Environmental Services Mission

The Environmental Services department is a central resource for CenterPoint Energy's businesses. Its goal is to proactively and effectively manage and mitigate environmental risk through the following processes:

- Strategically partner with business unit leadership,
- Develop compliance strategies aligned with business unit operations and goals,
- Manage emerging environmental issues, regulations and legislation that may impact business operations,
- Develop risk mitigation strategies, as appropriate,
- Cultivate a culture of responsible environmental stewardship, and
- Engage employees and become a strategic environmental partner with communities we serve.

The Environmental Services department establishes and maintains a common framework of guidelines that apply to our assets operated by CenterPoint Energy. The management approach is evaluated annually and considers tools and factors, such as internal audits, changes in the regulatory and legislative landscapes, impacts to environmental indicators, changes in stakeholder priorities and related issues. Adjustments to the management approach may be made from time to time, as approved by the company's environmental officer.
Greenhouse Gas Emissions

CenterPoint Energy has made investments and implemented controls to reduce greenhouse gas (GHG) emissions from our operations. While being aware of new technology to increase efficiency for the company and our customers, GHG emissions are generated from the company’s natural gas distribution and storage business and, to a lesser extent, from the electric transmission and distribution business and fleet operations. CenterPoint Energy does not generate electricity, nor do we own or operate natural gas production facilities. Not having electric generation or natural gas production assets reduces environmental risk and the overall level of GHG emissions relative to many industry peers.

Our Approach

CenterPoint Energy is committed to conducting operations in an environmentally responsible manner. We are addressing GHG emissions by:

- Working to reduce our operational emissions
- Building natural gas infrastructure that enables use of cleaner-burning natural gas
- Holding our customers using the energy we provide efficiently, etc.
- Participating in external research and development programs to improve operational efficiency.

In 2016 our Scope 1 emissions were approximately 18.4 million metric tons (metric tons) of carbon dioxide equivalent (CO₂e). This represents a decrease of 14.7 percent from 2014.

Methane Emissions

Methane is the largest component of CenterPoint Energy’s Scope 1 GHG emissions. Methane emissions have been reduced by 14.8 percent from 2014 to 2016. The reduction is primarily from investing in infrastructure and implementing operating practices that result in avoided or reduced fugitive emissions.

Greenhouse Gas Emissions Summary

<table>
<thead>
<tr>
<th></th>
<th>mtons CO₂e</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>22,131,604</td>
</tr>
<tr>
<td>2015</td>
<td>20,076,353</td>
</tr>
<tr>
<td>2016</td>
<td>18,386,895</td>
</tr>
</tbody>
</table>

- Natural Gas Throughput (Subpart NN)
- Estimated Fugitive Natural Gas Emissions (Subpart W)
- Operations Emissions (Fleet)
- Fugitive Emissions (SF6)
Environmental: Greenhouse Gas Emissions

The Environmental Protection Agency (EPA) made substantial updates to its estimates of methane emissions in its Inventory of U.S. Greenhouse Gases and Sinks, 1990-2015, released in 2017. The inventory now incorporates new data available from studies on emissions, as well as its Greenhouse Gas Reporting Program.

The inventory reveals once again that natural gas distribution systems have a small emissions footprint shaped by a declining trend. Less than 0.1 percent of produced natural gas is emitted from distribution systems owned and operated by local natural gas utilities. Annual emissions from these systems declined 75 percent from 1990 to 2015 even as natural gas utility companies added nearly 600,000 miles of pipeline to serve 19 million more customers.

This exceptional record can be traced to safety as the top priority for gas utilities that continue to be vigilant and deeply committed to systematically upgrading infrastructure through risk-based integrity management programs. As companies and the country continue to modernize the natural gas infrastructure base and connect homes and businesses, there will be new opportunities to achieve low-cost carbon emissions reductions by leveraging this existing infrastructure and the nation’s natural gas resource.

Key Findings
- Annual methane emissions from natural gas distribution systems declined 75 percent from 1990 to 2015.
- The natural gas emissions rate of production from distribution systems is now less than 0.1 percent.
- The ratio of methane emissions per unit of natural gas produced has declined continuously during the past two and a half decades, dropping 46 percent since 1990.
- Total methane emissions from all natural gas systems have declined 16 percent from 1990 to 2015.
- Methane emissions economy-wide represent 10 percent of all greenhouse gas emissions in the United States. Along with natural gas systems, methane emission sources include enteric fermentation and manure management (livestock), landfills, coal mining petroleum systems, wastewater treatment and others.

Pipeline Replacement Lower Emissions

<table>
<thead>
<tr>
<th>Series 1</th>
<th>Series 2</th>
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</thead>
<tbody>
<tr>
<td>1990</td>
<td>2005</td>
</tr>
<tr>
<td>2011</td>
<td>2012</td>
</tr>
<tr>
<td>2013</td>
<td>2014</td>
</tr>
<tr>
<td>2015</td>
<td>2016</td>
</tr>
</tbody>
</table>

Participation in Methane Research
• CenterPoint Energy, along with other AGA member companies, participated in and
  completed three methane studies within the past five years. These studies were
done in conjunction with the Environmental Defense Fund and the Department of Energy,
as well as with support from various universities, including Washington State University,
Colorado State University and Converse School of Mines.
• In the fall of 2017, CenterPoint Energy, along with other AGA member companies,
  continued the Gas Technology Institute's portion of a new methane study to address
  the large uncertainties surrounding the estimate of methane emissions from natural
gas distribution systems. We believe this study will improve the characterizations of
  the emissions from industrial meters in the natural gas distribution system entrance
  significant differences between vintage and new pipeline, new, and gather data
  comparing pipelines with and without plastic.

Pipe Replacement: EPA Natural Gas Methane Challenge Program
As part of our efforts to reduce methane emissions, the company's natural gas
operations business joined the EPA Natural Gas Methane Challenge Program as a founding
partner in March 2016. Partner companies have committed to replacing or rehabilitating cast
and unprotected steel natural gas mains, as well as reducing methane emissions from
natural gas pipeline blowdowns. Reducing methane emissions lowers operational
risk, increases efficiency and improves reliability.
CenterPoint Energy's plan includes replacement of cast-iron and unprotected steel natural
gas mains at a 5 percent annual rate, along with achieving full cast iron replacement by
year-end 2019 and unprotected steel mains replacement by year-end 2022.
Since joining the program, CenterPoint Energy has replaced more than 566 miles of cast
iron natural gas pipe. We anticipate achieving full replacement by the end of 2018.
In addition, we expect to replace more than 227 miles of unprotected steel mains by
year-end 2018. We continue to achieve our committed annual replacement rate. This program
is an important component of our operational strategy, as well as our commitment to
safety and reliability.

Emissions Avoidance and Reduction: EPA Natural Gas STAR Program
The EPA Natural Gas STAR Program provides a framework for partner companies
with U.S. on-line and natural gas operations to install methane reducing technologies
and processes, as well as to document their voluntary emission reduction activities.
CenterPoint Energy joined the program in 1997 and submits its reports annually.
Environmental: Greenhouse Gas Emissions

Since 2009, during the EPA Natural Gas STAR Program, CenterPoint Energy's natural gas operations in Minnesota have achieved cumulative methane emissions reductions of more than 352,270 million cubic feet. This was accomplished through best-management practices including leak detection and repair; implementing new equipment; installing slow-down gas into low-pressure mains; and identifying and repairing high-bled pneumatic devices.

**Sulfur Hexafluoride (SF6) Emissions**

Since 1999, CenterPoint Energy's electric operations have been very minor in SF6 emission abatement efforts, although our participation in the U.S. SF6 Emissions Reduction Program and Electric Power Systems Council's 2016 SF6 emission reduction goal is 19 percent, which is the national average. We have achieved this rate through effective cost at central control ribbon management, handling and redeployment of SF6 and SF6 containing equipment. This approach has allowed us to identify and address areas of potential SF6 leaks in further reduce emission levels.

**Fleet Operations**

CenterPoint Energy's fleet consists of approximately 8,000 vehicles, including small cars, light pick-up trucks, service body vehicles, and many bucket trucks, excavators, and machinists in the specialized category. In 2014, our vehicles were equipped with technology to reduce fuel idle costs and to improve route optimization. The technology has improved driving and reducing overall fuel consumption by 14 percent.

**Green Balance**

Green Balance is a carbon-neutral gas purchase program that applies Green Credits to customers’ natural gas sales for the purchase of carbon credits. By purchasing carbon credits that offset the carbon emissions from natural gas sales, CenterPoint Energy is able to maintain a carbon management system that operates solely on battery power while the vehicle’s main engine is shut down.

We continue to seek new and innovative solutions to lower our footprint, which in turn, will improve the environment through a reduced carbon footprint.

**HELPING CUSTOMERS REDUCE CARBON EMISSIONS**

**CES and “Green Gas”**

To help innovative technology and a strong customer base, CES is using a product from Indigo to serve customers and benefit the environment. As part of its natural gas sales and supply strategy, CES purchased “green gas,” also known as Renewable Natural Gas (RNG), from Indigo in the United States. Green gas is methane collected from landfill gas, which can avoid deforestation and organic matter into a gaseous state. CES then sells the gas to specific customers to meet their supply needs and environmental requirements. CES also sells a monetary credit for the valuable RNG provided in reducing emissions as a transportation fuel.

RNG is commonly used as “replacement fuel” in vehicles, such as compressed natural gas (CNG) or LNG. In 2014, CES structured a transportation fuel RNG deal through a long-standing relationship with Memphis Light, Gas and Water (MLGW). The arrangement involves converting green gas to the utility’s CNG stations and LNG tanks for delivery to customers. One of these customers is United Parcel Service (UPS), which uses the RNG to fuel its fleet of trucks. The contract with MLGW is one of the more UPS contracts that have been named. CES has since purchased landfill gas in Louisiana for more than 15 years.

Since 2014, we have been delivering LNG to UPS from Brainerd, Minnesota, and a plant located in Houston.

**Green Balancing**

Green Balance is a carbon-neutral gas purchasing program that applies Green Credits to customers’ natural gas sales. A gas sale is balanced in order to offset the amount of carbon dioxide emissions that will be emitted at the gas combustion site. CES purchases Green Credits to offset the carbon emissions created when a customer consumes natural gas, making the purchase carbon-neutral.

By participating in the Green Balance program, our customers can conveniently and accurately track their carbon footprint, which helps reduce the environmental impact of natural gas consumption. This unique feature allows customers to track their carbon footprint and take steps to reduce it. CenterPoint Energy is dedicated to reducing carbon emissions and promoting sustainable energy practices. As part of our commitment to environmental sustainability, we continue to explore innovative solutions to reduce our carbon footprint and support the transition to a cleaner, more sustainable energy future.
CenterPoint Energy was part of the national effort to restore power to Puerto Rico in the aftermath of Hurricane Maria. We sent 140 employees, along with 60 bucket trucks, support vehicles and electric supplies to Puerto Rico from mid-January to early March 2018. In this picture, a barge carrying our vehicles leaves the port of Lake Charles, La., for the two-week trip to the island.
Environmental Energy Efficiency

ENERGY-EFFICIENCY PROGRAMS: OUR CUSTOMERS AND COMMUNITIES

CenterPoint Energy provides our customers with greater choice and control over their energy consumption. We are encouraging innovative products and services that give customers greater insights into how they use energy. We also promote the installation of more energy-efficient measures. CenterPoint Energy's electric business has more than 20 energy-efficiency programs that save approximately 170,000 megawatts hours of electricity in 2017. The programs benefited more than 10,000 customers across all use classes, including commercial, industrial, and residential. The savings reduced the carbon footprint by 130,000 metric tons or the equivalent of 14,000 passenger vehicles driven for one year.

Case Study: Houston Methodist San Jacinto Hospital – Energy Assessment, Chiller Plant and Controls Upgrades

Houston Methodist San Jacinto Hospital, a 360,000-square foot acute care hospital located in Baytown, Texas, was interested in upgrading its chiller plant and reducing its energy usage. By participating in CenterPoint Energy's Healthcare Energy Efficiency Program (HEEP), the hospital could receive free engineering services to assist with this goal. HEEP's consultant, Willdan Energy Solutions, worked closely with the hospital to maximize its savings and incentives, resulting in an estimated annual energy savings of 40 percent for the chiller plant and electricity cost savings of $192,500 per year.

CenterPoint Energy's HEEP team provided an in-depth energy assessment for the chiller plant and identified potential energy savings measures with estimated energy and cost savings, anticipated project cost incentives and simple payback.

The existing primary-secondary chilled water plant had two water-cooled chillers with a total capacity of 2,200 tons served by dedicated primary chilled water pumps and three secondary chilled water pumps. The condensing water system had five cooling towers with seven cells and two condensing water pumps. Other than the cooling tower fans that were equipped with variable frequency drives, the equipment ran on constant speeds. It was recommended the chiller plant be converted to a variable primary flow chilled water system with the controls system upgraded to optimize the chiller plant operation. After evaluating the HEEP benefits and costs, the hospital implemented the recommended upgrades.

"The significant estimated annual energy savings and reduction in electricity costs realized by Houston Methodist San Jacinto Hospital's participation in CenterPoint Energy's HEEP program allows us to greatly minimize our impact on the environment," said Jonathan Sturgis, CFO, Houston Methodist San Jacinto Hospital. "We are extremely appreciative of the cash incentive and in-depth energy assessment provided by CenterPoint Energy. Utilizing the most advanced energy-efficient systems available goes hand-in-hand with our mission to provide unparalleled safety, quality, service and innovation to the residents of Baytown and the surrounding communities.

284.9 kilowatt (kW) peak/2.75 gigawatt hours (GWh)/year

Demand and Energy Savings

$192,500 per year

Estimated Electricity Cost Savings

40 percent

Estimated Electricity Savings

$214,935

Total Incentive
In 2017, 12,605 new houses were part of our High Efficiency Homes program, which provides incentives to builders in our electric service territory. Participants received incentives for nearly 4,000 ENERGY STAR-certified homes that deliver savings of up to 30 percent more than typical new homes. In 2017, CenterPoint Energy earned the ENERGY STAR Partners of the Year Award from the EPA.

COSOS Houston LED Conversion

In addition to maintaining Houston's electric infrastructure and restoring power after storms, CenterPoint Energy operates and maintains more than 400,000 streetlights throughout its service territory. In 2015, CenterPoint Energy and the City of Houston partnered to convert the approximately 176,000 street lights in Houston from traditional lighting sources to light-emitting diode (LED) lighting over five years. The initiative is a key part of Houston's air quality and greenhouse gas emission reduction goals.

Forklift Beneficial Electrification

Launched in 2008, CenterPoint Energy’s forklift electrification program is big enough to reduce greenhouse gas emissions by an average of 3.7 megawatts in load growth per year. Participants have saved more than 2,300 million cubic feet of natural gas totaling more than $293 million in the equivalent of the annual energy usage of more than 38,000 homes.

Conservation Improvement Program

Recodes from our Conservation Improvement Program encourage residential and business natural gas customers in Arkansas, Minnesota, Mississippi, and Oklahoma to choose energy-efficient equipment, as well as energy-saving programs. In 2017, our customers saved more than 2,300 million cubic feet of natural gas totaling more than $293 million, which is equivalent to the annual energy usage of more than 38,000 homes.

University of Minnesota Historic Conservation Improvement Project

In January 2018, CenterPoint Energy awarded a historic conservation improvement project for $2 million to the University of Minnesota for installation and construction of its Minnesota’s campus electrical grid, as well as its natural gas system, to the entire campus. The project is estimated to save nearly 3 million dollars in energy costs and significantly reduce the University’s carbon footprint by approximately 175,000 metric tons, which is equivalent to removing more than 28,000 cars from the road, for a year.

In 2017, 12,605 new houses were part of our High Efficiency Homes program, which provides incentives to builders in our electric service territory. Participants received incentives for nearly 4,000 ENERGY STAR-certified homes that deliver savings of up to 30 percent more than typical new homes. In 2017, CenterPoint Energy earned the ENERGY STAR Partners of the Year Award from the EPA.
In Houston, known as the energy capital of the world, CenterPoint Energy continues to extend the benefits of our transformative Smart Grid to improve safety, operational efficiency, reliability, environmental performance and the customer experience. Since 2009, CenterPoint Energy has deployed advanced meters to virtually all of our 2.4 million metered customers, automated 31 substations, installed 872 intelligent grid switching devices on more than 200 circuits, built a wireless radio frequency mesh telecommunications network across the company's 5,000-square-mile electric footprint, and enabled real-time grid monitoring and control.

