTUAL-ASSISTANCE UTILITIES IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. Once forecasts for the path of Hurricanes Laura, Delta, and Zeta indicated that the ELL service area was at risk, Entergy initiated mutual-assistance conference calls with the regional mutual-assistance group of utilities to request and plan assistance. Due to amount of resources requested, not only by the EOCs but also by neighboring utilities, it was evident that the regional group could not meet the requests, and additional regional groups were invited to join in the response efforts. In total, 33 utilities from across the nation (with the exception of the western regional group on the West Coast) participated in providing

assistance. For the Hurricane Laura response, calls were conducted from August 23 to 29 to coordinate the acquisition of resources. For the Hurricane Delta response, calls were conducted October 7 to 10 to coordinate the provision of mutual-assistance resources. For the Hurricane Zeta response, calls were conducted October 27 to November 1 to coordinate the provision of mutual-assistance resources.

Q69. DESCRIBE THE COMPANY'S EFFORTS TO COMMUNICATE WITH ITS KEY SUPPLIERS IN ADVANCE OF, DURING, AND AFTER THE STORMS.

A. Under the Incident Response Plan, key material and equipment suppliers ("Key Suppliers") were put on alert by ELL Supply Chain prior to each storm. Critical material was then ordered into the affected Entergy Distribution Center ("EDC") in advance of each storm. Supply Chain stayed in close contact with Key Suppliers throughout each storm and restoration via telephone and e-mail to keep the flow of material coming in response to field demands. Supply Chain personnel were redirected to the affected EDC to be on site to help with material requests. In addition, Supply Chain brought in a necessary and safe amount of resources from contractors and other utilities to support the materials process. Each Supply Chain employee was assigned specific commodities, and they worked with the Key Suppliers of that commodity. Daily updates were sent to the Key Suppliers aiding them in forecasting our needs. As each storm restoration effort ramped down, efforts were undertaken to stop material in production that is no longer needed.

VI. RESTORATION OF THE DISTRIBUTION SYSTEM FOLLOWING THE HURRICANES

A. Description of Restoration Efforts

Q70. HOW QUICKLY WAS SERVICE RESTORED TO CUSTOMERS AFTER HURRICANES LAURA, DELTA, AND ZETA?

A. ELL was able to restore service to 75% of Louisiana customers affected by Hurricane Laura within 2 weeks, and 90% of customers within 3 weeks. Power to all customers who were able to accept service (*i.e.*, customers who did not require reconstruction of their personal property) was restored by October 1 (35 days after Hurricane Laura made landfall).

ELL restored service to more than 90% of customers in Louisiana within 3 days following Hurricane Delta. Power to all customers who were able to accept service was restored by October 17 (8 days after Hurricane Delta made landfall).

And ELL restored service to nearly 90% of customers in Louisiana within 4 days following Hurricane Zeta, with power to all customers who were able to accept service restored by November 12 (15 days after Hurricane Zeta made landfall).

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

Q71. PLEASE DESCRIBE SOME OF THE EFFORTS THAT WERE REQUIRED FOR THE COMPANY TO RESTORE SERVICE TO CUSTOMERS AS QUICKLY AS POSSIBLE FOLLOWING HURRICANES LAURA, DELTA, AND ZETA.

A. There are numerous efforts that I could mention, but the following stand out in terms of facilitating the timely restoration of service after Hurricanes Laura, Delta, and Zeta:

- The most significant effort was to timely secure outside resources, mobilize the workforces that were required to effectively execute the massive restoration efforts required for each storm, and coordinate and provide logistics and support to the assembled workforce, all while administering and complying with protocols in place due to the COVID-19 pandemic. Due to the simultaneous impact of the hurricanes on neighboring utilities and other companies in Louisiana and in Texas, there was an extremely high demand for restoration resources. Assembling and supporting the dedicated men and women who worked long hours to rebuild and repair our system was challenging and absolutely essential.
- A high priority following each storm was to re-establish our transmission grid, which is essential to the restoration of the Company's substations, which, in turn, is essential to allowing end-use service to be restored to customers. As discussed by Company witness Ms. Bourg, the damage to the Company's transmission system following Hurricane Laura was catastrophic, and creative thinking and flexibility were required to successfully rebuild the Company's facilities in southwest Louisiana. On the distribution side, our efforts were aggressive to ensure that service could be restored to customers as soon as possible after the transmission system was rebuilt and/or restored. To that end, even before generation and

transmission became available to serve load after Laura, ELL's crews worked days in which they set more than 1,000 distribution poles.

