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Timothy S. Cragin
Assistant General Counsel
Legal Services - Regulatory

June 6, 2018

By Hand Delivery
Ms. Lora W. Johnson, CMC, LMMC
Clerk of Council
City Hall - Room 1E09
1300 Perdido Street
New Orleans, LA 70112

Re: Resolution Directing Entergy New Orleans, Inc. to Investigate and Remediate Electric Service Disruptions and Complaints and to Establish Minimum Electric Reliability Performance Standards and Financial Penalty Mechanisms – CNO Docket No. UD-17-04

Dear Ms. Johnson:

Please find enclosed for your further handling an original and three copies of Entergy New Orleans, LLC.'s ("ENO") Response to Council Resolution R-18-98 containing the Direct Testimony of Melonie P. Stewart and the Direct Testimony of Tad S. Patella, P.E. with exhibits on CD. Please file an original and two copies into the record in the above referenced matter, and return a date-stamped copy to our courier.

Thank you for your assistance with this matter.

Sincerely,

Timothy S. Cragin

TSC\rdm

Enclosures

cc: Official Service List (UD-17-04 *via electronic mail*)

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CERTIFICATE OF SERVICE
Docket No. UD-17-04

I hereby certify that I have served the required number of copies of the foregoing report upon all other known parties of this proceeding, by the following: electronic mail, facsimile, overnight mail, hand delivery, and/or United States Postal Service, postage prepaid.

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New Orleans, Louisiana, this 6th day of June 2018.

Timothy S. Cragin

BEFORE THE

COUNCIL OF THE CITY OF NEW ORLEANS

RESOLUTION DIRECTING ENTERGY NEW ORLEANS, INC. TO INVESTIGATE AND REMEDIATE ELECTRIC SERVICE DISRUPTIONS AND COMPLAINTS AND TO ESTABLISH MINIMUM ELECTRIC RELIABILITY PERFORMANCE STANDARDS AND FINANCIAL PENALTY MECHANISMS	**)**	**DOCKET NO. UD-17-04**

DIRECT TESTIMONY

OF

MELONIE P. STEWART

ON BEHALF OF

ENTERGY NEW ORLEANS, LLC

JUNE 2018

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EXHIBITS

I. INTRODUCTION AND BACKGROUND

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Melonie P. Stewart. My business address is 446 North Boulevard, Baton Rouge, LA 70802.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am currently employed by Entergy Services, Inc. ("ESI")[1] as the Acting Vice President, Customer Service for Louisiana.

Q3. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am filing this Direct Testimony before the Council of the City of New Orleans (the "Council") on behalf of Entergy New Orleans, LLC ("ENO" or the "Company").

Q4. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I graduated from the University of Louisiana – Lafayette in 1985 with a Bachelor of Science Degree in Electrical Engineering. I also earned my Master's Degree in Business Administration from Tulane University. I began my career as a Transmission Engineer, and I have held numerous engineering and management

[1] ESI is a service company affiliate of Entergy New Orleans, LLC ("ENO," or the "Company") that provides general executive, management, advisory, administrative, human resources, accounting, finance, legal, regulatory, and engineering services. These services are provided in accordance with Service Agreements entered into by ESI and the Operating Companies, to which ESI provides services, and are approved by the Federal Energy Regulatory Commission. The Entergy Operating Companies include, in addition to ENO, Entergy Mississippi, Inc.; Entergy Arkansas, Inc.; Entergy Louisiana, LLC ("ELL"); and Entergy Texas, Inc.

positions in Engineering, Operations, and Customer Service during my 32 years with Entergy. In 1995 and 1996, I served as the Operations Manager for the ENO Metro Region ("Metro Region").[2] In 1997, I served as a Line Supervisor for both electric and gas crews. From 1998 to 2001, I served as Manager, Lighting, for the New Orleans metropolitan area, and from 2002 to 2007, I served as Manager, Distribution Line Reliability. In 2007, I was promoted to Director of Customer Service for ENO. In that position, I was responsible for establishing relationships with stakeholders and maintaining appropriate service levels to residential, commercial, and industrial customers in New Orleans. I also was responsible for the operation of two full-service Customer Care Centers located in Orleans Parish and for handling customer service concerns of the Council. In January 2014, my position became Director, Region Customer Service, and my responsibilities were expanded to include Distribution Operations, Engineering, and Customer Service for the Metro Region, the ELL South Region, and the ELL Southeast Region. In 2018, my position became Acting Vice President, Customer Service Louisiana.

Q5. WHAT ARE THE RESPONSIBILITIES OF YOUR PRESENT POSITION?

A. I am responsible for the operation and maintenance of the electric distribution system, the engineering design of the distribution system, and the customer service interface with large commercial customers, small industrial customers, and local government

[2] The ENO Metro Region consists of the entire electrical system serving Orleans Parish and is subdivided into three networks: East Orleans, Orleans CBD, Algiers, and Tulane.

officials. In addition, from 1995 until today, my responsibilities have included storm restoration activities.

Q6. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to respond to the Council's show cause inquiry pursuant to Council Resolution R-18-98 and to help demonstrate that ENO's efforts to operate and maintain the distribution system in New Orleans have been reasonable. To this end, I provide an overview of ENO's primary Reliability Plan and the programs encompassed in that Plan, as well as an overview of ENO's Storm Hardening Plan, that also will benefit the reliability of ENO's distribution system. Finally, I briefly discuss upcoming initiatives relating to the deployment of Advanced Metering Infrastructure ("AMI") and Grid Modernization and describe generally how technology can be used to improve distribution reliability.

Q7. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN ANY REGULATORY PROCEEDING?

A. Yes. Please see Exhibit MPS-1 for a list of previous proceedings in which I provided testimony.

Q8. WILL YOU PLEASE PROVIDE AN OVERVIEW OF THE RELIABILITY PROGRAMS THAT ENO HAS IMPLEMENTED TO HELP MAINTAIN ITS DISTRIBUTION SYSTEM?

A. Yes. ENO's Annual Reliability Plan consists of eight major reliability-focused programs: the FOCUS Program, the Backbone Program, the Internal Program, the Pole Program, the Equipment Inspection Program, the Sectionalization Program, the URD/Cable Renewal Program, and the Vegetation Management Program.

Q9. LET'S BEGIN WITH THE FOCUS PROGRAM. WHAT DOES THAT CONSIST OF?

A. The FOCUS Program uses historical outage data over the prior two-year period and a jurisdictional algorithm to identify devices (*e.g.*, breakers, reclosers, line fuses, and sectionalizers) and then prioritizes them on a quarterly basis based on the number of customer interruptions per circuit associated with those devices. The intent of the Program is to improve the reliability performance of FOCUS-identified devices, as well as to improve the overall distribution system by addressing specific outage causes through a focused inspection and mitigation program.

The FOCUS Program allows ENO to routinely monitor the reliability performance of its distribution circuits and devices. Entergy Asset Management holds a series of planning meetings each year to identify those distribution circuits and devices that warrant specific action plans in the coming year to maintain or improve their level of service reliability.

Once these distribution circuits and devices are selected, a strategic team consisting of Entergy Asset Management, Work Management, Engineering, Customer Service, Planning and Construction/Service personnel is convened to review each selected circuit and device. These sessions are used to analyze the performance of the circuits and devices and to select the right strategic methods to find and address the underlying root causes of outages.