CenterPoint Energy's Smart Grid has delivered invaluable results, including:

- More than 194 million customer outage minutes saved—a 23 percent reliability improvement on Intelligent Grid circuits;
- Restoration of more than 1.5 million outage cases without a single customer phone call; and
- Consumer savings of $20 to $25 million per year in eliminated fees from service automation.

From a reliability perspective, customers count on us to keep the lights on and inform them when they do go out. Our Smart Grid has improved power reliability and outage response, reducing the time to localize outages by 50 to 70 percent and isolating faults remotely to save customers more than 194 million outage minutes.

Looking ahead, CenterPoint Energy will continue to drive grid modernization efforts. In 2018, we have scheduled the installation of 88 intelligent grid switching devices across the service territory.

Advanced Metering System
CenterPoint Energy performs approximately 3 million electronic service orders annually with a 99.8 percent average success rate. Prior to Advanced Metering System (AMS) automation each of these required a truck roll. AMS implementation has saved the company more than 1.7 million gallons of fuel and avoided more than 15,000 tons of CO₂ emissions. Electronic service orders are completed in approximately 10 minutes on average, greatly improving turnaround time for customers.

Power Alert Service
Power Alert Service (PAS) serves registered electric customers in the Houston area. PAS is a free tool that notifies customers about power interruptions at or near their address and keeps them informed throughout the outage event. PAS has a 95 percent call deflection rate—a figure that reflects the reduction in phone calls customers would have made to CenterPoint Energy if the system had not proactively notified them. During Hurricane Harvey, more than 350,000 outage notifications were sent via PAS. Recent PAS accomplishments include:

- In 2017, CenterPoint Energy celebrated the five-year anniversary of PAS, which has a 91 percent customer satisfaction rate;
- In coordination with electric crews, 91 percent of outages are being resolved within the initial estimated time of restoration provided by PAS; and
- In December 2017, we enrolled our millionth customer in PAS.

Outage Tracker
- Our Outage Tracker website provides a full report on power outages in our service territory with estimated restoration times. The site is updated every five minutes and is accessible on mobile devices.
- In 2017, the company met its reliability goal of 107.5 minutes for System Average Interruption Duration Index (SAIDI), the index that measures the total duration of an interruption for the average customer during a given timeframe.
Biodiversity

Access to electric transmission facilities and sites that are environmentally sensitive are both necessary for business operations and are subject to environmental regulatory oversight. Our approach to biodiversity protection involves the following key elements:

- **Assessments** of project sites and the environmental impacts of the proposed construction activities.
- **Minimizing environmental impacts** by selecting project sites that have the least environmental impact and by using innovative design approaches and construction techniques.
- **Partnerships** with regulatory agencies, environmental organizations, and local communities to identify and mitigate potential environmental impacts.

Avian Protection Program—Electric Operations

CenterPoint Energy operates a transmission system that provides service to more than 300 electric utilities throughout the United States, including utilities in states with significant bird diversity. To ensure the safe and efficient operation of our facilities, CenterPoint Energy has implemented a comprehensive program to minimize the impact of our operations on avian populations. This program includes:

- **Avian Impact Monitoring**
- **Avian Impact Mitigation**
- **Avian Impact Assessment**

Through these initiatives, CenterPoint Energy works to reduce the impact of its operations on avian populations and to ensure the long-term survival of these critical species.
Environmental: Biodiversity

Collaborative Partnerships

As part of our avian protection program, we have forged strong collaborative partnerships with federal and state wildlife agencies, local non-profit conservation organizations and members of the public. The program has received awards for our novel media coverage and recognition by the Galveston Bay Foundation. Nest management activities are conducted under permit on the USFWS.

CenterPoint Energy is also an active member in the Avian Power Line Interaction Committee (APLIC), which is composed of more than 50 entities and the USFWS. This organization has led the development of an effective avian protection approach for more than 25 years. CenterPoint Energy’s program includes major avian protection elements established by the API. CenterPoint Energy employees are trained by the USFWS on avian protection team, coordinated operations, engineering and legal.

Wildlife Center of Texas

The company’s environmental team works closely with local non-profit conservation organizations and state and federal resource agencies in implementing avian protection programs. In some cases, nests with eggs or young must be moved from the power equipment. This not only protects the birds, but it prevents injuries caused by electric contact. Nest removals are contracted under permit from the USFWS. Eggs and young from these nests are carefully relocated to the Wildlife Center of Texas, where they are nurtured and raised. They are returned to the wild in a format that will support their survival.

CenterPoint Energy’s employees volunteer at the center, which relies on volunteers for its ongoing work. We also partner with the Texas Parks and Wildlife Department, the USFWS and local conservation organizations, including the Houston Audubon Society. The organization provides information on avian issues, such as locations of bald eagle nests and wading bird colonies. CenterPoint Energy shares avian management information with government agencies and conservation organizations.

Avian Protection Program – Natural Gas Operations

CenterPoint Energy’s natural gas operations must be recognized for their need to protect threatened birds and eagles. The company’s environmental team, in coordination with CenterPoint Energy’s environmental department, the business has established Majority Bird Conservation Guidelines. These guidelines are a set of engineering and construction implementation guidelines.

The document was developed to minimize impacts to migratory birds and eagles, as well as to comply with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

When assessing projects that may disturb natural vegetation, affected areas are identified. CenterPoint Energy implements the applicable federal and state regulations and procedures. The work is identified. Work areas in the affected areas cannot be scheduled outside of the peak nesting season or when the species is protected. Nests are identified and monitored. Nests of active eagle nests, a survey of the work area is performed by trained CenterPoint Energy employees. The survey is completed and to conduct an inventory in order to verify that nests, nesting migratory birds or eagles are not present.
Environmental

Waste and Recycling

WASTE

CenterPoint Energy generates wastes from our operations. Waste is derived primarily from maintenance and replacement of electric transmission and natural gas infrastructure, as well as from our offices.

Our Approach

CenterPoint Energy is committed to conducting our operations in accordance with all applicable environmental laws and regulations. We manage all operations, policies, and procedures to ensure compliance. In addition, we maintain a robust environmental audit program on all solid waste disposal vendors.

CenterPoint Energy tracks all hazardous and regular waste to ensure proper management. In order to reduce the quantity of hazardous waste generated, the company continues to identify and eliminate non-hazardous alternatives to solvents and other products that are needed to conduct our operations. Most of our facilities have been certified as "very small quantity generators" status.

INVESTMENT RECOVERY

Part of CenterPoint Energy's Purchasing and Logistics organization, Investment Recovery was created to create customer-focused service group dedicated to obtaining maximum value for the disposition of surplus assets and scrap material. Investment Recovery also promotes an effective recycling program for company assets that can no longer be used for their original purpose. The Investment Recovery team works to identify a reusable way to reuse or repurpose assets or in a recycling manner.

During 2017 CenterPoint Energy's Investment Recovery team recycled 15,186,522 pounds of scrap metal, including donating used computers to non-profit organizations and other buildings owned office furniture to organizations affected by Hurricane Harvey. During the storm restoration efforts, the group also assisted in selling excess materials to companies and expanded its recycling efforts for scrap wire, cable, and transformers.

2017 Recycling Summary

50 tons
Paper and cardboard

498,823 gallons
Transformer oil

208
Wood reels

11,490
Distribution transformers

15,186,522 lbs.
Scrap metal

116,722 lbs.
Batteries

19,523 gallons
Motor oil

102,422
Lamps

236,323 lbs.
E-Waste

129
Computers (donated)
The Picarro Surveyor system is the next generation of methane detection technology. With 15 units, CenterPoint Energy has the largest fleet in the world of the state-of-the-art Picarro Surveyor leak survey technology, which is a thousand times more sensitive than other current techniques. In 2013, the company began a pilot study of the Picarro Surveyor in its natural gas operations to proactively identify leaks in underground natural gas mains and service lines, as well as above-ground facilities.

In addition to enabling us to locate and respond to natural gas leaks much faster, Picarro Surveyors are more efficient in terms of accuracy and coverage area. As a result, Picarro also plays a key role in the company's methane emissions-reduction efforts.

Traditional survey methods use methane detection devices with optical, laser, infrared or flame ionization technology. These devices are either mounted on a vehicle that drives slowly through an area or a handheld instrument used by a technician who walks over the lines to detect methane plumes near underground natural gas mains and service lines. Picarro can be used at driving speeds of up to 40 miles per hour to accurately survey a much broader area. Each night, a single surveyor can cover up to 30 miles of natural gas mains and service. Night is the optimal survey time as the ground is cooler and natural gas does not rise as quickly as it does during the day. In the "survey" mode, Picarro constantly collects precise data, including Global Positioning System (GPS) readings, wind speed and direction, as well as methane and ethane concentration. This data is utilized in complex algorithms to determine areas where there may potentially be a natural gas leak.

Picarro's sensitivity to methane is measured in parts per billion, while traditional technology measures in parts per million. This innovative tool helps detect leaks before customers even know about them. As a result, Picarro technology has proven to detect significantly more natural gas leaks than traditional leak survey methods.

CenterPoint Energy tested and phased Picarro into operations beginning in 2016. Our Texas region conducted a pilot program and has been using Picarro since January 2016. Arkansas completed full deployment in 2016, with the remaining regions being implemented in early 2018.

To further enhance the Picarro system, CenterPoint Energy has deployed industry-leading business processes and technology systems, including:

- Real-time tracking of the leak survey results and natural gas system assets surveyed in the geographic information system, replacing the need to manually track completed leak surveys using paper maps;
- Automation of paperless work orders to investigate potential leaks identified by Picarro, which replaced a manual process; and
- Leak survey applications on computer tablets allow technicians to document survey results with cameras and GPS capabilities. Providing crews with mobile data access to digital photos and GPS coordinates significantly reduces the time spent determining where to excavate.

CenterPoint Energy is currently partnering with Picarro to integrate its Emission Quantification (EQ) technology into our distribution integrity management program. For users, selected pipe segments EQ can predict the number of leaks and methane emission volume. By adding EQ information into our integrity management program, we expect to enhance the ability to select and design pipe replacements that deliver increased value in safety and emission reductions.
68,640 students and teachers received safety information

More than $1 billion in spending with small business suppliers

6th on Indeed.com's Top 10 Best Places to Work

2,100 people reached through CenterPoint Energy's Speakers' Bureau

Gulf Coast Regional Blood Center Corporation of the Year

CenterPoint Energy is committed to developing strong relationships with diverse suppliers and using innovative approaches to continually improve business operations.
Stakeholder Engagement

CenterPoint Energy actively works to engage with our stakeholders to build trust, strengthen relationships and make a positive impact in our service territory. Our stakeholders include individuals and groups who interact or are impacted by our company and our business practices. They include customers, communities, employees, investors, suppliers and regulators.

The chart below outlines some of our ongoing engagement practices with our stakeholders.

### Stakeholder Engagement at CenterPoint Energy

#### Stakeholders

- **Communications**
  - Advocacy groups
  - Community and charitable organizations
  - Economic development organizations
  - Government officials
  - K-12 and higher education institutions

- **Customers**
  - Electric
  - Natural Gas
  - Energy Services

- **Employees**
  - Current and prospective employees
  - Retirees
  - Labor unions

- **Investors**
  - Approximately 77 percent of CenterPoint Energy common shares were held by institutional investors

- **Suppliers**
  - Diverse suppliers
  - Local, small suppliers

- **Regulators**
  - Participate in the regulatory process with various federal, state and local governmental agencies on requirements and processes

#### How We Engage

- Participation in industry dialogue through agencies such as AGA and EEI
- Support for local programs through community investments, grants and sponsorships
- Leadership by company officers and employees on nonprofit organization boards
- Host meetings, conferences and community development initiatives
- Engage with community partners and environmental agencies on voluntary programs and beautification projects
- Hold workshops and training with public safety teams, local emergency agencies and first responders
- Provide public safety materials
- Employee volunteerism
- Speakers Bureau presentations and leadership speaking engagements
- Provide public safety materials
- Employee volunteerism
- Employee engagement surveys
- Leadership meetings
- Employee meetings, video-streams and webcasts
- Training and skills development, including leadership development and knowledge transfer programs
- Informal, ongoing meetings, such as floor meetings, location visits, lunches and conversations over coffee with leaders
- Professional networking and affinity groups
- Workforce training and development
- Informal, ongoing meetings, such as floor meetings, location visits, lunches and conversations over coffee with leaders
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- Workforce training and development
- Participate in industry dialogue through agencies such as AGA and EEI
- Support for local programs through community investments, grants and sponsorships
- Leadership by company officers and employees on nonprofit organization boards
- Host meetings, conferences and community development initiatives
- Engage with community partners and environmental agencies on voluntary programs and beautification projects
- Hold workshops and training with public safety teams, local emergency agencies and first responders
- Provide public safety materials
- Employee volunteerism
Social

Communities

Our Approach
CenterPoint Energy's Corporate Responsibility mission is to help make a positive difference in the communities we serve. Our vision is to be a highly valued, respected and influential company that operates with a reputation for excellence in everything we achieve for the business and the community.

2017 CORPORATE CONTRIBUTIONS
At CenterPoint Energy, we are committed to making a positive difference in the communities we serve. Supporting a strong community is a vital part of our corporate culture. We are proud to serve as a respected corporate citizen. Our focus areas include education, community development and health and human services.

We believe education, community development, and health and human services are inextricably linked and critical to the sustainability of our communities. We view our relationships with our employees, elected officials, community and civic leaders, neighbors and others in these communities as assets, to assess areas of need. This is why we focus our charitable investments, volunteerism and other community-based activities on the nonprofit organizations and causes in these critical giving areas.

2017 Corporate Contributions by Focus Area

<table>
<thead>
<tr>
<th>Focus Area</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and Human Services</td>
<td>27%</td>
</tr>
<tr>
<td>Community Health</td>
<td>9%</td>
</tr>
<tr>
<td>Economic Development</td>
<td>9%</td>
</tr>
<tr>
<td>Disaster Recovery</td>
<td>2%</td>
</tr>
<tr>
<td>Education</td>
<td>5%</td>
</tr>
<tr>
<td>Safety</td>
<td>3%</td>
</tr>
<tr>
<td>Environment</td>
<td>9%</td>
</tr>
<tr>
<td>Art/Culture</td>
<td>20%</td>
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</tbody>
</table>

2017 Achievements
- Employees committed more than 146,000 employee volunteer hours. When calculated using the Independent Sector’s value of $24.94 for a volunteer hour, this equates to approximately $3.5 million in value.
- Retirees and employees’ families and friends contribute an additional 16,531 volunteer hours.
- Donated $5.5 million to nonprofit organizations.
- Served approximately 500,000 customer and advisory council through 300 employees serving in volunteer leadership positions.
- Received the Corporate Philanthropy Award from the Houston Business Journal for volunteer work, making the company one of the largest companies in Houston.

2017 Highlights
- In an effort to innovate, Community Relations launched its CNP Cares System, an internal, mobile-friendly database platform for managing volunteer activities. Employee volunteers can easily sign up for volunteer opportunities and track their progress on measurable volunteer goals.
United Way is a signature program for CenterPoint Energy. Our 2017 companywide campaign contributed more than $25 million to 85 chapters across our service territory.

Employees: Minnesota celebrated 25 years of volunteer and financial support on November 1 in the city of Bemidji. Approximately 20,000 volunteer hours from more than 2,100 employees and retirees have been contributed in support of the organization.

Through Fitzy Mart, CenterPoint Energy's higher education matching gift program, and employees' own charitable contributions to academic colleges, universities, community colleges and technical schools, $63,161 was awarded during 2017.

Every year, the company recognizes 10 outstanding volunteers of the Year for service completed in the prior year. Each winner is awarded a $500 GIVE Grant incentive for Voluntary Employees' Charities that is directed on the volunteer's behalf to an approved nonprofit of their choice. Employees are selected based on their year-long efforts from various company-wide community events.