- The Company obtained and used specialized equipment to address restoration challenges. For example, the Company deployed K-MAX helicopters to quickly move mangled structures out of the way and new ones into place. The Company also utilized tracked marsh buggies, barge-mounted cranes, and air boats, as well as advanced technology such as infrared cameras, drones, and satellite imagery, to access some of the hard-to-reach areas.

Q72. PLEASE DESCRIBE FURTHER SOME OF THE SPECIFIC TASKS THAT WERE UNDERTAKEN BY THE COMPANY TO RESTORE ELL'S DISTRIBUTION SYSTEM.

A. In Exhibit JWH-5 to my testimony (Description of Restoration Tasks — Distribution), I provide a non-exclusive listing of numerous specific distribution restoration tasks that ELL performed to restore service after Hurricanes Laura, Delta, and Zeta.

Q73. FOR PURPOSES OF ILLUSTRATION, PLEASE DESCRIBE FURTHER THE ACTIVITIES INVOLVED WITH REPAIRING DAMAGED DISTRIBUTION FACILITIES.

A. The activities required to repair the distribution system following Hurricanes Laura, Delta, and Zeta were numerous. Some of the activities performed by distribution line crews included: repairing and/or replacing poles, repairing and/or replacing broken conductors, repairing and/or replacing damaged transformers, and repairing and/or replacing broken

cross-arms. In my Exhibit JWH-6, I provide illustrative photographs of some of these activities, and I describe step-by-step the tasks required to complete the activities.

Q74. WHAT SIGNIFICANT OBSTACLES DID THE COMPANY ENCOUNTER IN REPAIRING DAMAGE FROM HURRICANES LAURA, DELTA, AND ZETA?

A. The significant obstacles that the Company encountered included hurricane-caused obstacles, as well as inaccessibility of our electrical infrastructure because of location, construction, or design.

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

The second group of obstacles was primarily related to the accessibility of our infrastructure. These obstacles would exist even without the devastation of a hurricane, though they were exacerbated by the debris left by each of Hurricanes Laura, Delta, and Zeta. An example of this was the difficulty in making repairs to facilities located in rear lots, alleys, or off-road. In these cases, truck access was often not available or was blocked by customer buildings and debris. This type of construction required that most work be done by carrying specialized equipment and materials to the rights-of-way and manually

reconstructing the facilities without the assistance of trucks for digging holes, erecting poles, and lifting workers and equipment into position on the poles. Even under normal operating conditions, these types of facilities are more difficult and time-consuming to restore.

Q75. WERE THERE ANY OTHER UNIQUE CHALLENGES FACED BY THE COMPANY DURING THE HURRICANES LAURA, DELTA, AND ZETA RESTORATIONS?

A. Yes. Another significant challenge was supporting the workforce necessary to restore power to ELL's service area while in the middle of a pandemic. The main example was the significant operational challenge involved in managing and maintaining logistical support for thousands of workers from outside the local area. The provision of lodging, meals, ice, laundry, parking, fuel, and other resources required to support this effort presented unique challenges which were complicated by the COVID-19 pandemic and the need to operate under proper protocols for the health and safety of the workers, as I discuss in greater detail below. Finally, it is also worth noting that by the time the Company's Hurricane Zeta restoration efforts were ramping up, our employees and the crews that had traveled to Louisiana to support those efforts had been already been working tirelessly for the better part of 2 months to repair the damage to the Company's distribution and transmission systems caused by Hurricanes Laura and Delta. In other words, the sheer duration of the Company's restoration efforts was yet another challenge that we faced during the 2020 hurricane season.

B. Logistical Support

Q76. PLEASE DESCRIBE THE LOGISTICAL SUPPORT THAT WAS REQUIRED TO SUPPORT THE RESTORATION EFFORTS FOLLOWING HURRICANES LAURA, DELTA, AND ZETA.

A. As I noted above, the logistical support efforts for ELL for the Hurricanes Laura, Delta, and Zeta restorations were significant undertakings necessary to support the large number of personnel who were required to restore service to customers. Logistical support refers to resources to support restoration personnel that were necessary to reconstruct the system. Logistical support includes lodging, food, beverages, laundry, portable toilets, showers, dumpsters, transportation, staging area lighting, fuel, materials, vehicles, parking, security and other related functions.