Each feeder and device selected receives an overall evaluation by Work Management personnel to determine a higher level strategy to be used on each selected feeder and device. These evaluations include key decision points regarding the correct method or combination of methods to be used to achieve the desired reliability performance results. In some cases, it is possible to significantly improve performance through conventional approaches such as accelerated equipment maintenance or vegetation trimming. Other instances may represent potential candidates for redesign, reconstruction, or use of technology automation schemes.

The next step involves inspection and focused mitigation. Here, experienced linemen, servicemen, and design personnel conduct detailed inspections of the selected facilities. As they conduct the inspections, they are equipped to provide immediate on-site remedy to discovered problems that pose any immediate threat to reliability. Based on these inspections, these workers provide in-depth recommendations on the required improvement activities and the inspection reports are then reviewed and compiled into specific action plans for "Focused Improvements."

The specific action plans compiled from the inspection reports are then delivered to Engineering for design. Design projects are released to construction to implement the identified improvements to distribution facilities. These projects are scheduled for completion during the calendar year, although adjustments to the schedule may occur due to budget considerations. Focused improvement work may include a combination of some of the following types of work:

- Accelerated vegetation trimming;
- Installing additional sectionalizing equipment, such as fuses and reclosers;
- Installing automated sectionalizing and load restoration equipment;
- Replacing or repairing at-risk poles;
- Replacing worn or defective insulators, conductors, cross-arms, braces, and guying attachments;
- Enhancing lightning mitigation measures through increased grounding, shielding, lightning arresters, reframing arrangements, etc.;
- Installing animal deterrents and guards;
- Relocation of facilities from heavily tread or high traffic areas; and
- Reconstruction of lines in heavy vegetation areas with newer technology aerial cable.

Once the projects are completed, reliability performance of the targeted circuits will continue to be tracked to assure that the root causes have been properly identified and that appropriate and effective improvement plans are developed.

Performance improvement is measured by the improvement in System Average Interruption Frequency Index ("SAIFI") at the circuit level and percent reduction in customer interruptions on targeted strategic devices.

Q10. CAN YOU BRIEFLY DESCRIBE THE BACKBONE PROGRAM?

A. The Backbone Program differs from the FOCUS Program in two primary ways: (1) it is proactive in nature (*i.e.*, not based on historical outages) rather than reactive; and (2) it is designed to inspect and address only the portion of the circuit that has the largest potential for customer impact. Accordingly, the Backbone Program inspection is typically limited to a walk-down from the substation breaker up to and including the first protective device that has the responsibility of isolating the remainder of the circuit. The Backbone Program is designed to inspect a predetermined number of multi-customer feeders within a defined territory each year and to repair or replace equipment as necessary to eliminate or prevent breaker outages. The types of work performed in the Backbone Program are the same as those in the FOCUS Program, but the nature and purpose of each program is different.

Q11. WHAT IS THE INTERNAL PROGRAM?

A. The intent of the Internal Program is to address National Electrical Safety Code ("NESC") compliance-related projects, Entergy Service Standards compliance-related projects, and other projects that have not met reliability program criteria (excluding projects that arise due to load growth or that are associated with new or expanding

customers). Internal Program projects are typically initiated by internal parties (*i.e.*, Region Manager, Operations Manager, Line Supervisors, and Design Managers).

Q12. CAN YOU NOW DESCRIBE ENO'S POLE PROGRAM?

A. The Pole Program is a cyclical proactive inspection, treatment, and preventative maintenance program. The Program consists of a visual inspection of the complete structure, including the pole, cross-arms, insulators, etc., and full excavation with life extending treatment where possible or sounding and selective boring when full excavation is not possible. The recommended actions depend on the findings of the inspection. Poles judged to be sound receive no further action. Those that have been identified as needing additional attention are treated and in some instances reinforced. Those that are deemed beyond treatment or reinforcement are prioritized for replacement.

ENO's designers are evaluating replacement poles with an extreme wind analysis of 110 mph using the Pole Foreman software. Based on poles analyzed so far, Pole Foreman has indicated the need to install more Class 1 poles (as opposed to Class 3 poles) based on the enhanced horizontal loading as a result of the extreme wind analysis of 110 mph. ENO will attempt to install Class 1 poles where Pole Foreman recommends such poles, however, there are instances in which existing foreign utilities in the ground hinder the space needed to install a Class 1 pole. ENO will work to identify all foreign utilities in the ground where a Class 1 pole is to be installed, but notes that a Class 3 pole may be installed due to construction constraints.

Q13. WHAT DOES THE EQUIPMENT INSPECTION PROGRAM INVOLVE?

A. Through the Equipment Inspection Program, ENO performs an annual inspection of all reclosers greater than 100 amps, line capacitors, and regulators on the distribution line system. This Program also addresses and corrects any identified failures during inspection.

Q14. WHAT IS THE SECTIONALIZATION PROGRAM?

A. The Sectionalization Program identifies opportunities to reduce customer exposure and customer outage minutes through the addition of automatic isolating devices and upgrading existing sectionalizing locations. Proposals are planned, prioritized, and implemented based on their projected impact to both SAIFI and SAIDI.

Q15. WHAT IS THE URD/CABLE RENEWAL PROGRAM?

A. The URD/Cable Renewal Program focuses on ensuring that cables meet a certain performance criteria as targeted for replacement done in both segment and half-loop projects.

Q16. PLEASE DESCRIBE ENO'S VEGETATION MANAGEMENT PROGRAM.

A. ENO's distribution line vegetation management program consists primarily of a cycle based proactive element, but it also includes a reactive, customer-driven component and a selective herbicide program. The proactive trim cycles are examined annually and are determined by a number of factors, including growth rates, type and density

of side and floor vegetation, vegetation-related outage information, time since last maintenance, and reliability. Identified circuits or areas are maintained using a combination of both conventional side trimming and herbicides depending on the specific application. The reactive program consists of investigating potential problem areas that are identified by Company personnel and/or the public and determining a course of action.

Q17. IN ADDITION TO THE PRIMARY RELIABILITY PROGRAMS DESCRIBED ABOVE, DO YOU HAVE OTHER PROGRAMS IN PLACE OR CONTEMPLATED THAT ARE EXPECTED TO IMPROVE RELIABILITY?

A. Yes. In June 2016, ENO filed a Storm Hardening Plan with the Council that proposed certain programs and expenditures that would begin to assist in hardening the distribution system to allow it to better withstand the impact of major storms affecting New Orleans. Specifically, ENO's Storm Hardening Plan proposed to spend approximately $30.1 million over the 2017 to 2018 timeframe to begin hardening portions of the system. The focus of the Storm Hardening Plan was on hardening service up to "critical customers."

Q18. WHAT IS MEANT BY "CRITICAL CUSTOMERS"?

A. Generally speaking, critical customers are those customers whose services are most important in responding to a major storm event and maintaining or restoring order after such an event. Entergy recognizes the following five categories of critical or priority customers:

Priority Zero (0) – Facilities important to Entergy's restoration process (Supporting supply lines to generation units, supporting Centralized Dispatch centers, emergency response centers such as Network/Region/State Command Centers, Customer Information Centers);

Priority One (1) – Facilities that impact the risk to public safety or public health (Primary feeds to hospitals, local emergency preparedness centers, police/fire stations, major sewer/water systems, Red Cross or other potential emergency housing facilities, such as churches);

Priority Two (2) – Facilities that impact Civil Defense (Military facilities, radio/TV stations, airports, major land line and cell phone communications systems, major government facilities, oil and gas facilities that have national impact);

Priority Three (3) – Facilities that impact customers on Entergy's Medical Assistance list, including nursing homes, assisted living facilities, after-hours care facilities; and

Priority Four (4) – Facilities serving all other customers.