One & Only program recognizes associates and encourages them to be our employees' and retirees' volunteers, thus engaging our personal and company's charitable support. Volunteers are awarded to nonprofit organizations based on employee and retiree volunteer hours. Two volunteers in 2017, 166 GIVE Grants were awarded totaling more than $65,000.

CenterPoint Energy honored John Skilling, vice president of Business and Operations, as the Executive of the Year. His organization's participation in many local and internal projects in recent years, including breast cancer awareness events, Make-A-Child Christmas presents, the Houston Furniture Bank, and logistics advice for rebuilding efforts in Houston. In 2017, employees in his organization donated nearly 7,600 volunteer hours.

Blood Drives
CenterPoint Energy's blood drive program addresses a critical need in the community—providing blood. In 2017, our employees donated 1,034 units of blood, which is equal to saving 300 lives. In partnership with the Gulf Coast Regional Blood Center, which serves 55 counties across South Carolina, Alabama, Mississippi, and Louisiana, employees in Houston gave donations 69,189 units of blood since 2002, enough to save 2,303 lives. Several drives were organized in community settings to support collection efforts. In 2017, CenterPoint Energy hosted 14 blood drives.

Salvation Army Angel Tree Program
CenterPoint Energy recently contributed more than 20 years of supporting the Houston area Salvation Army Angel Tree program. Carrying on the tradition of giving at the largest corporate partnership, our employees support a record 2017 by adopting more than 800 children on average each year. In 2017, as well as through the Angel Tree program, employees volunteered 89 hours.

Western National Insurance Company led the holiday for 175 children and seniors through the Angel Tree program, bringing the company's total to nearly 1,000 gifts.
Social: Communities

Tree Trust
CenterPoint Energy partners with Tree Trust in Minnesota sponsoring the Loring with Trees program that plants the class outdoors. Since 2004 CenterPoint Energy has sponsored a tree planting at a school served by the company. More than 950 trees have been donated to plant more than 280 trees with elementary and students. Tree Trust presented a 2017 Community Partner Award to CenterPoint Energy, which for more than 25 years has provided financial and volunteer support to the program.

Loring with trees provides an outdoor classroom for local schools to create more outdoor, educational setting and invest in STEM by teaching their appreciation for the environment and the importance of having a forest. Employees from numerous departments will continue to be a donor for outdoor classes to the 823 public and private elementary schools throughout the state. This effort is in place to use outdoor classes for EDCO's Tree Trust.

ECONOMIC DEVELOPMENT

Our Approach
CenterPoint Energy's approach to economic development is to be a partner with and committed to the communities we serve. We mean “a partner” rather than just a provider. We partner with local governments, local economic development organizations, and community leadership to foster economic growth. We also have a strong commitment to business. You will notice that downtown development, economic development, and partnerships are being done a lot of places, but CenterPoint Energy is doing a lot of different things. We are just getting creative with economic prosperity.

Regional Economic Impact
In 2017, our team collaborated with regional partners to engage in economic development projects that are expected to create more than 2,000 new jobs and result in more than $2 billion in long-term economic impact. These projects also expected to produce more than $1.6 billion in new capital investment into the communities we serve.

Over the past 10 years, we have partnered in projects that have created nearly 30,000 new jobs, as well as revenues of tens of millions of dollars. Our staff has also partnered with economic development organizations (EDOs) on recent issues relating to economic development, including workforce development and training, real estate development, and community resiliency programs.

Community Leadership
CenterPoint Energy continues to support educational leadership roles within local EDOs. President and CEO Scott M. Prochaska is the chair of the Greater Houston Partnership's Regional Economic Development Advisory Committee. CenterPoint Energy has taken a leadership role in the National Economic Development Council and the Utility Economic Development Association.

Targeted initiatives
CenterPoint Energy continues to partner with other companies in the region to promote growth opportunities and workforce training opportunities.

Energy Insight Center Tours
CenterPoint Energy's Energy Insight Center (EIC) is an innovative educational and technology demonstration facility and community outreach center, showcasing a wide range of energy technologies and capabilities. Since its opening in 2006, it has hosted nearly 1,000 tours for industry executives, government officials, community groups, and students. The tours feature an interactive learning environment and immersive educational activities that encourage visitors to explore how energy is generated, transmitted, and distributed across the country.
Social: Communities

Power Tools for Nonprofits Conference

The 24th Annual Power Tools for Nonprofits Conference – held with our community partner, the University of Houston Downtown – offers an educational forum for nonprofit professionals, volunteers and board members. The event offers ideas on how to leverage resources, strengthen organizational effectiveness and increase lives. To date, the conference has served more than 10,000 nonprofit professionals and volunteers in improving their effectiveness through education, resources, networking and collaboration. Power Tools is one of the most widely attended nonprofits’ development opportunities for nonprofit leaders. In the year

Feature: Energy Assistance Program

CenterPoint Energy understands that paying equal gas and utility bills during the heating season may pose a challenge. That is why we support local energy assistance programs to customers in the communities we serve. Our energy assistance activities include:

• Supporting efforts to fund Low-Income Home Energy Assistance Programs (LIHEAP)

• Encouraging our customers to donate their unused energy assistance funds by checking a box on their bills and

• Donating window insulation kits to agencies to distribute to low-income customers to help lower heating costs.

2017 Power Tools for Nonprofits Conference
Customers

Our Approach
CenterPoint Energy's vision is to be the nation's leading energy service and value provider. We are committed to putting the customer at the center of everything we do. Our Customer Service organization is focused on successfully delivering reliable, value-added services to our customers. Through innovative, customer-centric solutions, we strive to make CenterPoint Energy easy to do business with by answering the question on our customers' minds, "what and how they want it.

As consumer expectations, science and technology evolve, so do the wants and needs of our customers. Mobile devices are also increasing consumer ability to react and make quick decisions. This means that CenterPoint Energy provides customers with the tools we understand and experiences they want. We continue to broaden our understanding of our customers' expectations.

2017 Highlights
• In late 2017 we enhanced our My Account self-service web tools, making it easier for customers to manage their gas service and view their usage on one simple login. To make our service easy to use, the enhanced My Account experience allows customers to add additional gas and natural gas accounts and add multiple ways to receive alerts.
• CenterPoint Energy is recognized as having the highest customer satisfaction among gas utilities in the South region in an annual study by JD Power and Associates. In 2017, CenterPoint Energy was the first in the region to be recognized by JD Power and Associates as "most improved in the South.
• Natural gas customers in the South named CenterPoint Energy a "Most Trusted Brand" in a Cogent Reports study by Market Strategies International. The study benchmarks brands for performance of 150 criteria on a quarterly basis among nearly 60,000 energy consumers.

We are committed to our clients becoming our customers' trusted energy advisor and reliable partner. At the same time, we have our sights set on the future, including a team focusing on emerging energy technology, such as distributed generation and electric vehicles.
Employees

Our Approach
CenterPoint Energy values a high priority on enabling a strong culture of employees, opportunities, and individual respect at all levels. Our Human Resources organization oversees compensation benefits, hiring, training, talent, and organizational development, as well as other employee-related services. Using a strategic approach to managing people and workplace culture, Human Resources partners with employees with tools and resources to support their career and development goals.

2017 Highlight
Employees create a strong workplace culture, growth opportunities, and relationships with coworkers that create a CenterPoint Energy top spot in Forbes.com's Top 10 Best Places to Work. This year center also placed on the list of 10 Best Places to Work recognized by employees.

WORKPLACE DIVERSITY
Our Approach
CenterPoint Energy is committed to creating an open and inclusive work environment where our employees are encouraged to bring their whole selves to work. CenterPoint Energy values employees from different backgrounds and views are encouraged and appreciated.

Employee Engagement
Our Approach
CenterPoint Energy's goal is to create a work environment in which every employee is engaged, aligned with our vision and values, and understands how they contribute to the company's growth in performance 100% of the time. We strive to connect with our employees in meaningful ways.

Leadership Meetings
CenterPoint Energy held an Officer and Director Meeting in 2017 to review company strategy and senior officers across the company. The meeting included a review of the company's top 10 Best Places to Work. The meeting was centered on a morning session of executive and senior management discussions, followed by a lunch meeting.

Employee Meetings
Employee meetings were held in 2017, with more than 4,300 employee meetings occurring across the company. Video streaming and remote locations were utilized to increase employee engagement. Employee meetings were designed to engage employees with key issues and share company goals.

2017 Employee Survey
CenterPoint Energy's 2017 employee survey was conducted to help us gain insights into specific topics and areas of employee engagement. The survey results provided information on employee engagement levels and areas for improvement.

Informal Ongoing Meetings
In addition to structured engagement sessions, employees at CenterPoint Energy can connect with their team through informal events, such as coffee breaks, lunch meetings, and conversations over coffee with President and CEO Scott M. Prochazka and other members of our leadership team.
Performance Management

CenterPoint Energy's Performance Management process supports employees in reaching goals through ongoing feedback and development. Performance Management is a foundational element of our organization's talent management efforts and is designed to encourage employees to develop new skills, assess and reward employees. We have a set of competencies that are key skills, knowledge, and behaviors that are closely aligned with our values. These include:

- Business and financial acumen
- Coaching and development
- Collaboration
- Continuous learning and sharing
- Customer focus through service
- Customer feedback
- Results orientation, etc.
- Strategic thinking

Through our annual review process, we manage, and plan ahead, our company encourages supervisors to provide feedback and training to other. In addition, we perform performance reviews in 2017, more than 95 percent of eligible employees received an overall performance evaluation.

Knowledge Transfer

Our knowledge transfer program aims to decrease attrition with employees retire or change jobs, thus preserving expertise and knowledge to others. We also knowledge transfer to keep a record of the knowledge acquired in certain positions or areas, lessening the impact of employee departures and enhancing career development opportunities.

Volunteerism as an important part of CenterPoint Energy's employee engagement strategy. From building relationships with each other and the communities we serve, volunteer activities help employees develop career and leadership skills.
Social: Employees

Professional Networks
CenterPoint Energy’s professional networks aim to foster a culture of collaboration, knowledge sharing and development. A governing council, CenterPoint Energy’s Professional Networks oversees the company’s four professional development and networking organizations. They include:

- EPN: Engineering employees
- EPW: Engineering Professionals on Networks
- MyPoint: Finance, Audit and Technology
- OP: Enployees

CenterPoint Energy’s Professional Networks CenterPoint Energy Services, Customer Services, Customer Operations, Natural Gas Operations, Human Resources, Legal and Regulatory, and Communications and Community Relations

Women in Leadership
CenterPoint Energy’s Women in Leadership organization provides opportunities for mentoring and interaction among women less. The organizations’ goals include providing networking opportunities and leadership and career development. The organization hosts two professional development events each year, including

- Leadership: An opportunity for talented, female employees to develop their leadership skills and gain valuable experience.
- Professional Development: An opportunity for employees to build their resumes and gain valuable experience.

Veterans Support
CenterPoint Energy’s Veterans Support program helps veterans transition into the workforce. The program offers opportunities for veterans to gain work experience and connect with other veterans.

LEARNING AND DEVELOPMENT

Our Approach
CenterPoint Energy recognizes the importance of employee growth and development. The company provides opportunities for employees to develop their skills and advance in their careers.

2017 Training

- Total number of courses completed: 236,821
- Total number of online courses completed: 118,412
- Total number of training participants: 2,315
- Total number of training sessions: 16,689

Training and Apprenticeship Programs

- Electric Operations: Offers three apprenticeship programs: 30- to 35-week apprenticeship programs, 30- to 40-week, and 35- to 40-week apprenticeships.

1G OD works with individuals to evaluate needs and develop solutions that enhance the gap between current and desired performance. Training programs are designed to develop these skills and experiences to support identified professional development gaps, leaders now to supervise and high-potential employees.

CNP University is CenterPoint Energy’s corporate university. The university offers training programs that are designed to foster learning and development among employees. The programs are designed to meet employees’ needs and improve their performance.

At CenterPoint Energy, we have a strong commitment to diversity and inclusion. We encourage diversity and inclusion initiatives, which are designed to foster a culture of inclusivity and respect.

CenterPoint Energy is a leader in diversity and inclusion initiatives. We encourage diversity and inclusion initiatives, which are designed to foster a culture of inclusivity and respect.
Becoming a member in an electric operation is the first step toward completing a three-year lineman apprentice program. This highly skilled job requires significant amount of physical strength and dexterity, as well as the ability to work in adverse conditions.

All apprentices must obtain a commercial driver’s license (CDL) within the initial period of employment. We partner with Houston Community College’s East Technical Driving School to assist in obtaining CDLs.

Each apprentice receives training on all aspects of lineman work, including working on poles. Training also involves on-the-job mentoring and instruction. We provide refresher courses for apprentices who want to improve their skills or receive training. The center employs 16 technical trainers, two supervisors, and an administrator. In 2017, the company trained 105 helpers and 90 apprentices through the first module of the technical training.

**Apprentice Program – Natural Gas Operations**

This program has two technical trainers, two training coordinators, and one supervisor. At least two apprentice classes are typically offered each year, ranging in size from 10 to 15 employee apprentices, depending on operational needs.

All apprentices are enrolled in a two-year technical training program. They must obtain a welding certification and a CDL within their initial period of employment. Each apprentice receives training on leak investigation, plastic pipe fusing, natural gas fundamentals, carbonaceous investigation, and other safety-related courses. Classes have been developed to cover all necessary skills, enabling employees to conduct hands-on leak investigations, work on large meter sets, and investigate house meter leaks. In 2017, the company trained 41 apprentices with training hours totaling 13,462. In January 2018, the program began a pilot partnership with the Houston Community College Stafford Campus for oxygen acetylene welding training.

**HEALTH AND WELLNESS**

**Our Approach**

CenterPoint Energy is committed to providing health and wellness enhancements to our employees.

- A comprehensive wellness and fitness center is available at the CenterPoint Energy Tower in Houston. Employees can also utilize the GlobalFit health discount program, which provides a lowest-price guarantee on memberships to the network of fitness clubs nationwide.
- Our Employee Assistance Program provides free counseling, legal, financial, and other services.
- The company supports the use of various work schedules, such as flextime, compressed work weeks, and reduced work schedules, to increase employee flexibility and reduce commuting costs while also maintaining and enhancing productivity.
- Our Sick Leave Policy provides income protection to employees who are unable to perform their job because of illness or injury.
- CenterPoint Energy helps cover public transportation and commuting costs by offering reduced bus passes or reimbursement for carpool expenses.
- Our Education Assistance Program helps employees further their degree or work on a new one by providing reimbursement for tuition and required fees toward a degree from a state or federally accredited school.
- For dependents of CenterPoint Energy employees, we offer scholarship programs to help cover education costs.
- As a responsible employer, we understand the need for an effective benefits package that is competitive for our industry. We offer retirement and savings plans, in addition to benefits such as medical, dental, vision, life, disability, and accident coverage. Please visit our benefits page on CenterPointEnergy.com for more details.
Social

Labor Relations

Approximately 35 percent of CenterPoint Energy’s employees are represented by seven collective bargaining agreements. We work with our labor unions to achieve our business goals, enhance our employees, customers, and the communities we serve. We have legal and labor agreements with our unions regarding the working rules and conditions of employment.

Safety Collaboration
Employees of CenterPoint Energy’s electric transmission and distribution business and the International Brotherhood of Electrical Workers (IBEW) Local 855, launched the Union Safety Program (USP) in 2017. This new collaborative approach serves to help achieve continuous improvement and a safer workplace. The program’s goal is to improve safety performance, safety culture, and workplace conditions. To achieve these goals, rules and “Rules to Live By” were introduced to empower employees to engage in safe work practices with increased accountability.

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CenterPoint Energy Houston Electric

UNION SAFETY PROGRAM
Purchasing and Supplier Diversity

CenterPoint Energy’s Purchasing and Logistics organization manages the purchasing processes for all goods and services. Employees are expected to conduct fair and transparent purchasing and payment practices, which include benefits, support and internal controls for the company. The Purchasing and Logistics organization has overseen our robust supplier diversity program.

SUPPLIER DIVERSITY

Our Approach
CenterPoint Energy recognizes the economic importance of diverse suppliers, such as MWBEs and other small business enterprises, to the community. We are committed to developing strong working relationships with diverse suppliers and utilizing innovative approaches designed to continually increase business opportunities.