Lodging restoration workers proved to be the most significant logistical challenge during Hurricane Laura. Although restoration workers normally sleep in hotels in the communities they are working to restore, the damage caused by Hurricane Laura rendered most hotels uninhabitable. Commercial lodging, therefore, was utilized to the fullest extent available, and approximately 8,000 rooms from 125 hotels were secured by ELL for Hurricane Laura. For Hurricane Delta, ELL secured 6,000 rooms from 100 hotels, and for Hurricane Zeta, ELL secured 6,000 rooms from 125 hotels. Buses were used to bring the crews back and forth from their hotels to their staging sites. But due to lack of available commercial lodging, some crews were forced to lodge some distance from their assigned worksite until additional logistics could be arranged closer to the assigned worksite, requiring significant daily travel time. And due to COVID-19 restrictions, not only was

commercial lodging limited to one person per room, but some avenues used in the past by Entergy (recreation centers, gymnasiums, sleeping trailers, etc.) simply were not available.

As a result, ELL established alternative housing, including turn-key sites set up to provide lodging, catering, fuel, showers, laundry, etc. This expedited restoration efforts by lodging workers closer to their worksites and reducing travel time from hotels. But turn-key sites cannot not be set up in advance of a storm; rather, they must be staged once it is safe to do so following landfall. Moreover, those sites were not able to be operated at full capacity either due to the safety protocols required by COVID-19.

Q77. PLEASE DESCRIBE THE "TURN-KEY" SITES THAT THE COMPANY ESTABLISHED TO PROVIDE LOGISTICAL SUPPORT FOR RESTORATION PERSONNEL.

A. Based on the number of resources being secured to work on the restoration effort (summarized in Tables 3, 4, and 5 above), there was a shortfall of commercial beds available in the areas most impacted by the storm. Alternate lodging was needed to house and support the incoming restoration personnel. Therefore, the Company decided to engage certain full-service turn-key vendors to provide additional lodging space located in the areas of the most significant storm-related damage.[22] The Company determined that this was the best option to achieve the goal of supporting a timely restoration of electric service to our customers given the lack of viable options. Exhibit JWH-7 provides a listing of the logistics sites utilized by ELL during the restoration efforts following Hurricanes

[22] These vendors provided support and assets such as mass housing (tents or bunk trailers), catering, sanitation, and other logistics coordination and procurement.

Laura, Delta, and Zeta, including turn-key and other types of logistics sites. Exhibit JWH-7 also provides information on where each site was located.[23]

Q78. PLEASE PROVIDE A SUMMARY OF THE VOLUME OF LOGISTICAL RESOURCES UTILIZED BY ELL IN THE DISTRIBUTION RESTORATION FOR HURRICANES LAURA, DELTA, AND ZETA.

A. The logistical effort was massive. Table 7 provides a summary of the logistical resources utilized for the restoration efforts following Hurricanes Laura, Delta, and Zeta.

Table 7

Work Sites Supported	72
Meals Served	682,677
Bed-Nights	82,226
Gallons of Fuel	2,655,326

Q79. DID THE COVID-19 PANDEMIC FURTHER COMPLICATE THE COMPANY'S EFFORTS TO PROVIDE LOGISTICAL SUPPORT TO ITS WORKERS DURING THE RESTORATION EFFORTS?

A. Yes. As discussed previously, the COVID-19 pandemic was a serious concern and presented unique challenges to the already significant undertakings. Hurricane Laura was the first large-scale disaster response that required COVID-19 protocols for safety, travel, logistics, and lodging. Wisely, the industry had addressed the matter at the national level prior to storm season with a set of safety protocols developed by the ESCC, and the

[23] As indicated on Exhibit JWH-7, due to extensive damage and space limitations in areas near Lake Charles, a turn-key site was established at the Jack Brooks Airport in Beaumont, Texas. This site provided lodging and catering for ELL restoration workers, and was the first turn-key site to close once lodging was secured closer to the Lake Charles area for all affected workers.

Company adopted its own COVID-19 Safety Protocols for its contractors and subcontractors, a copy of which is attached as Exhibit JWH-8 to my testimony. In addition, the Company established a dual-threat process to prepare for storm restoration. Specific measures adopted included:

- Crews came with their own pandemic personal protective equipment ("PPE") and maintained their own supplies of PPE to offset potential scarcity.
- Planners managed work to keep crews together in pods to minimize potential exposure and allow for contact tracing.
- All restoration partners implemented personnel screening to track and monitor cases and to mitigate spread.
- Large-scale workspace gatherings related to safety onboarding, equipment staging, and dining were replaced with smaller and safer alternatives.
- Staging centers were cut to half capacity.
- ELL engaged third-party health and safety groups to assist with COVID-19 coaching at the staging, lodging, and work sites.