ENO used the information from the Critical Customer list as the primary criteria for prioritizing storm hardening work on its electrical distribution system, taking into account the number of Critical Customers served by each feeder, as well as each feeder's prioritization category. Other criteria considered for prioritizing storm hardening work included: total number of customers served by the feeder; number and location of structures identified for replacement as part of ENO's annual pole inspection program; number, location, and historical reliability performance of protective devices identified as part of ENO's tactical reliability review and inspection program; and opportunities for sectionalization of customers on a feeder through the installation of additional overcurrent protective devices.

Q19. WHAT TYPE OF WORK WAS CONTEMPLATED FOR THE $30.1 MILLION OF STORM HARDENING WORK?

A. The proposed dollars were split between five categories of work: $1.9 million for enhanced pole inspections, including excavation, with possible life extensions; $9.2 million for pole replacements; $3.0 million for circuit reconfiguration work; $5.2 million for sectionalization and automation work; and $10.8 million for targeted hardening and reliability work.

Q20. DID THE COUNCIL APPROVE ENO'S PROPOSED STORM HARDENING PLAN?

A. Yes. The Council approved ENO's proposed storm hardening plan in July 2017 and ENO has been working that plan throughout 2017 and 2018.

Q21. PLEASE EXPLAIN IN MORE DETAIL THE NATURE OF THE WORK UNDERTAKEN IN EACH OF THE STORM HARDENING WORK CATEGORIES. LET'S START WITH THE ENHANCED POLE INSPECTIONS AND POLE REPLACEMENT WORK.

A. Prior to the Council's approval of ENO's Storm Hardening Plan, ENO, through its pole inspection contractor primarily, primarily used visual inspection and sound and bore techniques to determine the need for pole repair or replacement. With the approval of this plan, ENO began using full excavation inspections, which were expected to yield and have yielded a higher reject rate than the prior visual inspection

and sound and bore technique. Based on the inspection results, poles are either treated or, as necessary, replaced.

Additionally, in connection with the plan, ENO indicated that it would evaluate pole replacements and new construction jobs using PoleForeman software, or other appropriate tools, methods, or technology, for extreme wind speeds of 110 mph (i.e., exceeding the American Society of Civil Engineers ("ASCE") 7-10 50-year mean recurrent interval ("MRI") wind speed (2% annual probability)) and to design such jobs to that standard, where feasible and cost effective. ENO also stated its intention to use Class 3 poles or larger for any pole replacements and new construction.

Examples of storm hardening include installation of stronger pole structures (Class 2 vs. Class 3), use of additional down guys and anchors, installation of stronger cross arms (fiberglass vs. wood), and improving the Basic Insulation Level ("BIL") of an installed structure.

Q22. WHAT ABOUT TARGETED STORM HARDENING RELIABILITY WORK? WHAT DOES THAT ENTAIL?

A. The Targeted Storm Hardening initiative identifies through visual inspection structures which have damaged equipment attached such as "flashed" insulators or rotting cross arms, or which do not meet current Entergy reliability standards for BIL to mitigate the effects of lightning strikes.

Under the Targeted Storm Hardening initiative, the pole would be analyzed using an extreme wind analysis target for a designed wind loading of 110 mph. This

analysis may identify additional work necessary to design and install a structure to meet these hardened requirements, such as installing additional guying and anchoring or even upgrading the strength class of the pole. While pole loading analysis results will differ from location to location and show different components to be deficient under an extreme wind analysis, ENO's intent will be to design and install a structure and attached equipment that can withstand wind speeds of 110 mph, unless due to other circumstances specific to the job such hardening is not considered feasible or cost effective.

Q23. WHAT WAS CONTEMPLATED WITH REGARD TO SECTIONALIZATION AND WORK?

A. Sectionalization involved supplementing the physical hardening of assets with the implementation of sectionalization and automation devices that can reduce the number of customers affected by storm damage to a particular piece of equipment, as well as the duration of the outage experienced by those customers.

For example, the addition of reclosers on the backbones of Distribution feeders can reduce the number of customer interruptions by sectionalizing the circuits into smaller segments with coordinated overcurrent protection and fewer customers per protective device.

Q24. WHAT DOES CIRCUIT RECONFIGURATION ENTAIL?

A. A cost-effective method of mitigating the potential impact of outages is to permanently reconfigure the overhead distribution circuits in such a way that fewer

customers are served by each feeder. This results in fewer customers being impacted by an outage of the substation feeder breaker or an equipment failure along the circuit backbone. This can be accomplished through the combination of several tactics: 1) installation of additional distribution feeder breakers at substations to provide new source options; 2) construction of new overhead circuits to provide alternate sources to adjacent facilities; and 3) installation of new "normally open" or "normally closed" line switches to provide sectionalization points for moving customers to service from an alternate source. A further benefit to this type of circuit reconfiguration is the added flexibility to manually or automatically switch customers to a temporary alternate source following an outage, thereby reducing the outage duration for those customers while repair work is being performed.

The ENO Storm Hardening Plan contemplated the addition of two new distribution feeder breakers at the Midtown substation, along with the construction of minimal spans of new overhead wire and the installation of several new line switches. This work will allow ENO to permanently shift customers from two existing feeders in the Mid-City area to service from the two new circuits from Midtown. Based on current customer counts on the feeders in the area, it is estimated that ENO could reduce customer counts from approximately 2,000 on each of the two existing feeders to approximately 1,000 each on the two existing feeders and two new Midtown feeders. This would effectively reduce the impact of a feeder outage in the area by half.

In addition to the reduction of the number of customers affected by an outage, ENO's Circuit Reconfiguration initiative includes work to reduce exposure to

potential outages by eliminating unnecessary overhead distribution equipment. There are several locations on the ENO distribution grid where "dead wire," which no longer provides power to customers, remains installed on the poles. In other locations, lateral circuits and secondary service circuits that historically were created to follow load, could now be routed more efficiently, thereby eliminating unnecessary cross arms and spans of wire by optimizing the number and locations of transformers. Through circuit reconfiguration, this extra equipment can be removed without affecting the load capacity of the primary circuits or the flexibility of the distribution system to switch load following an outage. The removal of this equipment exposure could result in a significant reduction in the frequency and duration of outages during a major weather event.

Q25. WHAT IS ENO DOING TO UTILIZE TECHNOLOGICAL ADVANCEMENTS TO IMPROVE THE RELIABILITY OF ITS DISTRIBUTION SYSTEM?

A. In mid-2017 ENO filed an application with the Council seeking approval to deploy AMI in ENO's service area and that application was approved in March 2018. AMI is the foundation of the modernized power grid and, among other benefits, will deliver significant reliability enhancements and will enable ENO to take advantage of future technological innovations to continue to improve the distribution system and the customer experience.

Q26. HOW CAN AMI HELP WITH THE RELIABILITY OF THE DISTRIBUTION SYSTEM?

A. AMI commonly includes three primary components: (1) advanced meters that enable two-way data communication; (2) a secure and reliable communications network that supports two-way data communication; and (3) related and supporting systems, including a Meter Data Management System. Those components will be integrated into the Company's information technology system. In conjunction with AMI deployment, the Company also plans to update its current Outage Management System ("OMS") and implement a new Distribution Management System ("DMS"). With the new information and connectivity available through AMI, integrating the OMS and DMS will enhance the Company's ability to identify the location and scope of outages more quickly, and will provide enhanced information for devices throughout the distribution network. This capability will enable ENO to more accurately identify outage locations, which will allow quicker and more accurate detection of service problems, improved outage and restoration communications with customers, and overall faster outage restoration.