The relationships we seek to build provide value to both CenterPoint Energy and to our suppliers. Our objectives include:

- Actively recruiting and retaining suppliers that can provide competitively priced and high-quality commodities and services.
- Encouraging participation and support of supplier diversity by major suppliers to the company.
- Identifying opportunities to assist in the development and commencement of diverse supplier diversity programs, including hiring, capacity building and outreach activities.

2017 Highlights

- CenterPoint Energy achieved more than $1 billion in spending with small business suppliers.
  - Twelve percent of our corporate spend was with certified MWBE suppliers.
  - CenterPoint Energy’s small business spend was more than $100 million in 2017.
- Suppliers were sourced at multiple levels with diverse suppliers.
- CenterPoint Energy’s 2017 Supplier Diversity Month included hosting an annual Supplier Diversity Month breakfast with 24 diverse suppliers, including certified MWBE suppliers.
- The breakfast was sponsored by President and CEO Scott M. Prochazka, and a diverse panel of suppliers and business owners.
- The event featured keynote speakers and working sessions.
- The event also included employee-led roundtable discussions.
- The roundtable discussions focused on supplier diversity success.

- CenterPoint Energy sponsored and attended approximately 30 diverse supplier events.
- Employees participated in local and national events, including roundtable discussions.
- Employees also attended events and conferences.

- CenterPoint Energy continued to invest in supplier diversity initiatives for our diverse supplier base.

- In 2017, our diverse suppliers earned over $400 million in various contracts.
Social: Purchasing and Supplier Diversity

2017 Supplier Diversity Awards

- Buyer of the Year –
  Alan Valicek – Houston Women's Business Enterprise Alliance
- Corporate Accountability for MBE Procurement Award
  Houston Minority Supplier Development Council
- Corporate Advocate of the Year –
  Jewel Smith – Women's Business Enterprise Alliance
- Champion of Supplier Diversity –
  Jewel Smith – Minority Business National News Magazine
- Cutting Edge Award for Outstanding Utilization of WBEA WBEs
  Woman's Business Enterprise Alliance
- Rigol Award for Leadership in Minority Business Development –
  Houston Minority Supplier Development Council
- Top 100 J.S. Corporations in Supplier Diversity –
  Minority Business News USA

Spotlight on MWEE

Penley Crim Reaper Co. (PCR) is a small woman-owned law firm that represents CenterPoint Energy and other natural gas businesses across multiple areas. PCR is consistently able to meet our legal department's needs in complex regulatory matters that balance legal, public interest, economic and accounting issues. PCR's diversity efforts include a Sustaining Sponsorship commitment to the Houston Association of Women Attorneys Foundation Pro Bono Fellowship Program, a program that was created under the encouragement of our General Counsel Dana C. O'Neal. The program offers female attorneys in their first year of practice a chance to provide pro bono legal services to their community while developing technical legal skills. PCR also utilizes women and minority owned businesses for accounting and bookkeeping.
Safety

Our Approach

CenterPoint Energy is committed to the protection of our employees, contractors, systems, and communities. Our goal is to maintain a safe work environment and deliver electricity and natural gas safely to the communities we serve. To achieve our goal, CenterPoint Energy is guided by the following principles:

- Compliance. We are committed to complying with applicable safety laws and regulations. Employees are expected to adhere to and abide by all company policies, procedures, and guidelines for safely working and operating our systems. We also expect contractors who perform work for the company to do so safely, in compliance with applicable laws and regulations.

- Accountability. Safety is the responsibility of all employees and is a condition of employment. While management sets clear directions and provides support and training, employees are accountable for adhering to and incorporating safety responsibilities into their daily work activities. Employees are also accountable for reporting incidents, injuries, and unsafe practices or conditions so they can be promptly addressed and corrected. Employees are empowered and understand we will perform our duties in a safe manner, or we will not do them.

- Continuous Improvement. CenterPoint Energy strives to continuously improve our safety performance and culture. We combine innovation and technology that will enhance our performance. We will identify opportunities to improve and learn from incidents, near misses, inspection programs, and observations that the public or employees submit, and:

- Customer and Community Focus. We will continue to develop and maintain effective safety programs that educate and inform customers and the public in the communities where we operate.

WORKPLACE SAFETY

CenterPoint Energy focuses on being Safety Forward, which is our companywide approach to safety performance and excellence. Initiatives are designed to encourage employees to keep safety at the forefront, regardless of their business unit or work location. It is critical that our employees be well trained when it comes to safety. We believe that we offer industry and peer education programs that address safety challenges.

As we continue our focus on improving our safety performance, behavior-based safety programs include:

- POWER (Proactively Observing Whirl Eliminating Risk) is the behavior-based safety program for our electric operations business. The program involves continuous improvement of tools and equipment, work practices, and the environment through effective measurement, communication, and corrective actions. The program has delivered valuable results, such as a reduction in reports on safety observations increased, and:

- CSafe (CenterPoint Energy Safe Action For Employees) is the natural gas operations' behavior-based safety program that has multiple committees that meet on a monthly basis. Employees are encouraged to share safety experiences and initiatives and accountability, two of our values, have led to many safety improvements through employee involvement. Speaking up to correct perceived hazards or improve current practices has created a positive change. In both our electric and natural gas operations, we practice our safety commitment through quality observations, near-miss notifications, inspections, and other safety-related activities. Safety observations are the "eyes and ears" of the line in maintaining safety awareness at all times. In 2017, more than 84 percent of employees in our electric and natural gas businesses submitted at least two observations per month. This amounted to 214,899 safety observations submitted over the course of the year.
Social: Safety

We believe CenterPoint Energy’s ongoing efforts to sustain a strong safety culture are reflected in fewer injuries and incidents. We record safety performance in 2017 with our highest levels of employee engagement and continuous improvements for participation and observation on acts, cuts, away, restricted in transferred (DART) rates and recordable occupational rates (OIR).

From 2016 to 2017, we had a 16 percent decrease in Occupational Safety Performance DART Rate of 0.89 to 0.65, a 25 percent decrease in DART rates, and a 32 percent decrease in Lost Time Incidents (2016-2017) in the area of occupational health and safety performance (OSHA) recordable incidents.

However, we also experienced several serious safety incidents in 2017 that reinforced our commitment to working safely and reducing our OSHA recordable incidents, as part of our ongoing efforts to achieve our safety improvement goals.

2017 Highlights

- Collaboration between Engineering and Construction resulted in no new cases being purchased for work-related injuries.
- A new program for temporary vehicle drivers, with added responsibility and zero days away from work restriction was a success.
- The program to incorporate safety training into all new employee onboarding was a success.
- Employees in Arkansas and Oklahoma have the best safety performance.
- Safety Week was a great success.
- A new program to reduce the number of incidents was implemented.
- The company has maintained the highest level of year-on-year improvements.

Facts

- All company drivers are expected to complete training on safety and the use of the company’s Eyeglass Eye Technology Program.
- To support the improvement of safety and health, regular safety meetings, training and seminars are held for employees.

PUBLIC SAFETY

Our Approach

CenterPoint Energy is committed to the safety of our gas and natural gas systems. We support the improvement of safety by providing our employees with the latest training and education.

2017 Highlights

- CenterPoint Energy’s Safety and Public Relations programs were recognized by the American Petroleum Institute for their effectiveness.
- The company received an OSHA Gold Award for its efforts in safety.
- The company received an AGA Recognition Award for its safety efforts.
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Safety Summit

Educational Outreach
CenterPoint Energy's educational outreach activities include partnerships with area schools and non-profit organizations to foster a broader base. We educate adults and youth in our communities in both English and Spanish. During the 2016-17 school year, CenterPoint Energy actively promoted safety education and outreach through free community resources and strategic partnerships. We distributed 68,642 booklets on electric and natural gas safety to 47,127 students in the 2016-17 school year, partnering with more than 60 organizations on safety outreach, including the American Heart Association, Houston Audubon Society, and the Children's Museum of Houston.

Community Partnership Grants
One of the company's educational safety programs is CenterPoint Energy's Community Partnership Grants. The program has been leveraged to fund 430 grants to purchase safety equipment and training materials for schools and nonprofit organizations. We partner with local emergency responders, including fire and police departments as our natural gas mutual aid, to apply for a safety grant. We conduct this program in our service areas: Arkansas and Oklahoma, and in the state of Texas. In 2017, 73 grants were awarded totaling $45,180. Since the program's inception in 2003, CenterPoint Energy has contributed $7.7 million toward safety initiatives in our communities.

Right Tree Right Place
CenterPoint Energy understands that planting trees responsibly is as important for our environment as it is for our neighbors. We believe that trees can enhance the beauty of our communities and provide many environmental benefits. Right Tree Right Place outreach efforts are designed to educate and help people understand their role in protecting our environment.

The company's vegetation management group proactively assesses the need for tree trimming near power lines, prepares work plans and schedules tree trimming to maintain safety and electric service reliability, and serves as a liaison between customers and subcontractors. Right Tree Right Place education efforts help us understand that we can work to protect service availability.

We have partnered with industry organizations and tree planting organizations to promote our Right Tree Right Place education efforts. This program is designed to educate customers about energy conservation and how to plant trees in the right places. We provide information on how to plant trees in the right places, as well as how to maintain them. We also provide information on how to protect trees from damage by power lines.

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Social: Safety

CenterPoint Energy's R.I.T.E. Awareness Program helps protect people, property and the environment through a series of initiatives to raise awareness and educate customers, employees and the communities in which they operate. The program includes:

- Raising awareness of the dangers of gas and electric facilities through public service announcements and community events
- Providing information on how to safely replace gas and electric service
- Educating customers on the steps to take in response to a pipeline emergency

2017 Initiatives

- Developed a natural gas pipeline safety message to approximately 3 million non-customers through digital programs
- Published a monthly energy safety newsletter in 125 languages in Texas on behalf of the Electric Reliability Council of Texas
- Conducted presentations at 17 Texas regional school safety seminars presented by the Snellley Foundation. We provided a pipeline safety message to school administrators, safety officers, bus drivers, and other staff at each school located in the region
- Provided a pipeline safety message to all employees in the company
- With the Pipeline Operators R.I.T.E. Partnership, we conduct outreach programs and emergency responses. We encourage educational materials at two national conferences

Electric Safety Awareness

Electric operations provide critical information to the public through electrical safety prevention and the distribution of safety materials at events such as the Houston Livestock Show and Rodeo and the annual Houston/Galveston Extreme Weather Expo. CenterPoint Energy also provides information and warns about those whose disability may limit their awareness.3

Emergency Operating Plan and Drills

The CenterPoint Energy Emergency Operating Plan (EOP) is designed to restore service in the event of a pipeline or electric event. The plan outlines the process for responding to an incident and provides guidance for management and employees on how to respond and use the incident command system.

We provide resources to employees to help protect them for the EOP tests. Our EOP training is available for all employees. CMM & IT employees and the Employee Survey Poster, view the EOP plans for electric and natural gas operations, download forms, and access information, tools and guides.

CYBERSECURITY RISK, DATA PRIVACY RISK AND MITIGATION

Our Approach: Cybersecurity

CenterPoint Energy's customers, partners, shareholders and employees are affected every day by our ability to deliver safe, reliable and affordable energy. We are committed to maintaining the security of our infrastructure and protecting the privacy of the information we maintain.

The company's cybersecurity strategy and roadmap are reviewed at least annually as a part of our governance processes. The CenterPoint Energy Security Governance Council, which focuses on physical, security and cybersecurity, oversees the strategy and roadmap. The strategy and roadmap are presented to the Corporate Risk Oversight Committee and, subject to our Executive Committee, the Board of Directors.

We routinely evaluate cyber threats and develop strategies that address risks and improve future actions. Our initiatives and active partnerships continue to develop and enhance our risk management and incident response capabilities. As cyber threats evolve, we continue to improve our strategies and reduce our exposure to these threats.

We provide resources to employees to help protect them for the EOP tests. Our EOP training is available for all employees. CMM & IT employees and the Employee Survey Poster, view the EOP plans for electric and natural gas operations, download forms, and access information, tools and guides.
As part of our business of delivering energy to millions of customers, we access large quantities of information. Much of that information is protected by various local and federal laws, such as insider trading and customer information protection laws. In support of protections required by law, the company abides by its own set of internal policies and processes.

Protecting information from unauthorized access, use or modification is the right thing to do for our customers, employees and others. In addition, it helps the company minimize the risk of serious financial, legal and regulatory issues. All employees, contractors and third-party business partners have a responsibility to handle sensitive private and confidential information carefully and to protect the private and personal nature of much of the information we maintain.

In 2017, the company launched seven data privacy principles, along with descriptions on how employees can implement each principle and annual companywide data privacy training.

CenterPoint Energy recognizes and actively promotes International Data Privacy Day on January 28, in an effort to raise awareness of how personal information should be managed.

Feature: Sealy, Texas, Microburst

CenterPoint Energy's annual EOP drill was scheduled on May 24, 2017, but Mother Nature had other plans. On May 23, a powerful microburst caused damage to the company's transmission and distribution infrastructure in Sealy, Texas, located approximately 50 miles west of Houston. The storm produced tornado-force winds, torrential rain and massive hail. A major interstate highway was closed and nearly 100 homes and businesses were severely damaged.

While the storm was isolated to only 15.5 square-miles of our 5,000 square-mile service territory, the damage to the electrical infrastructure was extreme and more than 68,000 customers lost power.

The staging site that was prepared for the EOP drill was relocated and used during the emergency response. Working safely and efficiently, our crews replaced nine wooden transmission poles, 246 distribution poles and 356 spans of wire. Over a two-day response period, we restored power to all affected customers. For the first time, the company utilized drones to assess damage, as well as to communicate the extent of the damage and restoration efforts to media and customers. Our employees used the staging site to provide meals, organize materials and house more than 500 crew members.

Feature: Mutual Assistance

CenterPoint Energy understands how critical it is to quickly and safely restore service after a natural disaster or other emergency. In addition to being prepared to respond to incidents across our territory, we have mutual assistance agreements with other electric utilities and natural gas companies that enable them to ask for our support in a time of need.

CenterPoint Energy benefited from these relationships during our Hurricane Harvey restoration, with more than 1,500 resources supporting our activities. In turn, we have supported fellow utilities by sending resources on the following 2017 mutual assistance trips:

- January: Public Service Company of Oklahoma (AEP-PSO) for ice storm restoration;
- September: Tampa Electric and Florida Power & Light for Hurricane Irma restoration; and
- October: Entergy Louisiana for Hurricane Nate restoration.

As part of a nationwide, coordinated power restoration plan involving several investor-owned electric companies, CenterPoint Energy's electric utility sent 140 employees to Puerto Rico to accelerate the power restoration efforts.
In early 2017, the Atlanta Falcons and New England Patriots faced off in the 2017 Super Bowl in Houston. Behind the scenes, CenterPoint Energy had been preparing since early 2016 for the critical role we would play in the National Football League's championship game. While millions of fans around the world watched the game, employees from a wide range of CenterPoint Energy departments were quietly doing their jobs, working to ensure the security and reliability of electric service and natural gas for the Super Bowl and the many related events scheduled throughout Houston.

The operational leaders of our electric and natural gas businesses began meeting in 2016 to discuss preparedness. This was a high-visibility event, and our company's leadership recognized that the best way to support Houston as a great place to live and work was through reliable electric and natural gas systems. The company developed an organizational structure, established communications, put resources in position, and closely monitored all systems to ensure a prompt and coordinated response to restore service in the event of an interruption. This carefully designed plan also included effective, timely communications to employees, customers and external partners.

The reliability measures executed for the Super Bowl prepared CenterPoint Energy to support the World Series games that were hosted in Houston Oct. 27-29, 2017. During the games, electric operations personnel were positioned to respond to any issues, and plans were in place to have power restored in less than 30 minutes, if needed.