In addition, housing and feeding the crews were special challenges. With beds in short supply due to the lack of available hotel rooms sufficient to house the restoration workforce as I discussed above, restoration workers slept in bunk trailers, tents, and even two floating hotels. A photograph of one such floating hotel is included in Exhibit JWH-4 to my testimony. Hurricane Laura also required the mobilization of major catering vendors from across the region to serve to-go meals each day for several weeks since we could not depend on local caterers and restaurants to feed workers in group settings.

Q80. PLEASE DESCRIBE THE COMPANY'S OTHER EFFORTS TO ADDRESS THE COVID-19 PANDEMIC DURING THE HURRICANE RESTORATIONS.

A. ELL's pandemic response has been driven by robust business continuity planning, incorporating the latest federal and state health official guidance. Entergy's pandemic response plan has been in place since 2007 and is evaluated each year by Entergy's incident response team. Specific risk-based measures taken in response to COVID-19 include adoption of new health and safety protocols concerning face-to-face interactions; transitioning personnel to remote work to optimize social distancing; implementing trainings to address travel restrictions, use of PPE, industrial hygiene, self-screening and temperature checks for on-site and field workers; establishing a 24-7 contact tracing program; and continual monitoring to identify and mitigate potential business continuity risks.

Similarly, ELL adjusted its incident response planning process to address the unique risks associated with responding to major weather events in the midst of a pandemic. Many of our normal storm response protocols have been modified with the aim of preventing COVID-19 infections among our restoration workforce. These measures include proactive changes to training and communication of COVID-19 protocols to all storm personnel, utilization of digital orientation processes during to limit exposure risks and conducting safety orientations with appropriate social distancing. Social distancing measures were adopted with respect to lodging for restoration workers and meal service at staging sites. Vehicles used to transport restoration workers operated with capacity limits to enable social distancing. Interactions between crews was minimized and modifications to how restoration work was performed was undertaken to reduce exposure risk and enable

social distancing. Increased cleaning supplies and additional hand-wash stations were made available to enable workers to practice good hygiene. Additionally, increased cleaning was performed at staging sites and in vehicles. COVID-specific signage was displayed at all staging sites. Finally, ELL utilized personnel tasked solely with COVID-19 protocol compliance. ELL has at all times been committed to ensuring the guidelines of both the Louisiana Department of Health and the federal Centers for Disease Control ("CDC") are followed.

Q81. WERE THE PROTOCOLS UTILIZED BY THE COMPANY SUCCESSFUL IN ADDRESSING THE POTENTIAL IMPACT OF COVID-19 ON THE RESTORATION WORKFORCE?

A. Yes. While there were some COVID-19 cases reported during the ELL restorations following Hurricanes Laura, Delta, and Zeta, the protocols discussed above successfully minimized the impact that COVID-19 otherwise could have had on the health and safety of the restoration workforce.

C. Restoration Resources

Q82. PLEASE DESCRIBE THE RESOURCES EMPLOYED BY THE COMPANY TO ADDRESS HURRICANES LAURA, DELTA, AND ZETA AT THE DISTRIBUTION LEVEL.

A. At the Distribution-level, approximately 17,800 workers responded to Hurricane Laura in Louisiana, 8,100 workers for Hurricane Delta, and 5,200 workers for Hurricane Zeta. The

specific breakdown of resources utilized for each storm is provided in Tables 3, 4, and 5, above.

Restoration workers came from at least 31 states to assist in the restoration efforts following Hurricanes Laura, Delta, and Zeta.[24] This includes mutual-assistance and off-system resources that were acquired through our memberships and contracts with the Southeast Electric Exchange ("SEE"), the Edison Electric Institute ("EEI"), the Midwest Regional Mutual Assistance Group, and the Texas Regional Mutual Assistance Group.

1. ELL Employees

Q83. DESCRIBE THE ELL PERSONNEL INVOLVED IN ADDRESSING THE STORMS.