Q27. IS ENO CONSIDERING ANY OTHER WAYS TO USE TECHNOLOGY TO ENHANCE RELIABILITY?

A. Yes. In April 2018, ENO filed its initial Grid Modernization and Smart Cities in which it committed to working with the Council to engage in a collaborative and ongoing effort focusing on the integration of various Grid Modernization and Smart

Cities technologies into the City of New Orleans' infrastructure in a manner designed to benefit the entire New Orleans community.

Q28. WHAT IS GRID MODERNIZATION AND HOW CAN IT HELP WITH THE RELIABILITY OF THE DISTRIBUTION SYSTEM?

A. Grid Modernization refers to upgrading distribution infrastructure to add new technologies and intelligent devices that facilitate safe multi-directional energy flows, automate operations, enable wireless control, facilitate operational efficiency, improve service, increase reliability and resiliency, and expand options for customers. Grid Modernization represents a fundamental change to a utility's approach on how to invest in, operate, and maintain the distribution system while monitoring and responding to the rapid pace of technological innovations and evolution of customer expectations.

In addition to serving as the necessary foundation of Smart Cities technologies, Grid Modernization projects can produce many benefits for electric utility customers, including:

- Reducing the frequency and duration of outages with automated load transfer systems;
- Reducing the number of customers affected during outages by sectionalizing distribution circuits into smaller segments;
- Improving the utility's situational awareness and outage response times through real-time monitoring and remote control of data automation and smart devices; and

- Improving resiliency and performance.

Q29. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, at this time.

AFFIDAVIT

STATE OF LOUISIANA

PARISH OF ORLEANS

NOW BEFORE ME, the undersigned authority, personally came and appeared, **Melonie P. Stewart**, who after being duly sworn by me, did depose and say:

That the above and foregoing is her sworn testimony in this proceeding and that she knows the contents thereof, that the same are true as stated, except as to matters and things, if any, stated on information and belief, and that as to those matters and things, she verily believes them to be true.

Melonie P. Stewart

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 1 DAY OF JUNE, 2018.

NOTARY PUBLIC # 32517

My commission expires: _____

JON A. MAJEWSKI
NOTARY PUBLIC, Jefferson Parish, LA
My commission is for life.

BEFORE THE

COUNCIL OF THE CITY OF NEW ORLEANS

RESOLUTION DIRECTING ENTERGY NEW ORLEANS, INC. TO INVESTIGATE AND REMEDIATE ELECTRIC SERVICE DISRUPTIONS AND COMPLAINTS AND TO ESTABLISH MINIMUM ELECTRIC RELIABILITY PERFORMANCE STANDARDS AND FINANCIAL PENALTY MECHANISMS	**)**	**DOCKET NO. UD-17-04**

EXHIBIT MPS-1

JUNE 2018

Listing of Previous Testimony Filed by Melonie P. Stewart

DATE	TYPE	JURISDICTION	DOCKET NO.
July 2008	Direct	CNO	UD-08-03
December 2008	Rebuttal	CNO	UD-08-03
October 2014	Direct	CNO	UD-14-02

BEFORE THE

COUNCIL OF THE CITY OF NEW ORLEANS

RESOLUTION DIRECTING ENTERGY NEW ORLEANS, INC. TO INVESTIGATE AND REMEDIATE ELECTRIC SERVICE DISRUPTIONS AND COMPLAINTS AND TO ESTABLISH MINIMUM ELECTRIC RELIABILITY PERFORMANCE STANDARDS AND FINANCIAL PENALTY MECHANISMS	**)**	**DOCKET NO. UD-17-04**

DIRECT TESTIMONY

OF

TAD S. PATELLA, P.E.

ON BEHALF OF

ENTERGY NEW ORLEANS, LLC

JUNE 2018

TABLE OF CONTENTS

EXHIBITS

I. INTRODUCTION AND BACKGROUND

Q1. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Tad S. Patella. My business address is 3700 Tulane Avenue, New Orleans, LA 70119.

Q2. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am currently employed by Entergy Services, Inc. ("ESI")[1] as Senior Manager, Metro Region Customer Service for New Orleans, Louisiana.

Q3. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am filing this Direct Testimony before the Council of the City of New Orleans (the "Council") on behalf of Entergy New Orleans, LLC ("ENO" or the "Company").

Q4. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I earned a Bachelor of Science degree from Louisiana State University in May 2002 and subsequently became a registered Professional Engineer in Louisiana (PE License

[1] ESI is a service company affiliate of Entergy New Orleans, LLC ("ENO," or the "Company") that provides general executive, management, advisory, administrative, human resources, accounting, finance, legal, regulatory, and engineering services. These services are provided in accordance with Service Agreements entered into by ESI and the Operating Companies, to which ESI provides services, and are approved by the Federal Energy Regulatory Commission. The Entergy Operating Companies include, in addition to ENO, Entergy Mississippi, Inc.; Entergy Arkansas, Inc.; Entergy Louisiana, LLC; and Entergy Texas, Inc.

#33632). I have been a member of the Institute of Electrical and Electronics Engineers ("IEEE") since 2002.

I began work with the Entergy organization shortly after graduating from LSU in 2002 and, as discussed in more detail below, have held various positions of increasing responsibility within the Entergy organization over the last 16 years. I was promoted to my current position in March 2016, where I am responsible for overseeing all aspects of safely delivering reliable electric service and excellent customer service to customers in Orleans Parish. This includes responsibility for field engineering, design, customer service, storm restoration, and overseeing the execution of the distribution system reliability programs.

Prior to my current position, I was Supervisor of Region Engineering for ESI from January 2014 to March 2016, where I had responsibility for field engineering, design, customer service, storm restoration, and execution of distribution system reliability programs. In that position, I oversaw completion of numerous major projects, including, among others, the provision of electric service to the University Medical Center and the Veterans Administration Hospitals.

From October 2010 to January 2014, I held the position of Staff Engineer for Distribution Planning for ESI and maintained oversight of the Distribution Planning Guidelines and Timeline necessary to ensure that consistent planning criteria are utilized for the identification and justification of distribution projects needed to maintain and improve the reliability of the distribution system and I provided technical support to distribution planning, operations, reliability and design personnel.

From January 2007 to October 2010, I was Lead Engineer for Distribution Planning for Entergy Louisiana, Inc. and was responsible for distribution system planning for the East Bank of Jefferson Parish. My duties in that position included modeling distribution assets and identifying projects associated with load, voltage imbalance, power factor, power quality, reliability and contingency events.

From January 2005 to January 2007, as a Six Sigma Black Belt, I led the Entergy's Continuous Improvement effort within the Transmission organization using Six Sigma methodology to focus on strategic data-driven process improvement opportunities identified by management.

From June 2002 to December 2004, I was Power Equipment Engineer for ESI and provided technical knowledge of applicable Entergy and industry standards for substation equipment and served in a support role for the entire transmission system consisting of over 1,000 substations.

Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to the show cause portion of Council Resolution R-18-98 and to help demonstrate that ENO's distribution reliability programs are reasonable and that the measures that it has taken to address recent reliability challenges are reasonable.

Q6. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN ANY REGULATORY PROCEEDING?