Lessons learned from Houston's Super Bowl and World Series helped our natural gas operations in Minnesota prepare for the 2018 Super Bowl, which was played Feb. 4 in Minneapolis.
Because third-party damage is the number-one cause of pipeline incidents for CenterPoint Energy, we partner with the Common Ground Alliance to raise awareness of 811, the national "Call Before You Dig" number. Each year on Aug. 11, CenterPoint Energy issues a news release promoting 811 as the resource for marking utility lines before digging. In 2017, CenterPoint Energy held 14 damage-prevention events in the Texas region, reaching nearly 1,400 stakeholders. These events included the downtown Houston 811 Day Block Party, held in collaboration with other pipeline operators, and a presence at a Houston Astros game.

At CenterPoint Energy, use of an unmanned aircraft system (UAS) — commonly known as a drone — has helped expedite our ability to assess damage to our electric transmission and distribution system following storms. The company tested drone technology following the Sealy, Texas, microburst and Hurricane Harvey, and is developing a formal program to support drone usage during emergency response and daily operations.

Obstacles, such as downed trees or flooded roads, make it difficult for crews to assess damage following a severe weather event, and can hinder response and restoration time. Using drones to capture high-resolution imagery in real time will help us assess damage and deploy the right resources to the right places in order to restore power. CenterPoint Energy has used helicopters to assess system damage and will continue use them as necessary; however, drones can typically be deployed faster. Drones also help the company avoid risk when assessing inaccessible equipment and keep employees out of hazardous situations when inspecting infrastructure.

After Hurricane Harvey, CenterPoint Energy used 15 drones to:
- Determine the extent of access issues at various locations;
- Monitor circuit loading and conditions by equipping drones with infrared equipment;
- Establish safe routes for crews to reach areas with high water; and
- Monitor flooded equipment.

Drone footage of the severe weather events in 2017 was shared with news outlets and on social media, which helped keep the public informed about our ongoing restoration efforts.
Report Overview/Feedback

CenterPoint Energy is committed to making ongoing improvements to our reporting. We welcome your input and comments. Please email your thoughts to us at inreach@centerpointenergy.com and engage with us via our social media channels:
- Facebook @CenterPointEnergy
- Twitter @CenterPointE
- YouTube CenterPointEnergy
- LinkedIn

Thank you to Richard T. Bye, director of Environmental Services, CenterPoint Energy, for providing his photos for this report.
GRI Index

CenterPoint® Energy's 2017 Corporate Responsibility Report is based on the Global Reporting Initiative (GRI) standards. This report has been prepared in accordance with the GRI Standards. Core option. It was developed based on issues related to our company's environmental, social and economic performance that we have identified as material or important to stakeholders.

The table below provides the location to find information reported that completely or partially relates to the indicators published by GRI. For our complete GRI Content Index, please see the Investors section of CenterPoint Energy.com.

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January 25, 2018

Chairman DeAnn T. Walker
Commissioner Brandy Marty Marquez
Commissioner Arthur C. D'Andrea
Public Utility Commission of Texas
1701 N. Congress Avenue
Austin, Texas 78701

Re: Project No. 47945, Proceeding to Investigate and Address the Effects of the Tax Cuts and Jobs Act of 2017 on the Rates of Texas Investor-Owned Utility Companies

Dear Chairman Walker, Commissioner Marquez, and Commissioner D'Andrea:

CenterPoint Energy Houston Electric, LLC ("CenterPoint Energy") has reviewed the memorandum filed yesterday by Chairman Walker in this project and understands the concerns raised regarding the need to address the impacts of the Tax Cuts and Jobs Act of 2017. The memorandum recommends that the Commission address those impacts for each electric utility on a case-by-case basis and, with respect to CenterPoint Energy, recommends that the Commission require the company to file a full base rate proceeding. Chairman Walker indicates that this will allow the Commission to address both the impacts of federal income tax legislation and the difference between the company's distribution and transmission rates.

In its review of electric utility earnings in October 2017, the Commission considered whether to initiate a full base rate proceeding for CenterPoint Energy but declined to do so in part because of the impacts of Hurricane Harvey on the company's test year costs and billing determinants. That concern continues to exist today. At the same time, CenterPoint Energy understands the desire to address the impacts of the federal income tax legislation in a timely manner while also addressing the difference between distribution and transmission rates. While a full base rate proceeding is one way to address both distribution and transmission rates, there may be other ways to achieve that objective while avoiding the test year impacts of Hurricane Harvey and the delay in setting new rates associated with preparing and prosecuting a full base rate proceeding.

For these reasons, CenterPoint Energy respectfully requests that the Commission defer its decision regarding whether to initiate a full base rate case proceeding for the company until the next Open Meeting on February 15, 2018 so that Commission Staff and the company may discuss possible alternatives.

Sincerely,

Patrick H. Peters III
CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

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DIVISION 1: RETAIL RATES.


(a) **Purpose and application.** This section implements Public Utility Regulatory Act (PURA) §36.210. This section applies to electric utilities, including transmission and distribution utilities (TDUs), that provide wholesale or retail distribution service.

(b) **Definitions.** The following terms, when used in this section, have the following meanings unless the context indicates otherwise.

(1) **Capitalized operations and maintenance expenses** -- Expenses that have been deferred or amortized as a regulatory asset or liability.

(2) **DCRF proceeding** -- A proceeding conducted pursuant to this section in which creation or amendment of a DCRF is considered on application of an electric utility to the commission pursuant to subsection (c)(1) of this section.

(3) **Distribution invested capital** -- The parts of the electric utility's invested capital, as described in PURA §36.053, that are categorized as distribution plant, distribution-related intangible plant, and distribution-related communication equipment and networks properly recorded in Federal Energy Regulatory Commission (FERC) Uniform System of Accounts 303, 352, 353, 360 through 374, 391, and 397. Distribution invested capital includes only costs: for plant that has been placed into service; that comply with PURA, including §36.053 and §36.058; and that are prudent, reasonable, and necessary. Distribution invested capital does not include: generation-related costs; transmission-related costs, including costs recovered through rates set pursuant to §25.192 of this title (relating to Transmission Service Rates), §25.193 of this title (relating to Distribution Service Provider Transmission Cost Recovery Factors (TCRF)), or §25.239 of this title (relating to Transmission Cost Recovery Factor for Certain Electric Utilities); indirect corporate costs; capitalized operations and maintenance expenses; and distribution invested capital recovered through a separate rate, including a surcharge, tracker, rider, or other mechanism. In a DCRF proceeding, an electric utility may elect not to seek recovery of certain distribution invested capital, but may not exclude all of the distribution invested capital in one of the accounts identified above unless the electric utility can prove that the distribution invested capital in the account reduced by the related accumulated depreciation is greater than the distribution invested capital in the account reduced by the related accumulated depreciation used in setting rates in the electric utility's last comprehensive base-rate proceeding.

(4) **Net distribution invested capital** -- Distribution invested capital less accumulated depreciation and adjusted for any changes in distribution-related accumulated deferred federal income taxes and excluding any impact associated with Financial Accounting Standards Board Interpretation No. 48 (FIN 48).

(5) **Weather-normalized** -- Adjusted for normal weather using weather data for the most recent ten calendar years.
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(c) Application for a DCRF.
   (1) General requirements.
      (A) Filing of application. An electric utility may apply for inclusion of a DCRF in its tariffs for wholesale and retail distribution service. To implement a DCRF, an electric utility shall file the application for the DCRF simultaneously with all regulatory authorities having original jurisdiction over the electric utility’s distribution service area.
      (B) Municipal proceedings. A municipality’s governing body with original jurisdiction over an application for a DCRF shall make a final decision on the application within 60 days after the application was filed. If the governing body does not make a final decision within 60 days after the application was filed, the application is deemed denied by the governing body. On the 60th day after the application is filed, the electric utility is deemed to appeal the governing body’s final decision to the commission, regardless of whether the governing body approves or denies the application, and the appeal is deemed at that time to be consolidated with the electric utility’s DCRF proceeding before the commission. In addition, the governing body’s interim and final decisions are deemed automatically suspended at the times they took effect.
      (C) Frequency of DCRF proceedings. An electric utility may have no more than one DCRF (including a DCRF amendment) become effective each calendar year pursuant to an application filed pursuant to this paragraph. An electric utility may change its rates pursuant to a DCRF no more than four times between comprehensive base-rate proceedings. An electric utility shall not apply for a DCRF while a comprehensive base-rate proceeding for the electric utility is pending. In addition, the presiding officer shall dismiss an electric utility’s application for a DCRF if the electric utility or commission initiates a comprehensive base-rate proceeding within 145 days after the electric utility filed the application for a DCRF.

(2) Requirements applicable to TDUs. A TDU may file an application for a DCRF only during the period April 1 through April 8. A TDU shall not file an application for a DCRF after April 8 of a year even if April 8 is not a working day, as defined by §22.2(44) of this title (relating to Definitions).

(3) Requirements applicable to other electric utilities. An electric utility that does not offer customer choice may file an application for a DCRF at any time other than in April and May.
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(d) Calculation of DCRF.

(1) **DCRF formula.** The DCRF for each rate class shall be calculated using the following formula:

\[
[(\text{DIC}_C \cdot \text{DIC}_R^C) \cdot \text{ROR}_\text{AT}] + (\text{DEPR}_C - \text{DEPR}_R^C) + (\text{FIT}_C - \text{FIT}_R^C) + (\text{OT}_C - \text{OT}_R^C) - \sum (\text{DISTREV}_R^\text{CLASS} \cdot \%\text{GROWTH}_\text{CLASS}) \cdot \text{ALLOC}_\text{CLASS} / \text{BD}_\text{CLASS}
\]

Where:

- \(\text{DIC}_C\) = Current Net Distribution Invested Capital.
- \(\text{DIC}_R^C\) = Net Distribution Invested Capital from the last comprehensive base-rate proceeding.
- \(\text{ROR}_\text{AT}\) = After-Tax Rate of Return as defined in paragraph (2) of this subsection.
- \(\text{DEPR}_C\) = Current Depreciation Expense, as related to Current Gross Distribution Invested Capital, calculated using the currently approved depreciation rates.
- \(\text{DEPR}_R^C\) = Depreciation Expense, as related to Gross Distribution Invested Capital, from the last comprehensive base-rate proceeding.
- \(\text{FIT}_C\) = Current Federal Income Tax, as related to Current Net Distribution Invested Capital, including the change in federal income taxes related to the change in return on rate base and synchronization of interest associated with the change in rate base resulting from additions to and retirements of distribution plant as used to compute Net Distribution Invested Capital.
- \(\text{FIT}_R^C\) = Federal Income Tax, as related to Net Distribution Invested Capital from the last comprehensive base-rate proceeding.
- \(\text{OT}_C\) = Current Other Taxes (taxes other than income taxes and taxes associated with the return on rate base), as related to Current Net Distribution Invested Capital, calculated using current tax rates and the methodology from the last comprehensive base-rate proceeding, and not including municipal franchise fees.
- \(\text{OT}_R^C\) = Other Taxes, as related to Net Distribution Invested Capital from the last comprehensive base-rate proceeding, and not including municipal franchise fees.
- \(\text{DISTREV}_R^\text{CLASS}\) = Distribution Revenues by rate class based on Net Distribution Invested Capital from the last comprehensive base-rate proceeding.
- \(\%\text{GROWTH}_\text{CLASS}\) = Growth in Billing Determinants by Class.
- \(\text{BD}_\text{CLASS}\) = Billing Determinant by Class.
- \(\text{BD}_R^\text{CLASS}\) = Billing Determinant by Rate Class.
- \(\text{ALLOC}_\text{CLASS}\) = Net Distribution Invested Capital allocated to the rate class from the last comprehensive base-rate proceeding.
- \(\text{DEPR}_R^\text{CLASS}\) = Depreciation Expense, as related to Gross Distribution Invested Capital, allocated to the rate class in the last comprehensive base-rate proceeding.
- \(\text{FIT}_R^\text{CLASS}\) = Federal Income Tax, as related to Net Distribution Invested Capital, allocated to the rate class in the last comprehensive base-rate proceeding.
- \(\text{OT}_R^\text{CLASS}\) = Other Taxes, as related to Net Distribution Invested Capital, allocated to the rate class in the last comprehensive base-rate proceeding, and not including municipal franchise fees.
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ALLOC\textsubscript{CLASS} = Rate Class Allocation Factor approved in the last comprehensive base-rate proceeding, calculated as: total net distribution plant allocated to rate class, divided by total net distribution plant. For situations in which data from the last comprehensive base-rate proceeding are not available to perform the described calculation, the Rate Class Allocation Factor shall be calculated as the total distribution revenue requirement allocated to the rate class (less any identifiable amounts explicitly unrelated to Distribution Invested Capital) divided by the total distribution revenue requirement (less any identifiable amounts explicitly unrelated to Distribution Invested Capital) for all classes as approved by the commission in the electric utility’s last comprehensive base-rate case.

BD\textsubscript{CLASS} = Rate Class Billing Determinants (weather-normalized and adjusted to reflect the number of customers at the end of the period) for the 12 months ending on the date used for purposes of determining the Current Net Distribution Invested Capital. For customer classes billed primarily on the basis of kilowatt-hour billing determinants, the DCRF shall be calculated using kilowatt-hour billing determinants. For customer classes billed primarily on the basis of demand billing determinants, the DCRF shall be calculated using demand billing determinants.

BD\textsubscript{RC-CLASS} = Rate Class Billing Determinants used to set rates in the last comprehensive base-rate proceeding.

If an input to the DCRF formula from the last comprehensive base-rate proceeding is not separately identified in that proceeding, it shall be derived from information from that proceeding.

(2) \textbf{Return on invested capital.} The electric utility’s rate of return is the rate of return approved by the commission in the electric utility’s last comprehensive base-rate proceeding if the final order (which may be an order on rehearing) approving the rate of return was filed less than three years before the application for a DCRF was filed. If the final order approving the rate of return was filed three years or more before the application for a DCRF was filed, the rate of return is the lesser of the rate of return in the final order or the alternative rate of return calculated as follows: The alternative rate of return shall be calculated using a 10% cost of equity, the capital structure approved by the commission in the electric utility’s last comprehensive base-rate proceeding, and the cost of debt as reported in the electric utility’s most recent Earnings Monitoring Report filed pursuant to §25.73 of this title (relating to Financial and Operating Reports).

(3) \textbf{Determination of Distribution Invested Capital.} The electric utility must clearly identify any costs included as distribution invested capital because of a change in accounting rules or practices since the test year in the electric utility’s most recent comprehensive base-rate proceeding. The commission shall exclude such costs if the electric utility does not prove that the costs are appropriate for recovery through the DCRF.
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(e) Procedures for DCRF proceeding.

(1) **Filing requirements.** To file an application for a DCRF, an electric utility shall use the commission-prescribed form and include a sworn statement from an appropriate employee of the electric utility that the application complies with the electric utility's tariff and this section, including that the distribution invested capital in the application includes only costs: for plant that has been placed into service; that comply with PURA, including §36.053 and §36.058; and that are prudent, reasonable, and necessary. In addition, the sworn statement shall state that the application is true and correct to the best of the employee's knowledge, information, and belief. Furthermore, the electric utility shall include in its application an earnings monitoring report for the immediately preceding calendar year prepared in accordance with §25.73(b) of this title.

(2) **Notice and intervention deadline.** By the day after it files its application, the electric utility shall provide notice of its application, using a reasonable method of notice, to all parties in the electric utility's last comprehensive base-rate proceeding and, if applicable, last DCRF proceeding, and shall include in the notice the docket number for the new proceeding. The intervention deadline is 30 days from the date service of notice is completed.

(3) **Parties.** The Office of Public Utility Counsel and affected parties may participate as parties in a DCRF proceeding.

(4) **Denial due to earnings.** The commission shall deny an electric utility's application for a DCRF if the earnings monitoring report included in the electric utility's application shows that the electric utility is earning more than its authorized rate of return using weather-normalized data. In making this determination, the commission shall correct the calculation of the earned rate of return in the earnings monitoring report to the extent that the calculation does not comply with §25.73(b) of this title and any form adopted to implement that subsection.

(5) **Scope of proceeding.** The issues of whether distribution invested capital included in an application for a DCRF or DCRF adjustment complies with PURA, including §36.053 and §36.058, and is prudent, reasonable, and necessary shall not be addressed in a DCRF proceeding unless the presiding officer finds that good cause exists to address these issues.