A. In a major storm event, all employees who can be released from their normal job functions are reassigned to assist with the restoration effort. Many of ELL's line supervisors, line crews, and service personnel performed their regular work activities during storm restoration. However, some of these and other employees worked outside of their normal job descriptions, taking on storm duties to help manage the extensive damage and significant amount of resources used during this restoration effort. They worked as safety specialists, logistics support, damage assessment scouts, staging area support, crew leads, guides, trouble shooters, line crews, Supply Chain support, or in other roles such as assisting our State Command Center and its supporting staff. However, once restoration was completed, and these employees returned to their normal job functions, they had a

[24] A total of 31 states were represented in the Hurricane Laura restoration workforce; 23 states in the Hurricane Delta restoration workforce, and 15 states in the Hurricane Zeta workforce.

substantial amount of catching-up to do in that their normal workload had continued to accrue while they were lending aid to the restoration effort.

Q84. WHAT WERE THE BENEFITS OF USING ELL EMPLOYEES FOR HURRICANE RESTORATION ROLES?

A. ELL employees were compensated for their storm restoration work at their normal pay level. In addition, these employees were very familiar with ELL's procedures, the area, and safety requirements, thus improving efficiency and safety. These resources were utilized to the maximum extent possible.

2. Entergy Affiliate Resources

Q85. TO WHAT EXTENT DID THE COMPANY RELY ON THE RESOURCES OF ESL AND OTHER EOCS TO ADDRESS THE HURRICANES' IMPACTS?

A. The support from many ESL employees was critical to our restoration efforts in Louisiana. Our System Command Center in Jackson, Mississippi, was primarily staffed with ESL employees. The System Command Center provided support to the State and other Departmental Command Centers, such as coordination among the EOCs and among Transmission, Generation, and many other departments engaged in restoration efforts. More specifically, the System Command Center: acquired and deployed off-system line crews, vegetation crews, damage assessment support, logistical support and communications support; tracked the progress of restoration efforts; monitored and reported on weather; coordinated mutual-assistance crews; coordinated with regulatory agencies; and performed other restoration-related functions. In addition, we had many ESL

employees supporting our restoration efforts in Louisiana by directly working in a support role that was not part of their regular work activities, such as assisting with logistics, staging sites, and customer service/social media. ESL employees, as part of their regular work activities, also supported the many corporate systems, such as Storm Assignment Management System ("SAMS"), the information technology communication systems, contracts, and accounts payable. In addition, ELL's affiliated EOCs supported our restoration efforts by supplying line crews, servicemen, management teams, logistics personnel, safety specialists, call center personnel, scouts, material Supply Chain personnel, and dispatching personnel, as well as other resources such as material and equipment.

Q86. WHAT WERE THE BENEFITS OF USING AFFILIATED RESOURCES?

A. Like the use of ELL employees, the major benefit, from a cost perspective, was that these resources performed their storm restoration work at their normal pay level, thus ensuring that the costs of their labor were reasonable. Further, these resources were invaluable due to their knowledge of ELL's system, standards, operating procedures, and safety rules, as well as a customer-centric mindset. These resources were utilized to the maximum extent possible, though it must be noted that these types of resources were stretched thin due to the restoration work ongoing in other portions of the Entergy System due to the impacts of Hurricanes Laura, Delta, and Zeta.

3. Mutual-Aid Resources

Q87. TO WHAT EXTENT DID THE COMPANY RELY ON OTHER UTILITIES TO PROVIDE ASSISTANCE IN RESTORING THE COMPANY'S DISTRIBUTION FACILITIES FOLLOWING HURRICANES LAURA, DELTA, AND ZETA?

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

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

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

Q88. WHAT ARE THE BENEFITS OF UTILIZING MUTUAL-AID UTILITIES IN HURRICANE RESTORATION?

A. The various mutual-assistance arrangements generally provide that the assisting utility will furnish labor and materials at the cost incurred by the loaning entity, without mark-up. Therefore, when the Company requires assistance, it pays the actual charges for the assisting utility's crews, at the same rates the assisting utility pays its crews. Labor rates, transportation charges, labor overhead, and corporate overhead are reimbursed at the same rates that the assisting utility accounts for these charges in its normal course of business. The Company reimburses actual expenses for lodging, meals, fuel, and consumable materials. The assisting utility makes no profit and suffers no loss. This arrangement is reciprocal, as the same rules apply when the Company is assisting other utilities outside of the Entergy footprint.

ELL has provided mutual-aid for other utilities on numerous occasions. The "at-cost" pricing of the mutual-aid services is standard industry practice and is designed to enable storm-afflicted utilities to expeditiously secure assistance in an efficient and cost-effective manner while ensuring that the providing utility does not have to provide assistance at a loss.