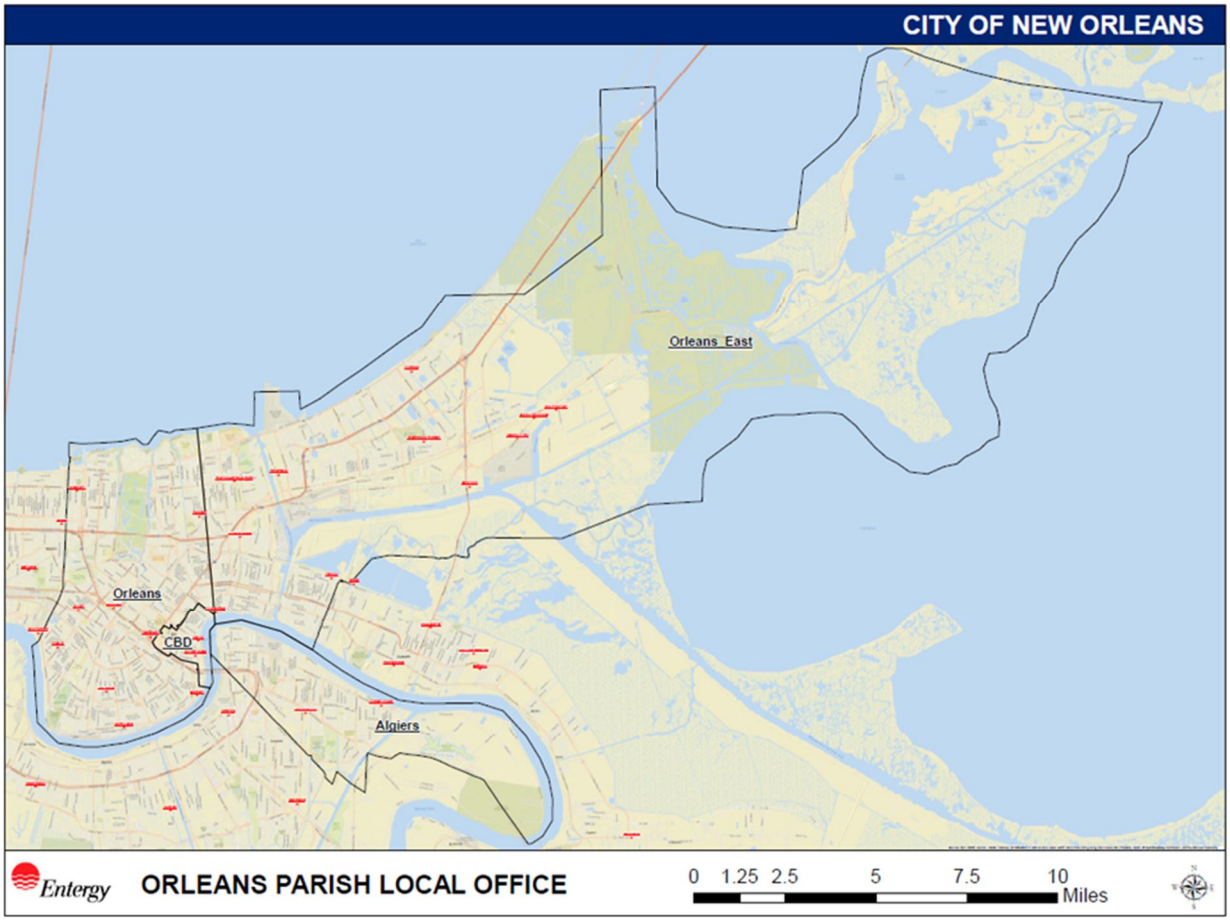
A. No, this is the first time that I am submitting testimony in any regulatory proceeding before the Council or any Public Service Commission.

II. OVERVIEW OF THE ENO DISTRIBUTION SYSTEM AND THE CUSTOMER SERVICE ORGANIZATION

Q7. PLEASE PROVIDE A BRIEF DESCRIPTION OF ENO'S DISTRIBUTION SYSTEM?

A. ENO's distribution system begins at the substations, where power is transformed from transmission-level voltage into distribution-level voltage, suitable for delivering power directly to residential, and most commercial, governmental and industrial customers. However, some of ENO's largest commercial, governmental, and industrial customers are connected directly to the Company's transmission system. ENO's electric distribution system operates between 13,200 volts (13.2 kV) and 34,500 volts (34.5 kV) and serves over 200,000 customers. There are twenty ENO substations that supply power to over 200 distribution circuits, consisting of approximately 1,800 distribution circuit miles, of which approximately 1,200 are overhead circuit miles, and approximately 600 are underground circuit miles.

ENO is geographically divided into four networks, New Orleans East, Algiers, Central Business District ("CBD"), and Orleans. These four networks comprise the New Orleans Metro Region and their respective geographical boundaries are depicted in the map in Figure 1 below:



Q8. WHAT ARE THE PRIMARY RESPONSIBILITIES OF ENO'S CUSTOMER SERVICE ORGANIZATION?

A. The ENO Customer Service Organization is responsible for operating, designing, constructing, and maintaining the electric distribution system that provides power and energy to homes, offices, businesses, industrial establishments, and governmental entities in ENO's service area. The Customer Service Organization can be divided into three ongoing core business areas: (i) engineering; (ii) operations, maintenance, and construction; and (iii) customer support. The Customer Service organization utilizes the work of over 100 employees, including engineers; engineering associates;

construction and maintenance mechanics; operators; region, line and construction supervisors; drafters; storekeepers; customer service representatives; administrative assistants; and various others. These employees provide support for ENO in the areas of engineering, design, operations, accounting, customer service, and other miscellaneous areas.

Q9. WHAT ACTIVITIES ARE CONDUCTED BY THE ENGINEERING CORE BUSINESS AREA?

A. The engineering group designs projects to serve new customers, replace aging infrastructure, improve reliability, and serve area load growth. They use ENO's design and construction standards, which comply with all National Electric Safety Code ("NESC") standards and are in accord with other recognized industry standards.

Q10. PLEASE DESCRIBE THE ACTIVITIES UNDERTAKEN BY THE OPERATIONS, MAINTENANCE, AND CONSTRUCTION GROUP.

A. The electric distribution system consists of an electric grid that supplies electric energy and power to ENO's customers. The operations group monitors the distribution system load and voltage levels to ensure there is adequate capacity to meet customer needs. In addition, the operations group handles routine and emergency routing of personnel to work to maintain a continuous supply of electricity to customers and to address outages as quickly as reasonably possible when they do occur.

The electric distribution system also requires continuous upkeep to preserve its integrity and its ability to provide reliable service to customers. These maintenance activities are both preventive and reactive. Examples of preventive maintenance are equipment inspections and introducing new maintenance practices to enhance the overall operation and reliability of the distribution system. Reactive repairs and upkeep are required when service is interrupted due to wind, lightning, or other types of damage.

Finally, the purpose of the distribution system is to deliver a safe and reliable supply of electricity to customers at a reasonable cost. In order to accommodate new customers, ENO must add facilities to serve them. These additions, both major and minor, require constructing distribution line extensions or increasing the capacity of existing facilities. The construction of new or enhanced distribution lines is part of ENO's obligation to provide safe and reliable electric service at a reasonable cost, and on a non-discriminatory basis, to all current and prospective customers.

Q11. FINALLY, PLEASE DESCRIBE THE ACTIVITIES WITHIN THE CUSTOMER SUPPORT AREA.

A. The purpose of the customer support activities are to proactively provide information to customers, to address issues that cannot be handled by the Customer Contact Centers, and to be a point of contact for local government officials and their staff for ENO-related questions.