(6) **Commission processing of application.**

(A) **Sufficiency of application.** A motion to find an application materially deficient shall be filed no later than 30 days after service of notice is completed. The motion shall be served on the electric utility by hand delivery, facsimile transmission, or overnight courier delivery, or by e-mail if agreed to by the electric utility or ordered by the presiding officer. The motion shall specify the nature of the deficiency and the relevant portions of the application, and cite the particular requirement with which the application is alleged not to comply. The electric utility's response to a motion to find an application materially deficient shall be filed no later than five working days after such motion is received. If within ten working days after the deadline for filing a motion to find an application materially deficient, the presiding officer has not issued a written order concluding that material deficiencies exist in the application, the application is deemed sufficient.

(B) **Discovery.** Each party, other than commission staff, may serve no more than 20 requests for information and requests for admissions of fact pursuant to §22.144 of this title (relating to Requests for Information and Requests for Admission of Facts), except where the presiding officer finds good cause for a party to serve additional requests. Except for a request by commission staff, a request shall not include subparts or multiple questions, and requests shall be sequentially numbered.
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regardless of whether the requests are served at the same time or on different parties. A response to a request shall be served no later than ten working days after receipt of the discovery request. A response to a request shall be served no later than ten working days after receipt of the request. A request for which an objection is filed does not count towards a party’s request limit. A party may request a technical conference by the intervention deadline, and shall identify the topics that it wants to discuss. An electric utility shall hold the technical conference in Austin, Texas five working days after the intervention deadline, unless the electric utility and the parties who requested the technical conference agree to a different date. The technical conference shall be held at the location designated by the electric utility, unless the commission staff designates a location. The electric utility shall have appropriate persons attend the technical conference to answer questions. A party may take a deposition only if authorized by the presiding officer.

(C) System-wide rates and effective date of DCRF. The presiding officer shall approve the DCRF for an electric utility on a system-wide basis and set the effective date of the DCRF for a TDU as September 1 unless good cause exists for a later date. The presiding officer shall make a final decision on a DCRF application made by a TDU at least 46 days before the effective date of the approved rates, even if this requirement results in an effective date after September 1. For an electric utility that does not offer customer choice, the presiding officer shall set the effective date of the DCRF to be 145 days after the application was filed unless good cause exists for a later date.

(D) Review of application. A DCRF proceeding is eligible for disposition pursuant to §22.35(b)(1) of this title (relating to Informal Disposition).

(E) Notice of approved rates. Unless otherwise ordered, a TDU shall serve notice of the approved rates and the effective date of the approved rates by the working day after the presiding officer’s final decision, to retail electric providers that are authorized by the registration agent to provide service in the TDU’s distribution service area. Notice under this subparagraph of this paragraph may be served by email.

(f) DCRF reconciliation. The commission shall reconcile investments recovered through a DCRF in the electric utility’s next comprehensive base-rate proceeding to the extent such reconciliation did not already occur in a DCRF proceeding pursuant to subsection (e)(5) of this section. The reconciliation shall be limited to the issues of the extent to which the investments complied with PURA, including §36.053 and §36.058, and this section and were prudent, reasonable, and necessary. To the extent that the commission determines that the investments did not comply with PURA and this section or were not prudent, reasonable, and necessary, the electric utility shall refund all revenues related to the investments that it improperly recovered through rates, and shall also pay its customers carrying charges on these revenues. The carrying charges shall be determined as follows: For the time period beginning with the date on which over-recovery is determined to have begun to the effective date of the new base rates, carrying costs shall be calculated using the same rate of return that was applied to the investments in the DCRF proceedings that resulted in the over-recovery. For the time period beginning with the effective date of the new base rates, carrying costs shall be calculated using the electric utility’s rate of return authorized in the comprehensive base-rate proceeding.

(g) DCRF’s effect on electric utility’s financial risk and rate of return. In setting the rate of return for an electric utility with a DCRF, the commission may expressly consider the effect of the DCRF on the electric utility’s financial risk and rate of return.
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(h) **Reports.** An electric utility with a DCRF shall file reports that will permit the commission to monitor its DCRF revenues, in accordance with any filing requirements and schedules prescribed by the commission pursuant to §25.73 of this title or this section.

(i) **Expiration.** This section expires upon the expiration of PURA §36.210. Any DCRF in effect at that time shall remain in effect until the electric utility’s next comprehensive base-rate proceeding.
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Subchapter I. TRANSMISSION AND DISTRIBUTION.
DIVISION 1. OPEN-ACCESS COMPARABLE TRANSMISSION SERVICE FOR ELECTRIC UTILITIES IN THE ELECTRIC RELIABILITY COUNCIL OF TEXAS.


(a) **Tariffs.** Each transmission service provider (TSP) shall file a tariff for transmission service to establish its rates and other terms and conditions and shall apply its tariffs and rates on a non-discriminatory basis. The tariff shall apply to all distribution service providers (DSPs) and any entity scheduling the export of power from the Electric Reliability Council of Texas (ERCOT) region. The tariff shall not apply to any entity engaging in wholesale storage as described by §25.501(m) of this title (relating to Wholesale Market Design for the Electric Reliability Council of Texas) (storage entity).

(b) **Charges for transmission service delivered within ERCOT.** DSPs, excluding storage entities, shall incur transmission service charges pursuant to the tariffs of the TSP.

(1) A TSP’s transmission rate shall be calculated as its commission-approved transmission cost of service divided by the average of ERCOT coincident peak demand for the months of June, July, August and September (4CP), excluding the portion of coincident peak demand attributable to wholesale storage load. A TSP’s transmission rate shall remain in effect until the commission approves a new rate. The TSP’s annual rate shall be converted to a monthly rate. The monthly transmission service charge to be paid by each DSP is the product of each TSP’s monthly rate as specified in its tariff and the DSP’s previous year’s average of the 4CP demand that is coincident with the ERCOT 4CP.

(2) Payments for transmission services shall be consistent with commission orders, approved tariffs, and §25.202 of this title (relating to Commercial Terms for Transmission Service).

(c) **Transmission cost of service.** The transmission cost of service for each TSP shall be based on the expenses in Federal Energy Regulatory Commission (FERC) expense accounts 560-573 (or accounts with similar contents or amounts functionalized to the transmission function) plus the depreciation, federal income tax, and other associated taxes, and the commission-allowed rate of return based on FERC plant accounts 350-359 (or accounts with similar contents or amounts functionalized to the transmission function), less accumulated depreciation and accumulated deferred federal income taxes, as applicable.

(1) The following facilities are deemed to be transmission facilities:

(A) power lines, substations, reactive devices, and associated facilities, operated at 60 kilovolts or above, including radial lines operated at or above 60 kilovolts, except the step-up transformers and a protective device associated with the interconnection from a generating station to the transmission network;

(B) substation facilities on the high side of the transformer, in a substation where power is transformed from a voltage higher than 60 kilovolts to a voltage lower than 60 kilovolts;

(C) the portion of the direct-current interconnections with areas outside of the ERCOT region (DC ties) that are owned by a TSP in the ERCOT region, including those portions of the DC tie that operate at a voltage lower than 60 kilovolts; and

(D) capacitors and other reactive devices that are operated at a voltage below 60 kilovolts, if they are located in a distribution substation, the load at the substation has a power factor in excess of 0.95 as measured or calculated at the distribution voltage level without the reactive devices, and the reactive devices are controlled by an operator or automatically switched in response to transmission voltage.

(E) As used in subparagraphs (A) - (D) of this paragraph, reactive devices do not include generating facilities.
CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter I. TRANSMISSION AND DISTRIBUTION.

DIVISION 1. OPEN-ACCESS COMPARABLE TRANSMISSION SERVICE FOR ELECTRIC UTILITIES IN THE ELECTRIC RELIABILITY COUNCIL OF TEXAS.

(2) For municipally owned utilities, river authorities, and electric cooperatives, the commission may permit the use of the cash flow method or other reasonable alternative methods of determining the annual transmission revenue requirement, including the return element of the revenue requirement, consistent with the rate actions of the rate-setting authority for a municipally owned utility.

(3) For municipally owned utilities, river authorities, and electric cooperatives, the return may be determined based on the TSP’s actual debt service and a reasonable coverage ratio. In determining a reasonable coverage ratio, the commission will consider the coverage ratios required in the TSP’s bond indentures or ordinances and the most recent rate action of the rate-setting authority for the TSP.

(4) A municipally owned utility that is required to apply for a certificate of public convenience and necessity to construct, install, or extend a transmission facility within ERCOT pursuant to §25.101 of this title (relating to Certification Criteria) is entitled to recover, through the utility’s wholesale transmission rate, reasonable payments made to a taxing entity in lieu of ad valorem taxes on that transmission facility, provided that:

(A) The utility enters into a written agreement with the governing body of the taxing entity related to the payments;

(B) The amount paid is the same as the amount the utility would have to pay to the taxing entity on that transmission facility if the facility were subject to ad valorem taxation;

(C) The governing body of the taxing entity is not the governing body of the utility; and

(D) The utility provides the commission with a copy of the written agreement and any other information that the commission considers necessary in relation to the agreement.

(5) The commission may adopt rate-filing requirements that provide additional details concerning the costs that may be included in the transmission costs and how such costs should be reported in a proceeding to establish transmission rates.

(d) Billing units. No later than December 1 of each year, ERCOT shall determine and file with the commission the current year’s average 4CP demand for each DSP, or the DSP’s agent for transmission service billing purposes, as appropriate, excluding the portion of coincident peak demand attributable to wholesale storage load. This demand shall be used to bill transmission service for the next year. The ERCOT average 4CP demand shall be the sum of the coincident peak of all of the ERCOT DSPs, excluding the portion of coincident peak demand attributable to wholesale storage load, for the four intervals coincident with ERCOT system peak for the months of June, July, August, and September, divided by four. As used in this section, a DSP’s average 4CP demand is determined from the total demand, coincident with the ERCOT 4CP, of all customers connected to a DSP, including load served at transmission voltage, but excluding the load of wholesale storage entities. The measurement of the coincident peak shall be in accordance with commission-approved ERCOT protocols.

(e) Transmission rates for exports from ERCOT. Transmission service charges for exports of power from ERCOT will be assessed to transmission service customers for transmission service within the boundaries of the ERCOT region, in accordance with this section and the ERCOT protocols.

(1) A transmission service customer shall be assessed a transmission service charge for the use of the ERCOT transmission system in exporting power from ERCOT based on the megawatts that are actually exported, the duration of the transaction and the rates established under subsections (c) and (d) of this section. Billing intervals shall consist of a year, month, week, day, or hour.
CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter I. TRANSMISSION AND DISTRIBUTION.
DIVISION 1. OPEN-ACCESS COMPARABLE TRANSMISSION SERVICE FOR ELECTRIC UTILITIES IN THE ELECTRIC RELIABILITY COUNCIL OF TEXAS.

(2) The monthly on-peak transmission rate will be one-fourth the TSP’s annual rate, and the monthly off-peak transmission rate will be one-twelfth its annual rate. The peak period used to determine the applicable transmission rate for such transactions shall be the months of June, July, August, and September.

(3) The DSP or an entity scheduling the export of power over a DC tie is solely responsible to the TSP for payment of transmission service charges under this subsection.

(4) A transmission service customer’s charges for use of the ERCOT transmission system for export purposes on a monthly basis shall not exceed the annual transmission charge for the transaction.

(f) Transmission revenue. Revenue from the transmission of electric energy out of the ERCOT region over the DC ties that is recovered under subsection (e) of this section shall be credited to all transmission service customers as a reduction in the transmission cost of service for TSPs that receive the revenue.

(g) Revision of transmission rates. Each TSP in the ERCOT region shall periodically revise its transmission service rates to reflect changes in the cost of providing such services. Any request for a change in transmission rates shall comply with the filing requirements established by the commission under this section.

(h) Interim Update of Transmission rates.

(1) Frequency. Each TSP in the ERCOT region may apply to update its transmission rates on an interim basis not more than once per calendar year to reflect changes in its invested capital. Upon the effective date of an amendment to §25.193 pursuant to an order in Project Number 37909, Rulemaking Proceeding to Amend P.U.C. Subst. R. 25.193, Relating to Distribution Service Provider Transmission Cost Recovery factors (TCRF), that allows a distribution service provider to recover, through its transmission cost recovery factor, all transmission costs charged to the distribution service provider by TSPs, each TSP in the ERCOT region may apply to update its transmission rates on an interim basis not more than twice per calendar year to reflect changes in its invested capital. If the TSP elects to update its transmission rates, the new rates shall reflect the addition and retirement of transmission facilities and include appropriate depreciation, federal income tax and other associated taxes, and the commission-authorized rate of return on such facilities as well as changes in loads. If the TSP does not have a commission-authorized rate of return, an appropriate rate of return shall be used.

(2) Reconciliation. An update of transmission rates under paragraph (1) of this subsection shall be subject to reconciliation at the next complete review of the TSP’s transmission cost of service, at which time the commission shall review the costs of the interim transmission plant additions to determine if they were reasonable and necessary. Any amounts resulting from an update that are found to have been unreasonable or unnecessary, plus the corresponding return and taxes, shall be refunded with carrying costs determined as follows: for the time period beginning with the date on which over-recovery is determined to have begun to the effective date of the TSP’s rates set in that complete review of the TSP’s transmission cost of service, carrying costs shall be calculated using the same rate of return that was applied to the transmission investments included in the update. For the time period beginning with the effective date of the TSP’s rates set in that complete review of the TSP’s transmission cost of service, carrying costs shall be calculated using the TSP’s rate of return authorized in that complete review.

§25.192-3 effective 7/5/16
(P 45124)
CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter I. TRANSMISSION AND DISTRIBUTION.

DIVISION 1. OPEN-ACCESS COMPARABLE TRANSMISSION SERVICE FOR ELECTRIC UTILITIES IN THE ELECTRIC RELIABILITY COUNCIL OF TEXAS.

(3) **Future consideration of effect on TSP's financial risk and rate of return.** For a TSP that has increased its rates pursuant to paragraph (1) of this subsection, the commission may, in setting rates in the next complete review of the TSP's transmission cost of service, expressly consider the effects of reduced regulatory lag resulting from the interim updates to the TSP's rates and the concomitant impact on the TSP's financial risk and rate of return.

(4) **Commission processing of application.** The commission shall process an application filed pursuant to paragraph (1) of this subsection in the following manner.

(A) **Notice and intervention deadline.** The applicant shall provide notice of its application to all parties in the applicant's last complete review of the applicant's transmission cost of service and all of the distribution service providers listed in the last docket in which the commission set the annual transmission service charges for the Electric Reliability Council of Texas. The intervention deadline shall be 21 days from the date service of notice is completed.

(B) **Sufficiency of application.** A motion to find an application materially deficient shall be filed no later than 21 days after an application is filed. The motion shall be served on the applicant by hand delivery, facsimile transmission, or overnight courier delivery, or by e-mail if agreed to by the applicant or ordered by the presiding officer. The motion shall specify the nature of the deficiency and the relevant portions of the application, and cite the particular requirement with which the application is alleged not to comply. The applicant's response to a motion to find an application materially deficient shall be filed no later than five working days after such motion is received. If within ten working days after the deadline for filing a motion to find an application materially deficient, the presiding officer has not filed a written order concluding that material deficiencies exist in the application, the application is deemed sufficient.

(C) **Review of application.** A proceeding initiated pursuant to paragraph (1) of this subsection is eligible for disposition pursuant to §22.35(b)(1) of this title (relating to Informal Disposition). If the requirements of §22.35 of this title are met, the presiding officer shall issue a notice of approval within 60 days of the date a materially sufficient application is filed unless good cause exists to extend this deadline or the presiding officer determines that the proceeding should be considered by the commission.

(5) **Filing Schedule.** The commission may prescribe a schedule for providers of transmission services to file proceedings to revise the rates for such services.

(6) **DSP's right to pass through changes in wholesale rates.** A DSP may expeditiously pass through to its customers changes in wholesale transmission rates approved by the commission, pursuant to §25.193 of this title (relating to Distribution Service Provider Transmission Cost Recovery Factors (TCRF)).

(7) **Reporting requirements.** TSPs shall file reports that will permit the commission to monitor their transmission costs and revenues, in accordance with any filing requirements and schedules prescribed by the commission.