Q89. PLEASE IDENTIFY THE MUTUAL-AID UTILITIES THAT ASSISTED ELL IN THE RESTORATION OF ITS DISTRIBUTION SYSTEM FOR HURRICANES LAURA, DELTA, AND ZETA.

A. Exhibit JWH-9 lists the mutual-aid utilities that assisted ELL in the restoration of its distribution system following Hurricanes Laura, Delta, and Zeta, as well as the costs charged by, and the Company's mutual assistance relationship with, each utility.

4. Off-System Contractors

Q90. TO WHAT EXTENT DID THE COMPANY RELY ON OFF-SYSTEM CONTRACTORS TO ADDRESS DAMAGE FROM THE HURRICANES?

A. Off-system contractors were critical to our restoration efforts for Hurricanes Laura, Delta, and Zeta. The companies supporting the restoration efforts provided line workers, damage-assessment scouts, vegetation workers, and contractors providing assistance in other restoration support roles.

Q91. PLEASE DESCRIBE THE PROCESS BY WHICH ELL ENGAGED CONTRACTORS TO ASSIST WITH THE RESTORATION EFFORTS.

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

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

ELL also used contractors with which it did not have pre-existing contracts and/or prior history at the time of the request. These contractors were used in cases where additional resources were needed and ELL employees, affiliate resources, mutual-aid utility resources, and contractors with whom pre-existing contracts were in place, were not available.

Q92. PLEASE DESCRIBE THE PROCESS BY WHICH ENTERGY AND ELL RECEIVED, REVIEWED AND APPROVED THE INVOICES SUBMITTED BY THIRD-PARTY CONTRACTORS ASSISTING IN THE DISTRIBUTION-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 Sarah Harcus addresses contractor invoice processing in more detail in her testimony.

a. Line Contractors

Q93. PLEASE DESCRIBE THE LINE CONTRACTORS AND HOW THEY WERE SELECTED.

A. Augmenting Company resources and mutual-aid utilities with line contractors was necessary to acquire a sufficient number of resources to restore service in an expedited manner. At the beginning of the 2020 hurricane season, Entergy had several distribution line contractors under contract. These contracts were negotiated at competitive rates and at terms typical of those negotiated during similar circumstances.

Entergy also had certain additional distribution line contractors with which it had past working experience and with whom we had communicated in anticipation of the 2020 hurricane season. No contracts were written with them, but our prior experience with them led us to believe that their rates would be acceptable during a storm event. We had operational knowledge of their skills, capabilities, work product, and safety practices. Some of the items discussed or negotiated were travel expenses, work and rest hours, equipment, tools, voltage capabilities, crew compliment, and other personnel expenses.

Q94. WHAT SERVICES WERE PERFORMED BY THE MAJOR LINE CONTRACTORS?

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

Q95. WHO WERE THE DISTRIBUTION LINE CONTRACTORS UTILIZED BY THE COMPANY FOR THE HURRICANES LAURA, DELTA, AND ZETA RESTORATIONS?

A. The distribution line contractors and the costs charged by each are listed in Exhibit JWH-10. These contractors provided the additional line workers, support personnel, and equipment needed to rebuild the ELL distribution system. Exhibit JWH-10 also provides the type of contract that the Company had with each distribution line contractor that was utilized during the restoration efforts following Hurricanes Laura, Delta, and Zeta.

b. Vegetation Contractors

Q96. DESCRIBE THE NEED FOR VEGETATION WORKERS IN THE RESTORATION EFFORT.

A. The vegetation contractors engaged by ELL were necessary to address the damage caused by Hurricanes Laura, Delta, and Zeta due to the typically dense tree growth and vegetation in and around ELL's rights-of-way in its service area.

Q97. PLEASE DESCRIBE THE SERVICES THAT WERE PERFORMED BY VEGETATION CONTRACTORS.

A. The ELL service territory includes dense vegetation that contributes significantly to infrastructure damage and outages following catastrophic storms with wind-related damage, such as Hurricanes Laura, Delta, and Zeta. The vegetation contractors engaged by ELL performed four critical tasks, including: (1) clearing the way to access damaged equipment, (2) removing trees and tree limbs that had fallen on lines and poles,

(3) patrolling lines in the impacted areas to address damaged limbs/trees that posed a potential reliability threat, and (4) clearing roadways to enter damaged areas.