III. DISTRIBUTION RELIABILITY EFFORTS AND RESULTS

Q12. HOW DOES THE COMPANY WORK TO ENSURE THAT ITS CUSTOMERS RECEIVE QUALITY RELIABLE ELECTRIC SERVICE?

A. In simple terms, ENO's Customer Service organization strives to: (1) meet construction and service delivery commitments to customers; (2) minimize the frequency of outages; and (3) restore service as quickly as reasonably possible following necessary or unavoidable interruptions in customers' service. Outage frequency and duration are the two main components of the broader area that the utility industry generally refers to as a measure of "reliability" with respect to the distribution system. In addition, to these three operational components, the Company's communications with the customer through call centers, outage notifications and updates, and direct contact are also vital service quality components.

Q13. HOW DOES THE COMPANY ADDRESS RELIABILITY?

A. The Company continuously strives for improvement in the delivery of outstanding service to customers. Within the maintenance and construction areas I describe above, the Company utilizes a number of primary reliability programs to maintain and improve reliability of the electric service delivered to customers. Additionally, in 2017 and 2018, ENO implemented certain "storm hardening" initiatives to enable the distribution system to better withstand the impact of tropical storms and hurricanes. The goal of those efforts is to minimize both the frequency and duration of outages experienced by customers, both on a day-to-day basis and in the event of major storms.

Q14. PLEASE DESCRIBE THE COMPANY'S RECENT RELIABILITY EFFORTS.

A. ENO witness, Melonie Stewart, provides in her Direct Testimony a detailed description of the various reliability programs that are regularly used to maintain and improve reliability in the Metro Region and that are part of the Reliability Plan that ENO filed with the Council in November 2017. See ENO Reliability Plan, attached hereto as Exhibit TSP-1.[2] Ms. Stewart also describes in more detail the storm hardening initiatives referenced above that have been implemented in 2017 and are continuing in 2018. See ENO Storm Hardening Plan, attached hereto as Exhibit TSP-2. Finally, Ms. Stewart provides a brief description of exciting new initiatives such as advanced meter infrastructure deployment and grid modernization projects that are expected to be implemented in the near future and that offer significant future reliability benefits in terms of both reduced customer interruptions and reduced restoration times when interruptions do occur.

Q15. IS IT TYPICAL FOR AN ELECTRIC DISTRIBUTION SYSTEM TO EXPERIENCE PERIODIC CUSTOMER OUTAGES?

A. Unfortunately, yes. Although distribution reliability is a paramount goal for my team and I would prefer it if not one single ENO customer experienced an outage throughout the year, the reality is that all utilities experience outages on their distribution grids for various reasons. For all electric utilities, maintaining a high-

[2] Pursuant to Council Resolution R-18-98, ENO is currently working on a revised Reliability Plan that is expected to be filed with the Council in early July 2018.

level of reliability requires analysis, planning, design, flexibility, execution, and a commitment to address situations that jeopardize customer reliability. Nevertheless, despite the fact that all utilities strive to prevent outages, sometimes power outages are simply unavoidable. Supplying power depends on an interconnected network of generation, transmission and distribution systems that contain millions of pieces of equipment to get power to homes and businesses. Inevitably, from time to time, components of the interconnected network will fail for a variety of reasons (condition, vegetation, animals, public inflicted damage, etc.), and when this happens on the distribution grid, the result is typically a distribution outages.

Q16. WHAT TYPE OF EVENTS CAN CAUSE OUTAGES ON THE DISTRIBUTION SYSTEM, AND CAN DISTRIBUTION OUTAGES OCCUR ON FAIR-WEATHER DAYS?

A. Most unplanned customer interruptions can be traced to animal intrusion, vegetation, lightning, other weather factors, vehicle accidents, damaged or failed equipment, or human error. (See Exhibit TSP-3, entitled "NO Outage Cause Analysis - 2013 – Mar 31 2018," which contains numerous tabs with extensive and detailed data relating to outages in recent years.) These causes can manifest in weather events involving wind, rain and lightning, but can also occur on fair-weather days as well. For example, on a fair weather day, it is still possible for animals to come into contact with electrical equipment and cause outages or for a vehicle to strike an ENO pole resulting in power outages to an entire neighborhood. Or on a day that is fair, but windy, a cross arm that has been weakened by age or long-term exposure to weather

may finally give way, resulting in outages. Or a child's metallic balloon can come in contact with an overhead distribution wire causing a short and resulting in an outage. Even on days when it is neither windy nor raining, the extreme heat and humidity that often descends on New Orleans can place an increased level of stress on equipment, leading to more equipment failures than would otherwise be the case in more moderate climates. In that example, even though the sun may be shining without a cloud in the sky, the temperature may be a significant factor in an outage. In short, in the same way that your water pump can suddenly go out on your car, or your dishwasher can stop working without warning, the electrical equipment that is the lifeline of the distribution system and that is needed to maintain continuous electrical service to customers can simply fail, suddenly and without warning. It could be due to age, or to a defective part, or to an outside force such as wind, a tree, a car an animal, or any number of other intrusions.

Q17. WHAT PERFORMANCE METRICS ARE USED TO TRACK A UTILITY'S DISTRIBUTION RELIABILITY PERFORMANCE?

A. ENO, like most utilities, uses industry standard electric service reliability indices to monitor its annual performance. First, the System Average Interruption Frequency Index ("SAIFI") is used to measure the number of outages or interruptions per customer per year. Most electric utilities use this measurement in reviewing the reliability of their electrical system, excluding major outage events that cause interruptions to a significant portion of their customer base. SAIFI is calculated by adding up the number of customers experiencing a sustained outage of 60 seconds or

longer during the reporting period then dividing it by the average annual number of electric customers.

Second, the System Average Interruption Duration Index ("SAIDI") measures the number of outage minutes per customer per year. Again, most utilities use this measurement in reviewing the reliability of their electrical system, excluding outage events that cause interruptions to a significant portion of their customer base due to extreme weather or unusual events. SAIDI is calculated by adding up the outage minutes of all the customers that have been without power and then dividing by the average annual number of electric customers.

SAIDI is similar to SAIFI, but SAIDI measures the duration of customer interruptions while SAIFI measures the number of customer interruptions.

Q18. YOU MENTIONED THAT MOST UTILITIES USE THESE INDICES AS A MEASUREMENT IN REVIEWING THE RELIABILITY OF THEIR SYSTEM, BUT ARE THE RESULTS OF SUCH INDICES DIRECTLY COMPARABLE BETWEEN UTILITIES?

A. Not exactly. One might expect reliability to vary because of regional differences in climate, vegetation, and population. Moreover, ENO's service territory consists almost entirely of an urban environment with a beautiful urban canopy, whereas other jurisdictions tend to be larger geographically and include areas that are more rural. In addition, the differences among utilities with respect to reliability are even less comparable due to the recognition that utility practices in collecting and reporting these reliability metrics vary from utility to utility.

With that being said, however, the Company also believes that it should be aware of how other utilities are performing and how it roughly stacks up to those utilities, as benchmarking can create an important vehicle to perform critical self-assessment and ultimately remedy any significant dips in distribution reliability that may occur.

Q19. HISTORICALLY, HOW HAS ENO PERFORMED WITH RESPECT TO ITS SAIDI AND SAIFI SCORES AND HOW HAS THAT COMPARED TO OTHER UTILITIES?