§25.192-4 effective 7/5/16 (P 45124)
CenterPoint Monthly Bill
for Residential Customer
Using 1000 kWh per Month

As of 3/20/2019

<table>
<thead>
<tr>
<th>Current Rates</th>
<th>Charge</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CEHE Charges</td>
<td>$0.04596</td>
<td>$45.96</td>
</tr>
<tr>
<td>Average Annual Rate - December 2018 REP Bill Comparison</td>
<td>$0.1251</td>
<td>$125.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Proposed Rates</th>
<th>Charge</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total CEHE Charges</td>
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</tr>
<tr>
<td>Average Annual Rate - December 2018 REP Bill Comparison</td>
<td>$0.1251</td>
<td>$125.10</td>
</tr>
</tbody>
</table>

- Total CEHE Charges Increase/ (Decrease) $2.38
- Total CEHE Charges Percentage Increase/ (Decrease) 5.19%
- Per 1,000 kWh Increase/ (Decrease) $0.00238
- REP Proposed Average Annual Rate $0.1275
- Increase/ (Decrease) in REP Bill due to CEHE Charges $127.49
- Total Percent REP Bill Increase/ (Decrease) 1.91%
CenterPoint Monthly Bill
for Residential Customer
Using 1000 kWh per Month

As of 3/20/2019

<table>
<thead>
<tr>
<th>Component</th>
<th>Charge</th>
<th>Amount</th>
<th>% of Total Bill</th>
<th>% of TDU Bill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of kWh</td>
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<tr>
<td>Customer Charge</td>
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<td>Transmission Cost Recovery Factor (TCRF)</td>
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<tr>
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<td>Rate Case Expense Rider</td>
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<td>$0.00</td>
<td>0.00%</td>
<td>0.00%</td>
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<tr>
<td>System Restoration Charge (Hurricane Ike)</td>
<td>$0.001126</td>
<td>$0.113</td>
<td>0.90%</td>
<td>2.45%</td>
</tr>
<tr>
<td>Accumulated Deferred Federal Income Tax Credit (Hurricane Ike)</td>
<td>($0.000137)</td>
<td>($0.014)</td>
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<td>-0.30%</td>
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<td>Rider TC Refund - Refund of Transition Charges</td>
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<td>0.00%</td>
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<tr>
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<td>Distribution Cost Recovery Factor (DCRF) 2018 (TCJA) Incremental Increase</td>
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</table>

Total Base Related Charges (Customer, Metering, Trans. And Dist Only)       $30.40
TotalBond Related Charges (TC, SRC, ADFITC)                                $5.99
Total RCE Charges and UEDIT Refund                                       $9.00
Total Other Charges (AMS, EECRF, TCRF, SBF, NDC, DCRF)                     $9.57
Total CEHE Charges                                                        $0.045955 $45.96

Average Annual Rate - December 2018 REP Bill Comparison                    $0.1251 $125.10
CenterPoint Monthly Bill  
for Residential Customer 
Using 1000 kWh per Month  

As of 3/20/2019

<table>
<thead>
<tr>
<th>Component</th>
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<tr>
<td>Customer Charge</td>
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<tr>
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<tr>
<td>AME</td>
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<td>Transmission System Charge</td>
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<tr>
<td>Distribution System Charge</td>
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<td></td>
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<tr>
<td>System Benefit Fund</td>
<td>$0.00000</td>
<td>$0.00</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
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<td>0.00%</td>
<td>0.00%</td>
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<tr>
<td>Nuclear Decommissioning Charge</td>
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<td>0.01%</td>
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<td>Rate Case Expense Rider</td>
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<td></td>
</tr>
<tr>
<td>System Restoration Charge (Hurricane Ike)</td>
<td>$0.001126</td>
<td>$0.13</td>
<td>0.90%</td>
<td>2.33%</td>
</tr>
<tr>
<td>Accumulated Deferred Federal Income Tax Credit (Hurricane Ike)</td>
<td>($0.000137)</td>
<td>($0.00)</td>
<td>-0.11%</td>
<td>-0.28%</td>
</tr>
<tr>
<td>Rider TC Refund - Refund of Transition Charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution Cost Recovery Factor (DCRF) 2015</td>
<td>$0.00000</td>
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<td>0.00%</td>
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<td>Distribution Cost Recovery Factor (DCRF) 2016 Incremental Increase</td>
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<td>$0.00</td>
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<td>Distribution Cost Recovery Factor (DCRF) 2017 Incremental Decrease</td>
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<td>$0.00</td>
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<td>Distribution Cost Recovery Factor (DCRF) 2017 (AMS Recon ) Incremental Decrease</td>
<td>$0.00000</td>
<td>$0.00</td>
<td>0.00%</td>
<td>0.00%</td>
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<td>Distribution Cost Recovery Factor (DCRF) 2018 (TCJA) Incremental Increase</td>
<td>$0.00000</td>
<td>$0.00</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
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<td>Distribution Cost Recovery Factor (DCRF) 2018 (TCJA Deferral) Incremental Decrease</td>
<td>$0.00000</td>
<td>$0.00</td>
<td>0.00%</td>
<td>0.00%</td>
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<tr>
<td>Unprotected Excess Deferred Income Taxes (UDIT)</td>
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</tr>
</tbody>
</table>

Total Related Charges (Customer, Metering, Trans And Distr Only) | $42.19 |
Total Bond Related Charges (TC, SRC, ADITTC) | $5.99 |
Total RCE Charges and UDIT Refund | ($8.51) |
Total Other Charges (AMS, EECRF, TCRF, SBF, NDC, DCRF) | $0.00 |
Total CEHE Charges | $91251 |
Average Annual Rate - December 2018 REP Bill Comparison | $91251 | $125.10 | 38.64% |
Mr. Fields,

The Emergency Response Awards are provided in two categories: Recovery, for companies directly impacted by events; and Assistance, for companies that come to the aid of another company. Since the first awards were provided in 1998, CenterPoint Energy has received the following 12 awards:

**RECOVERY**

- CenterPoint Energy
- Sealy Microburst
- May 2017
- CenterPoint Energy
- Hurricane Harvey
- September 2017
- CenterPoint Energy
- Thunderstorm & Flooding
- April 2016
- CenterPoint Energy
- Hurricane Ike
- September 2008
- CenterPoint Energy
- Hurricane Rita
- September 2005

**ASSISTANCE**

- CenterPoint Energy
- Hurricane Michael
- October 2018
- CenterPoint Energy
- Puerto Rico Assistance
- 2018
- CenterPoint Energy
- Hurricane Irma
- 2018
- CenterPoint Energy
- Derecho and Hurricane Sandy
- 2012
- CenterPoint Energy
- Ice Storm & Hurricanes Dolly & Gustav
- 2008
- CenterPoint Energy
- Four storms
- 2007
- CenterPoint Energy
- Hurricanes Dennis, Katrina, Rita, and Wilma
- 2005

Sincerely,

Owen Schmitt
Edison Electric Institute | Member Relations
701 Pennsylvania Avenue, N.W. | Washington, D.C. 20004-2696
202-508-5180 | www.eei.org
Wednesday, March 6, 2019

Texas Diversity Magazine

THESE ARE THE TOP 25 COMPANIES FOR DIVERSITY IN TEXAS

By Marisa Richard

Collage of portraits of an ethnically diverse and mixed age group of focused business professionals

Every year, for their most exclusive list to-date, the National Diversity Council releases the Top 25 Fortune 1000 Companies for Diversity in Texas. Once again, The National Diversity Council is proud to announce the 2018 Top 25 Companies for Diversity in Texas based on gender and minority representation in executive leadership and boards of directors. These organizations will be recognized on April 11, 2018 at the 14th Annual Texas Diversity and Leadership Conference.
“I would like to commend the organizations who have made this distinguished list,” said Dennis Kennedy, Founder and Chair of the National Diversity Council. “Although the highlighted companies have made some progress in their inclusion efforts, our hope is that this report will motivate them to continue progressing in a positive direction.”

Each of the 25 companies has been analyzed and compared against Texas demographics in the recently released report “Workforce Diversity and Corporate Governance: A Quantitative Analysis of Diversity and Inclusion in Texas Fortune 1000 Companies”. The National Diversity Council utilized various resources such as census reports, corporate websites, internal contacts, and external diversity associations to gather and report accurate information. To see the full report, please visit our Corporate Diversity Research site.

Companies to be recognized include Dynegy, American Airlines, Dr. Pepper Snapple and J.C. Penney, to name a few, who after extensive research measured by racial and ethnic diversity, gender diversity, diversity in board membership and executive leadership, and corporate governance diversity of 101 Texas Fortune 1000 companies were hand selected.

The Texas Diversity and Leadership conference is a three-day event that will give organizations the opportunity to explore the tools and resources necessary to build diverse workforces and remain competitive on the global stage. Attendees will have the opportunity to participate in informational sessions covering topics such as “Unconscious Bias,” “The Impact of Multiculturalism on the Healthcare Industry,” and “Countering Islamophobia.” This year’s keynote speakers are Actress and Philanthropist, Angela Bassett, Princeton University Professor Emeritus, Dr. Cornel West, Florida’s 43 Governor, Jeb Bush and Former U.S. Department of Housing and Urban Development Secretary, Julián Castro.

Registration for the Texas Diversity & Leadership Conference is currently ongoing and can be completed at texasdiversityconference.com. For more
information, please contact Dennis Kennedy at
dennis.kennedy@nationaldiversitycouncil.org.

See who made the cut. For the full list of the Top 25 Companies, see below.

1. J.C. Penney
2. Kimberly-Clark
3. Neiman Marcus
4. Texas Instruments
5. Center Point Energy
6. Commercial Metals
7. Dynegy
8. Conoco Phillips
9. United Services Automobile Association
10. Cinemark Holdings
11. Marathon Oil
12. Pepper Snapple
13. KBR
14. AT&T
15. Oxy
16. Michaels Stores
17. American Airlines
18. Phillips 66
19. Westlake Chemical
20. NuStar
21. Comerica Incorporated
22. Valero Energy
23. Brinker International
24. Enbridge
25. Waste Management
### 2018 10k

<table>
<thead>
<tr>
<th></th>
<th>Overhead</th>
<th>Underground</th>
<th>Total</th>
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<tbody>
<tr>
<td>Transmission lines - 69 kV</td>
<td>266</td>
<td>2</td>
<td></td>
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<tr>
<td>Transmission lines - 138 kV</td>
<td>2,207</td>
<td>24</td>
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<tr>
<td>Transmission lines - 345 kV</td>
<td>1,336</td>
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<tr>
<td>Total transmission lines</td>
<td>3,809</td>
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<td>3,835</td>
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<tr>
<td>Distribution lines</td>
<td>29,094</td>
<td>25,255</td>
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### 2009 10k

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<tr>
<td>Transmission lines - 69 kV</td>
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<td>Transmission lines - 138 kV</td>
<td>2,090</td>
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<td></td>
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<tr>
<td>Transmission lines - 345 kV</td>
<td>1,216</td>
<td>-</td>
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<tr>
<td>Total transmission lines</td>
<td>3,729</td>
<td>26</td>
<td>3,755</td>
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<tr>
<td>Distribution lines</td>
<td>27,726</td>
<td>20,080</td>
<td>47,806</td>
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### 2018 less 2009

<table>
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<tr>
<th></th>
<th>2018 less 2009</th>
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<tbody>
<tr>
<td></td>
<td>Overhead</td>
<td>Underground</td>
</tr>
<tr>
<td>Trans lines</td>
<td>80</td>
<td>-</td>
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<tr>
<td>Dist lines</td>
<td>1,368</td>
<td>5,175</td>
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## Number of Metered Customers
(End of Period)

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<tr>
<th></th>
<th>2009</th>
<th>2018</th>
<th>2018 less 2009</th>
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<tbody>
<tr>
<td>Residential</td>
<td>1,849,019</td>
<td>2,198,225</td>
<td>349,206</td>
</tr>
<tr>
<td>Total</td>
<td>2,094,210</td>
<td>2,485,370</td>
<td>391,160</td>
</tr>
<tr>
<td>Calc Non-Res</td>
<td>245,191</td>
<td>287,145</td>
<td>41,954</td>
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</table>

Source: 10K
<table>
<thead>
<tr>
<th>Year</th>
<th>CapEx ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>463</td>
</tr>
<tr>
<td>2011</td>
<td>538</td>
</tr>
<tr>
<td>2012</td>
<td>599</td>
</tr>
<tr>
<td>2013</td>
<td>759</td>
</tr>
<tr>
<td>2014</td>
<td>818</td>
</tr>
<tr>
<td>2015</td>
<td>934</td>
</tr>
<tr>
<td>2016</td>
<td>858</td>
</tr>
<tr>
<td>2017</td>
<td>924</td>
</tr>
<tr>
<td>2018</td>
<td>952</td>
</tr>
</tbody>
</table>

CEHE CapEx 10k: $6,845
<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Total System Net Load (MWH)</th>
<th>Annual Distribution System Net Load (MWH)</th>
<th>Annual Transmission System Net Load (MWH)</th>
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<tbody>
<tr>
<td>2009</td>
<td>79,612,886</td>
<td>62,163,260</td>
<td>17,449,626</td>
</tr>
<tr>
<td>2010</td>
<td>81,136,196</td>
<td>63,668,456</td>
<td>17,467,740</td>
</tr>
<tr>
<td>2011</td>
<td>84,346,790</td>
<td>66,674,330</td>
<td>17,672,460</td>
</tr>
<tr>
<td>2012</td>
<td>82,713,525</td>
<td>64,868,152</td>
<td>17,845,373</td>
</tr>
<tr>
<td>2013</td>
<td>84,437,122</td>
<td>65,231,800</td>
<td>19,205,322</td>
</tr>
<tr>
<td>2014</td>
<td>86,152,406</td>
<td>65,840,988</td>
<td>20,311,418</td>
</tr>
<tr>
<td>2015</td>
<td>88,225,204</td>
<td>67,547,642</td>
<td>20,677,562</td>
</tr>
<tr>
<td>2016</td>
<td>91,321,626</td>
<td>68,214,763</td>
<td>23,106,863</td>
</tr>
<tr>
<td>2017</td>
<td>93,017,644</td>
<td>68,586,326</td>
<td>24,431,318</td>
</tr>
<tr>
<td>2018</td>
<td>94,736,491</td>
<td>70,202,197</td>
<td>24,534,294</td>
</tr>
<tr>
<td>CAGR</td>
<td>2.0%</td>
<td>1.4%</td>
<td>3.9%</td>
</tr>
</tbody>
</table>
Port Houston

STATISTICS

Houston is a vibrant, growing, international city fueled by trade, which certainly shows in the port’s trade statistics. Use this page to learn more about the port and its global connections. In-depth statistics are available near the bottom of this page.

2017 Statistical Highlights for the greater Port of Houston complex

- 1st ranked U.S. port in foreign waterborne tonnage – 173 million short tons
- 2nd ranked U.S. port in total foreign and domestic waterborne tonnage – 260 million short tons
- 3rd ranked U.S. port in terms of total foreign cargo value

2018 Statistical Highlights for the greater Port of Houston complex

- 6th ranked U.S. container port by total TEUs
- Largest Gulf Coast container port, handling 69% of U.S. Gulf Coast container traffic
- Largest Texas port with 45% of market share by tonnage and 96% market share in containers

Sources: USACE Navigation Data Center (facts 1,2), U.S. Dept. of Commerce Bureau of Census, Customs Data from Census Bureau (fact 3), Journal of Commerce PIERS (facts 4 and 5), American Association of Port Authorities (fact 6).
Texas Medical Center (TMC)—the largest medical complex in the world—is at the forefront of advancing life sciences. Home to the brightest minds in medicine, TMC nurtures cross-institutional collaboration, creativity, and innovation because together, we can push the limits of what's possible.

10 million PATIENT VISITS PER YEAR

180,000+ ANNUAL SURGERIES

750,000 ER VISITS PER YEAR

WORLD'S LARGEST CHILDREN'S HOSPITAL

&

WORLD'S LARGEST CANCER HOSPITAL

TEXAS CHILDREN'S HOSPITAL

MD ANDERSON CANCER CENTER

8th largest BUSINESS DISTRICT IN THE U.S.