Q98. PLEASE IDENTIFY THE VEGETATION CONTRACTORS AND THE COSTS CHARGED BY EACH.

A. The vegetation contractors utilized by ELL in connection with the restoration of its distribution system and the costs charged by each are listed on Exhibit JWH-11. Exhibit JWH-11 also provides the type of contract that the Company had with each vegetation contractor that was utilized during the restoration efforts following Hurricanes Laura, Delta, and Zeta.

c. Logistics Contractors

Q99. PLEASE DESCRIBE THE ROLE OF LOGISTICS CONTRACTORS DURING THE HURRICANES LAURA, DELTA, AND ZETA RESTORATION EFFORTS.

A. Logistics contractors provided services to our restoration workforce by providing basic human necessities. Many of these contractors were engaged to provide support to staging areas such as mass housing, catering, sanitation, and other logistics coordination and procurement. In addition, some logistics contractors supported the staging areas in various functions such as directing traffic, fueling vehicles, delivering meals, moving supplies, and clean up. Transporting personnel from staging sites to lodging locations was accomplished through the use of busing contractors. Medical contractors were utilized to provide minor medical attention to restoration personnel. Due to the large numbers of resources, equipment and materials, as well as the unique circumstances where local law enforcement

support was limited, it was necessary to procure contract security to ensure that order was maintained at staging and key operating sites.

Q100. PLEASE IDENTIFY THE LOGISTICS CONTRACTORS UTILIZED BY ELL DURING THE RESTORATION EFFORTS FOLLOWING HURRICANES LAURA, DELTA, AND ZETA AT THE DISTRIBUTION LEVEL AND THE COSTS CHARGED BY EACH.

A. Exhibit JWH-12 lists the logistics contractors used in the Hurricanes Laura, Delta and Zeta restorations, as well as the costs charged by, and the services provided by, each contractor.

d. Other Contractors

Q101. WHAT SERVICES WERE PERFORMED BY THE "OTHER" CONTRACTORS IN CONNECTION WITH THE HURRICANES LAURA, DELTA, AND ZETA RESTORATIONS?

A. "Other" contractors included:

- **Investment Recovery Contractors** – These contractors were utilized in the recovery and disposal of damaged distribution line equipment and debris. In order to expedite restoration and maximize the use of skilled restoration labor, line crews were instructed to leave salvage material that required extensive effort to remove at the work site so that a labor force could recover the material at a less critical time and at a lower labor rate. This allowed restoration crews to focus on restoring service to our customers more quickly.

- **Environmental Contractors** – These contractors provided spill response, containment, and leak management services. The Company placed a priority on addressing the potential impact of oil-filled equipment that faced mechanical failure and might pose an environmental threat. Again, to expedite restoration and effectively utilize skilled restoration labor, line crews were instructed and trained to contain spill locations so that a specialized environmental labor force could respond and mitigate the potential damage.
- **Engineering Contractors** – During restoration, engineering contractors were utilized as scouts to assist in patrolling, to guide crews to locations that were difficult to access, and for other restoration activities. After the completion of service restoration, a small number of these contractors were utilized in the reconciliation of our mapping and data systems by gathering key information needed to maintain proper records. These contractors were also utilized to identify additional repairs.
- **Trucking and Equipment Contractors** – These contractors moved equipment, material, and supplies as needed. They also provided generators for voting precincts and command centers, as well as temporary power at motels for crew lodging, heavy equipment with operators for clearing rights-of-way, and specialized equipment rentals.
- **Temporary Staffing Contractors** – These contractors provided temporary staffing to support our restoration workforce as crew leaders, clerical, customer communications, and logistic support. Entergy retirees, who brought many years

of knowledge and experience, were hired as temporary contractors to participate in various aspects of the restoration.

- **Transportation Contractors** – Transportation contractors repaired/replaced damaged tires, dead batteries, and performed other minor vehicle repairs. This work was performed by independent shops with which ELL did not have pre-existing accounts.
- **Helicopter Services** – Helicopters allowed effective and faster damage assessment. Not only were we able to use helicopters to canvass large areas to identify pockets of damage, but they also proved useful in detailed assessment normally performed on foot or in a vehicle.

Q102. PLEASE IDENTIFY THE "OTHER" CONTRACTORS AND THE COSTS CHARGED BY EACH.

A. Exhibit JWH-13 lists the "Other" contractors used by the Company in its distribution-level restoration efforts following Hurricanes Laura, Delta, and Zeta, as well as the costs charged by, and the service provided by, each contractor.