A. If we look back at SAIFI and SAIDI over the last five years, we see that in 2013, ENO's SAIFI was at a very respectable 1.04 and SAIDI was at reasonably low 92 minutes. SAIFI then creeped up slightly to 1.209 in 2014 and to 1.234 in 2015. With respect to ENO's SAIDI, it also increased somewhat relative to 2013 and was 121.3 in 2014 and 128 in 2015. These numbers placed ENO generally in the second or third quartile among U.S. utilities. In 2016, ENO's customer outages began increasing more significantly, and despite ENO's efforts, significant outages continued to occur in 2017. Accordingly, as discussed more fully below, ENO's SAIFI and SAIDI scores suffered as a result. Detailed SAIFI and SAIDI results by feeder for 2015, 2016 and 2017 are contained in the spreadsheet attached hereto as Exhibit TSP-4 and entitled "2015 2016 and 2017 SAIFI SAIDI by Feeder."

Q20. PLEASE PROVIDE ENO'S SAIDI AND SAIFI SCORES OVER THE PAST TWO YEARS, 2016 AND 2017, AND EXPLAIN HOW THOSE FIGURES ROUGHLY COMPARE TO OTHER U.S. UTILITIES?

A. Table 1 provides a breakdown of ENO's SAIDI and SAIFI metrics for the past five years:

Table 1:

ENO'S SAIDI AND SAIFI (2013-2017)					
	2013	**2014**	**2015**	**2016**	**2017**
SAIDI	92	121.3	128	167.9	179.8
SAIFI	1.04	1.209	1.234	1.61	1.584

As one can see from the table, in 2017, ENO's SAIFI for its distribution system was 1.584, down slightly from a SAIFI of 1.61 in 2016. See Exhibit TSP-3, New Orleans Outage Cause Analysis, 2013 through March 2018, Storms and SAIDI & SAIFI Tab. ENO's SAIDI for 2017 was 179.8 minutes, up slightly from 167.9 minutes in 2016. See Exhibit TSP-3, New Orleans Outage Cause Analysis, 2013 through March 2018, Storms and SAIDI & SAIFI Tab. Unfortunately, these scores placed ENO in the fourth quartile among U.S. utilities for those years.

Q21. WHY WERE 2016 AND 2017 DIFFICULT FROM A RELIABILITY STANDPOINT COMPARED TO THE PRECEDING THREE YEARS?

A. It is often difficult to determine the exact the reason that a SAIFI or SAIDI score in a particular year goes up or down in relation to the prior year. There are many, many factors that can affect SAIFI and SAIDI and, in some cases, one or a handful of

outage events or unforeseeable problems with one or more feeders can hide the progress made in other areas.

If we look back at ENO's SAIFI and SAIDI results over the last five years, we see that the metrics in 2013 through 2015 were respectable. However, as noted, ENO's SAIFI and SAIDI results increased sharply in the past two years. Again, it is difficult to pinpoint the primary cause of such fluctuations with certainty, but a look at the comparative weather data for those years seems to provide at least a partial explanation. Both 2016 and 2017 were significantly hotter and wetter than the average of the preceding years. See Exhibit TSP-3, Tab 6. For example, the number of days in which the temperature reached 90 degrees or above in 2016 was approximately 46% higher than the average for 2013 through 2015. Similarly, the average rainfall for 2015 through 2017 was approximately 20% higher than the average of the five previous years. Finally, lightning data that ENO receives from its subscription to the Fault Analysis and Lightning Location System ("FALLS") service shows that ENO's service area experienced approximately 149,000 lightning strikes in 2016 and 101,000 lightning strikes in 2017. This represents an increase of 141 percent and 65 percent, respectively, over the approximately 62,000 strikes experienced in 2015. Although each lightning strike does not result in damaged equipment or a customer outage, this data nevertheless provides additional evidence of the intensity of the storms experienced in these years. Generally speaking, the more extreme the weather, the more stress is placed on the distribution system and the more likely SAIFI and SAIDI results will be adversely affected.

Q22. WHY WOULD FACTORS LIKE THE TEMPERATURE OR RAINFALL HAVE AN EFFECT ON SAIFI AND/OR SAIDI RESULTS?

A. Although the electric grid in New Orleans is constantly in use, the demand on the grid in the summer is much higher than in other seasons. As temperatures increase, electrical equipment can become relatively more susceptible to failure. Equipment and conductor failure account for a significant portion of ENO's outages. In 2016 when temperatures reached 90 degrees or above 46% more than the average of 2013 through 2015, outages as a result of equipment failure and conductor failure rose by about 25% as compared to an average of the three preceding years. Similarly, an increase in the number and intensity of storms can also lead to more outages due to wind, vegetation, and lighting strikes. Storm events can lead to pole failures, trees that break and fall into lines, loose conductor connections, and lightning strikes to various electrical equipment. As noted above, the average rainfall for 2015 through 2017 was approximately 20% higher than the average of the five previous years. Additionally, the average number of outages for years 2015 through 2017 directly attributable to storms increased 660% from the average number of storm-related outages for years 2013 and 2014 directly attributable to storms. Similarly, the average number of outages for years 2015 through 2017 directly attributable to lightning strikes increased approximately 43% from the average number of outages for years 2013 and 2014 directly attributable to lightning strikes.

In summary, and to reiterate, while it is often difficult to determine the exact the reason that a SAIFI or SAIDI score in a particular year goes up or down in

relation to the prior year, environmental factors like increased heat or storms can affect those statistics.

Q23. IS ENO A SAIFI OF 1.584 AND A SAIDI OF 179.8 MINUTES FOR 2017 ACCEPTABLE FOR ENO?

A. In short, no. Candidly, both 2017 and 2016 were difficult years in terms of reliability for ENO and for some of its customers, despite the efforts undertaken to address the increase in outages experienced in the last two years. See Exhibit TSP-5, a spreadsheet entitled "ENO Actual Spending Analysis 2016 thru 5_31_18," which provides detailed spending on projects worked through the ENO's primary Reliability Program, its 2016 reliability blitz, and its Storm Hardening Plan. Although, as I mentioned previously, periodic outages are inevitable in any distribution system and ENO will most likely never be completely satisfied with its reliability results. Although ENO recognizes that it is simply impossible to serve over 200,000 customers at a reasonable cost and maintain 100% reliability, especially in a region with the intense heat and storm patterns of New Orleans, our management, engineers and lineman nevertheless take customer reliability very seriously and are always looking for ways to reduce customer interruptions and to decrease the duration of outages when they do occur. As discussed more fully below and in the testimony of Ms. Stewart, the Company has undertaken substantial efforts to remedy the recent spike and looks forward to improving its future reliability performance on behalf of all of its stakeholders.

Q24. HOW DID ENO RESPOND TO THE INCREASE IN OUTAGES BEGINNING IN 2016?

A. When outages began to increase in the first half of 2016, ENO made the decision to conduct what it has referred to as a "reliability blitz." The reliability blitz entailed bringing in a number of outside contractor crews to assist in executing targeted reliability projects involving approximately $10 million of incremental investment in the distribution system over the last half of 2016. To provide an example of the type and extensiveness of the work done in this initiative, I have attached as Exhibit TSP-6, the documentation contained in the job jacket for just one of the many reliability blitz projects. There are over 200 pages of documentation supporting this work and reflecting the inspection that took place and detailed work performed on the 75 different facility "points" or locations (e.g., one pole is considered a "point") worked in this one job. This incremental reliability investment, combined with approximately $30 million of storm hardening work over 2017 and 2018, and ENO's regular work under its annual Reliability Plan, should begin to show a positive effect on ENO's SAIFI and SAIDI results in 2018 and beyond. That said, it is worth noting that ENO's 2017 SAIDI of 179.8 minutes nevertheless represents an average customer reliability of approximately 99.97%,[3] compared to an average customer reliability of 99.98% for the 2013 SAIDI of 92 minutes.