D. Management of Restoration Resources

Q103. PLEASE DESCRIBE THE STRATEGY THAT ELL EMPLOYED TO BALANCE CREW AND MATERIAL NEEDS AND ACQUISITIONS IN THE DIFFICULT ENVIRONMENT PRECEDING AND FOLLOWING THE LANDFALL OF HURRICANES LAURA, DELTA, AND ZETA.

A. ELL's IRP, coupled with the experience ELL and the other EOCs have gained from restoration of many storms within their service areas and elsewhere when the Company has served as a mutual-aid utility, has enabled ELL to be very effective in determining required resources for a given event. As I noted above, the primary tool used to evaluate initial resource requirements is a modeling program utilized by the SOR group which estimates resources based on potential damages as related to the category of hurricane, its known characteristics, and its projected path. From this model, ELL estimates the potential damage, which aids in determining restoration material requirements.

In this instance, the Louisiana State Command Center assessed the damage to the ELL system based upon outage management data from the Distribution Operations Centers ("DOC"), Transmission Control Centers ("TCC"), and early reports from the field. Prior to each hurricane, ELL dispatched scouts across key parts of the service territory. The Damage Assessment coordinator collected the data from the scouts' aerial patrols and ground patrols to project damages based on current sampling and obtained an overview of the total estimated damages. The projected damage data was used to estimate the amount of personnel resources and material required to begin restoration.

Q104. HOW DID THE COMPANY ENSURE THAT IT DID NOT HAVE TOO MANY RESOURCES ENGAGED IN THE RESTORATION EFFORT FOR EACH STORM?

A. During restoration, the State Incident Command, in communication with the network supervisors, assesses restoration progress and the ability to effectively and safely manage the work force several times a day. These assessments are made on an ongoing, dynamic

basis throughout the event and are utilized to make adjustments to the pre-event estimates of material and resource requirements.

ELL pre-staged crews at strategic locations in anticipation of the storms' impact, then ramped up resources to a peak, followed by the re-allocation and release of crews as progress was made. As crews completed work at one location, they were shifted to another location based on need and skill set. We attempted to keep crews at the same staging site, however, which depended on factors such as proximity to work location, material lay-down areas, and logistical support capabilities. As the restoration progressed and workers were shifted among networks, the State Command Center, with input from the network supervisors, made determinations regarding the number of crews that could effectively and safely work in an area. When it was determined that the effective number had been reached, we began releasing excess resources and decommissioning the staging sites supporting those resources. As a staging site was decommissioned, we assessed the number of contractors that the remaining staging sites could support, and we reassigned the remaining crews to other staging sites. ELL closely monitored crew needs to ensure that crews were utilized in an efficient manner, that we did not have more crews than we needed, and that we consolidated staging sites and logistical resources when it became possible to do so.

Q105. DID YOU COORDINATE THE RESOURCE MANAGEMENT OF CREWS WITH THE TRANSMISSION FUNCTION?

A. Yes. The key benefit of this joint effort during restoration was the coordination and prioritization needed to achieve grid stability and improve restoration efforts. Daily

meetings were held to plan circuit restoration, manpower requirements, and materials needed. In addition, we coordinated with the Transmission and Generation groups to stabilize the grid, ensuring load was ready for service. In addition, the release of crews was jointly coordinated between the Transmission and Distribution functions to evaluate options of shifting those resources between functions before release.

Q106. HOW DID THE COMPANY ENSURE THAT IT DID NOT OVERPAY FOR RESOURCES?

A. The Company has implemented a structured process to review the invoices received from contractors to ensure that they are accurate. As described by Company witness Sarah M. Harcus, each invoice that the Company received from a third-party contractor was audited under the supervision of the Entergy internal audit department or finance department prior to payment in full. No invoice was fully paid until it was audited in light of the applicable contract and supporting documentation. Invoice processing teams were established to process the following types of storm-related invoices: (1) transmission and distribution line and vegetation; (2) facilities; (3) fossil; (4) nuclear; and, (5) logistics. Company witness Ms. Harcus provides additional information about the process for capturing, verifying, and monitoring costs in her Direct Testimony.

E. Safety Performance

Q107. PLEASE DESCRIBE THE SAFETY PERFORMANCE OF THE HURRICANE RESTORATION WORKFORCE FOR HURRICANES LAURA, DELTA, AND ZETA.