[3] One year contains 525,600 minutes.

Q25. CAN ENO DETERMINE IF THE WORK PERFORMED DURING THE RELIABILITY BLITZ HAS HAD A POSITIVE EFFECT ON RELIABILITY?

A. Yes. By focusing on the feeders that were worked during the reliability blitz, and comparing the customer interruptions before the blitz to the customer interruptions on those feeders after the blitz, we can get a reasonable idea of the effectiveness of that work. The spreadsheet headed "2016 Reliability Devices 2017 CIs [Customer Interruptions] Avoided" and attached hereto as Exhibit TSP-7. That spreadsheet shows that the work performed on 52 devices during the 2016 reliability blitz resulted in an estimated 46,998 net customer interruptions avoided, or an approximately 63% reduction in customer interruptions associated with those devices.

Q26. ARE YOUR RELIABILITY PROGRAMS SIMILAR TO THOSE USED BY OTHERS IN THE INDUSTRY?

A. Generally speaking, yes. ENO participates in certain industry groups and is therefore able to discuss and compare its distribution reliability practices with others in the industry. Accordingly, ENO is confident that its practices are generally in line with industry practices. Moreover, in responding to a Council inquiry in the aftermath of Hurricane Isaac in September 2012, Quanta Technology ("Quanta") conducted an independent review of our storm response and in so doing also reviewed our distribution system maintenance practices. See Exhibit TSP-8, "Reliability Study of the Electric System in Orleans Parish," by Quanta Technology ("Quanta Report"). Quanta concluded that "[o]verall, the Companies' distribution maintenance practices are consistent with the industry," further noting that the "improvement of targeted

feeders that do not meet reliability standards is a well-accepted approach to continued system reliability." See Exhibit TSP-8, Quanta Report, at p. 7. Additionally, Quanta concluded that ENO's tree trimming practices and trimming cycle exceed that of the industry.

IV. CONCLUSION

Q27. BASED ON YOUR EXPERIENCE AS A DISTRIBUTION ENGINEER AND SENIOR MANAGER WITH RESPONSIBILITIES OVER DISTRIBUTION OPERATIONS, DO YOU BELIEVE THAT ENO HAS ACTED REASONABLY IN MANAGING THE RELIABILITY OF ITS DISTRIBUTION SYSTEM AND IN ADDRESSING THE INCREASE IN OUTAGES EXPERIENCED OVER THE PAST TWO YEARS?

A. Yes. Again, it is common for every utility across the United States to experience outage issues with respect to the distribution grid. Although not directly comparable, as discussed above, ENO has stacked-up reasonably well to other U.S. utilities with respect to its SAIDI and SAIFI scores from 2013 through 2015. Beginning in 2016, however, the area began to experience significantly hotter temperatures with increased rainfall and more frequent and severe storms. These considerations very likely played a role in increasing ENO's scores over the past two years. Once ENO began to see the increase, it reacted by implementing robust incremental reliability work to mitigate the outages being experienced. To summarize, ENO did not sit on its hands or otherwise ignore the problem: the Company noticed a problem, dedicated the resources to address that problem, and is beginning to see some results. ENO's

actions in this regard were reasonable. ENO will continue to work to improve distribution reliability for its customers and seek to decrease the frequency of outages and to decrease the duration of any outages that do occur.

Q28. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, at this time.

AFFIDAVIT

STATE OF LOUISIANA

PARISH OF ORLEANS

NOW BEFORE ME, the undersigned authority, personally came and appeared, **Tad S. Patella**, who after being duly sworn by me, did depose and say:

That the above and foregoing is his sworn testimony in this proceeding and that he knows the contents thereof, that the same are true as stated, except as to matters and things, if any, stated on information and belief, and that as to those matters and things, he verily believes them to be true.

Tad S. Patella

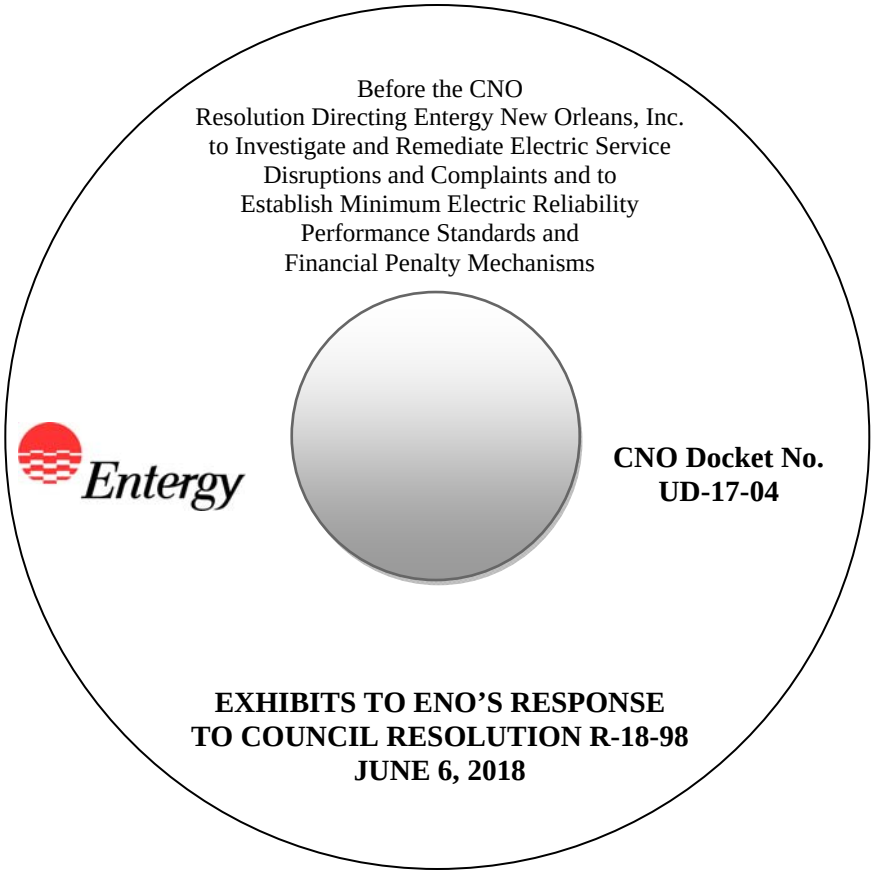
SWORN TO AND SUBSCRIBED BEFORE ME
THIS 5TH DAY OF JUNE, 2018.

NOTARY PUBLIC

My commission expires: at death

TIMOTHY S. CRAGIN
LA. BAR # 22313
NOTARY I.D. 58749
PARISH OF ORLEANS
STATEWIDE JURISDICTION
639 LOYOLA AVE., STE L-26-E
NEW ORLEANS, LA 70113

Before the CNO
Resolution Directing Entergy New Orleans, Inc.
to Investigate and Remediate Electric Service
Disruptions and Complaints and to
Establish Minimum Electric Reliability
Performance Standards and
Financial Penalty Mechanisms



CNO Docket No.
UD-17-04

EXHIBITS TO ENO'S RESPONSE TO COUNCIL RESOLUTION R-18-98 JUNE 6, 2018