9,200 TOTAL PATIENT BEDS

50 million DEVELOPED SQUARE FEET

OVER 25,000 BABIES DELIVERED PER YEAR

13,600+ TOTAL HEART SURGERIES

$3 billion IN CONSTRUCTION PROJECTS UNDERWAY
APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR AUTHORITY TO CHANGE RATES OF TEXAS

DIRECT TESTIMONY OF RANDAL M. PRYOR ON BEHALF OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC

April 2019
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Exhibit RMP-1 CenterPoint Houston Service Area
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Exhibit RMP-3 Service Consultant SAP Training
Exhibit RMP-4 Settlement Rules for Work Orders
Exhibit RMP-5 Diagram of Distribution System
<table>
<thead>
<tr>
<th></th>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ADMS</td>
<td>Advanced Distribution Management System</td>
</tr>
<tr>
<td>2</td>
<td>CAIDI</td>
<td>Customer Average Interruption Duration Index: the average length of an outage.</td>
</tr>
<tr>
<td>3</td>
<td>FSR</td>
<td>Field Service Representative</td>
</tr>
<tr>
<td>4</td>
<td>kV</td>
<td>Kilo-volts</td>
</tr>
<tr>
<td>5</td>
<td>KVA</td>
<td>Kilovolt-amperes: total power.</td>
</tr>
<tr>
<td>6</td>
<td>kwh</td>
<td>Kilowatt-hour</td>
</tr>
<tr>
<td>7</td>
<td>PF</td>
<td>Power factor: ratio of real power (kW or kilowatts) to total power (KVA or kilovolt-amperes) or PF = KW / KVA</td>
</tr>
<tr>
<td>8</td>
<td>SAIDI</td>
<td>System Average Interruption Duration Index: average number of outage minutes per customer per year.</td>
</tr>
<tr>
<td>9</td>
<td>SAIFI</td>
<td>System Average Interruption Frequency Index: average number of times that a customer's service is interrupted.</td>
</tr>
<tr>
<td>10</td>
<td>URD</td>
<td>Underground Residential Distribution</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY OF RANDAL M. PRYOR

CenterPoint Energy Houston Electric, LLC’s ("CenterPoint Houston" or the Company”) Distribution Operations Division is responsible for the daily operation of the Company’s distribution grid.

My testimony:

- supports the reasonableness and necessity of Distribution Capital Costs from 2010 through 2018 in the amount of approximately $2.3 billion, of which approximately $1.1 billion was attributable to customer growth;

- describes the Distribution Operations division, the major programs and initiatives that drive distribution investment and expense;

- describes the system growth the Company’s distribution system has experienced since its last rate case, Docket No. 38339;

- supports the reasonableness and necessity of Operations and Maintenance ("O&M") expenses incurred in support of the distribution function during the 2018 test year in the amount of $206.7 million; and

- describes a number of the processes used to plan, monitor, and control investments and expenditures.

Together with the cost of service data and testimony of the Company’s other witnesses, my testimony demonstrates that the capital expenditures and test year O&M expenses for the distribution function are reasonable, necessary, and representative of the costs to provide service to customers of CenterPoint Houston and thus, should be included in the Company’s cost of service.
DIRECT TESTIMONY OF RANDAL M. PRYOR

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION.

A. My name is Randal M. Pryor and I am employed by CenterPoint Energy Houston Electric, LLC ("CenterPoint Houston" or the "Company") as Vice President of Distribution Operations.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I graduated from Texas A&M University in 1990 with a Bachelor of Science degree in Agricultural Economics. I began my career with Houston Lighting & Power, a CenterPoint Energy, Inc. ("CNP") predecessor company, in June of 1991. Since that time, I have been employed by CNP or one of its affiliates. My positions within the Company have included Financial Analyst, Supervisor/Manager/Director of Financial Planning, Service Area Director, Operations Director, and my previous position within CenterPoint Energy Resources Corp. as Division Vice President Regional Operations for Texas. I was named to my present position in December 2018, at which time I assumed responsibility for all electric distribution operations in the state of Texas.

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

A. As Vice President of Distribution Operations, my responsibilities include overseeing electric distribution operations for the entire greater Houston area, which covers approximately 5,000 square miles and delivers electricity to approximately 2.5 million meters.
Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?
A. I am testifying on behalf of CenterPoint Houston.

Q. HAVE YOU TESTIFIED PREVIOUSLY?
A. Yes. I have filed testimony with the Railroad Commission of Texas in Gas Utilities Docket Nos. 10432, 10567 and 10669.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?
A. The electric organization consists of four divisions, the Distribution Operations division, the Power Delivery Solutions division, the Engineering & Asset Optimization division, and the High Voltage Operations division. The purpose of my testimony is to support the $206.7 million in Operations and Maintenance ("O&M") expense associated with activities performed by the Distribution Operations division.

My testimony identifies the functions of the Distribution Operations and describes how the division is structured and staffed to accomplish the goal of providing a reliable power delivery system at a reasonable cost. My testimony demonstrates that the O&M costs associated with the Distribution Operations division are effectively and carefully managed and maintained through business planning, budget plan review, and ongoing budget plan monitoring. I also support the prudence of distribution capital investment in the amount of $2,344.5 million through December 31, 2018. This capital investment is used and useful in the provision of electric utility service and was prudently incurred. As a result, I conclude that these costs are reasonable and necessary and should be recovered in the Company's rates.

Direct Testimony of Randal M. Pryor
CenterPoint Energy Houston Electric, LLC
Q. HAVE YOU INCLUDED ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes. I have prepared or supervised the preparation of the exhibits listed in the table of contents.

Q. PLEASE DESCRIBE THE INTERACTION OF YOUR TESTIMONY WITH OTHER WITNESSES IN THIS CASE.

A. My testimony sponsors the total capital investment that has been made in the Company’s distribution system since January 1, 2010, and describes the operation, system maintenance, trouble response and meter maintenance of the distribution delivery system. Company witness Dale Bodden is responsible for the Engineering and Asset Optimization division and her testimony describes the engineering, planning, design and capital budgeting process for the distribution and transmission system. Company witness Julienne P. Sugarek is responsible for the Power Delivery Solutions division and her testimony describes the customer interface, customer support and power quality solutions that directly impact our customers. My testimony and that of Ms. Bodden and Ms. Sugarek explain the reliability and maintenance programs for which we are each responsible.

Company witness Martin W. Narendorf Jr. is responsible for the High Voltage Operations division and his testimony describes the transmission system and how it provides energy to the distribution delivery system. Mr. Narendorf supports the total capital spent for transmission, substation and major underground work required to provide service to the distribution system. Mr. Narendorf similarly supports the overall maintenance and operation of these activities and the associated expenditures. I support the reasonableness and necessity of the O&M
costs associated with the Distribution Operations division that are attributed to the
distribution and transmission functions.

Company witness Michelle M. Townsend discusses allocated costs
associated with the regulated support organizations and CenterPoint Energy
Service Company, LLC. Company witness Kristie L. Colvin provides testimony
on the Company’s overall planning and budgeting process and cost of service
adjustments.

II. DESCRIPTION OF THE DISTRIBUTION OPERATIONS DIVISION

Q. HOW IS DISTRIBUTION OPERATIONS ORGANIZED?

A. In 2018, Distribution Operations included 12 service centers that were managed by
four Regional Directors. The division also included the Distribution Control
Department, the Operations Department, and the Distribution Programs &
Construction Department. See Figure 1 for the organizational chart for Distribution
Operations.
Figure 1. Distribution Operations Organizational Chart

III. DISTRIBUTION OPERATIONS SINCE DOCKET NO. 38339

Q. HAVE THERE BEEN ANY CHANGES IN THE COMPANY'S DAY-TO-DAY DISTRIBUTION OPERATIONS SINCE THE PUBLIC UTILITY COMMISSION OF TEXAS ("COMMISSION") LAST CONDUCTED A COMPREHENSIVE BASE RATE REVIEW FOR CENTERPOINT HOUSTON?

A. Yes. The test year in Docket No. 38339 ended December 31, 2009. Since that time, CenterPoint Houston has remained committed to delivering safe and reliable electric delivery service to its customers—this commitment never has and never will change. However, two factors—customer growth and technology advancements—are changing the way the Company operates on a day-to-day basis.
Q. WHAT CUSTOMER GROWTH HAS THE COMPANY SEEN SINCE DOCKET NO. 38339?

A. When the growth of the Houston metro area is considered for just the past seven years, it ranks No. 4 in the nation. As shown on Exhibit RMP-1, CenterPoint Houston serves much of this fast-growing area. The population in and around Houston grew from approximately 5.9 million in 2010 to nearly 6.9 million in 2017, an increase of more than 16 percent. Among the Houston area’s 10 counties, two—Harris and Fort Bend—ranked among the top 15 nationwide for largest population gains in 2017. As a result, the Company has experienced the addition of 359,525 new residential customers and 41,991 new commercial customers from January 1, 2010 through December 31, 2018.

From an infrastructure perspective, over the past four years, overhead distribution pole miles (feeder-main and laterals) have increased an average of 171 miles per year, while Underground Residential Distribution (“URD”) circuit miles have increased an average of 257 miles per year. As Ms. Bodden’s direct testimony also notes, necessary infrastructure to support economic growth within the City of Houston and surrounding areas has resulted in the need to build or install approximately 221 new substation feeder positions to accommodate new distribution feeders, 55 new substation transformers, size upgrades for 12 substation transformers, and 6 new distribution substations.

---


2 Id.
Q. CAN YOU PROVIDE SOME EXAMPLES OF THE AREAS WITHIN CENTERPOINT HOUSTON’S SERVICE TERRITORY THAT HAVE REQUIRED INVESTMENT DUE TO GROWTH?

A. Yes. Residential and commercial growth areas in the last eight years include:

1) the Bridgelands, Towne Lakes, Exxon, Creekside, Summerwood/Balmoral, and Generation Park in the North Region; 2) Ameriport, Windfree Developments, Kilgore Parkway, Joseph’s Cove, Methodist Hospital Baytown, Trinity Oaks, San Jacinto Mall, LBC Magellan, Port of Houston, Liberty Port Crossing, Avera, Parkway Trails, Cedar Park Industrial Park, Canterbury Park, Massey Lakes Estates, Pearland ISD and Bayport in the Southeast Region; 3) Twinwood, Cinco Ranch, Cross Creek Ranch, Jordan Ranch, The Boardwalk, Skybox Data Center, Brazos Town Center, Circle Oak, Walnut Creek, Stone Creek Estates, and Sunrise Meadows, in the Southwest Region; and 4) Regent Square, Market Square, Caydon, Camden Toyota Center, Hines Development, Texas Children’s Pediatric Center, TMC3, and Houston Methodist Hospital in the Central Region.

Q. HAS THE COMPANY’S GROWTH BEEN LIMITED TO AREAS OF CONCENTRATED INFRASTRUCTURE?

A. No. CenterPoint Houston has experienced growth in both the well-developed areas of its service territory and in areas where infrastructure is less concentrated. The numerous subdivisions referenced above attest to this fact. This, in turn, has required the Company to expand the breadth of its distribution system and distribution operations to serve new developments.
Q. DOES THE COMPANY EXPECT CUSTOMER GROWTH TO CONTINUE?

A. Yes. The Company is working on or anticipating the following new developments:

- Briarwood Crossing, Seabourne Landing, Kingdom Heights, Harvest Green,
- Costello Development, Sendero, Grand Vista Lakes, Taylor Morrison Development (Hines Nursery), Polo Ranch, Fulshear Farms, Vanbrooke, Freeman Ranch, Cane Island, City Gate, The Village At Katy, The Mix At Midtown,
- Boulevard Oaks Business Park, Sears Building Redevelopment, The Montrose At Buffalo Bayou, Equinox Hotel – River Oaks, Driscoll At River Oaks, Modern Green Ivy District, Blossom Hotel, Sage Property (downtown USPS site), Hanover River Oaks, Buffalo Point Townhomes, Regalia At The Park, Kirby Landing,
- TMC3, M.D. Anderson East Campus, Bridgeland (West side of State Highway 99), Daikin/Goodman facility expansion, AF Global in Waller, Generation Park (Eastside of Beltway 8), Republic Heat, P66 Red Oak Pipeline, Coca Cola Head Quarters and Bush Airport expansion.

Q. HOW HAVE THE COMPANY'S DAY-TO-DAY DISTRIBUTION OPERATIONS BEEN IMPACTED BY TECHNOLOGICAL CHANGES SINCE DOCKET NO. 38339?

A. As Company witness Shachella D. James explains in her direct testimony, the Company is investing in technology that is strategically engineered to support the increased safety, satisfaction, and security of our customers, employees, regulators, and the general public. Through major technology advancements, including deployment of approximately 2.5 million smart meters, intelligent grid technology, mobile customer and employee digital services, data analytics, and more
sophisticated cybersecurity capabilities, the Company is now operating as a 21st Century digital business.

Q. DOES THE COMPANY ANTICIPATE THAT TECHNOLOGICAL ADVANCEMENTS WILL CONTINUE TO AFFECT ITS DAY-TO-DAY OPERATIONS?

A. Yes. As Ms. James' direct testimony details, the Company continues to invest in technology upgrades or conversions required to maintain support or ensure data and cybersecurity maintenance, improve customer accessibility and functionality, and increase overall business resiliency. As technology advances continue globally, CenterPoint Houston must also move forward in its use of technology, while continuing to protect data that it must maintain for the benefit of customers.

IV. DISTRIBUTION OPERATIONS O&M EXPENDITURES

Q. WHAT O&M AMOUNT WAS NECESSARY FOR THE DISTRIBUTION OPERATIONS DIVISION DURING THE TEST YEAR?

A. Distribution Operations incurred $206.7 million in O&M during the test year. Figure 2 shows the test year expense by department for the Service Centers, Distribution Control, Operations, Distribution Programs & Construction, and Administration and General.
Figure 2. Test-Year O&M Expense by Department for Distribution Operations

<table>
<thead>
<tr>
<th>Distribution Operations O&amp;M by Department</th>
<th>Test Year Expense In Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Centers</td>
<td>$134.6</td>
</tr>
<tr>
<td>Distr Programs &amp; Construction</td>
<td>$53.2</td>
</tr>
<tr>
<td>Operations</td>
<td>$7.9</td>
</tr>
<tr>
<td>Distribution Control</td>
<td>$6.1</td>
</tr>
<tr>
<td>Administrative and General</td>
<td>$4.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$206.7</strong></td>
</tr>
</tbody>
</table>

Q. PLEASE DESCRIBE THE ACTIVITIES PERFORMED BY THE SERVICE CENTERS AND THE ASSOCIATED O&M COSTS.

A. For the test year, Service Center O&M-related costs were $134.6 million. This department has four Regional Directors and 12 service centers that are responsible for the day-to-day operations of the overhead distribution delivery system and associated URD, including construction, operation and maintenance. Service Center field personnel complete customer service orders ("CSOs") involving residential and commercial customers, such as disconnect and reconnect, maintenance on the meter and new installations, or change orders when a customer rewire his service. CSOs generally involve single phase meters greater than 200 amps and three phase meters. Distribution Operations personnel executed approximately 275,621 CSOs in 2018, including connections (cut-ins), disconnections (cut-outs), and meter investigations. Field personnel also perform service restoration in the event of outages, new construction and maintenance.

The majority of these O&M expenditures are essential non-discretionary activities since they involve distribution maintenance, distribution restoration and
new distribution service. Distribution maintenance includes repairs for pole top
switches, regulators, reclosers, capacitors, security and guard lights, URD loops
and transformers, and field corrective maintenance which is follow-up maintenance
after trouble.

Distribution Operations personnel responded to approximately 87,396
outage cases in 2018. Outage events include circuit outages, line fuse outages,
transformer outages and individual customer outages. Inclement weather,
equipment failure, and foreign objects (trees, vehicles, wildlife, etc.) coming into
contact with distribution facilities typically cause these power interruptions. Most
of the repairs that are required are minor in nature, such as re-fusing line sections
and replacing equipment (transformers, poles and crossarms). These expenditures
do not include costs for restoration during major storm events, such as Hurricane
Harvey.

Q. PLEASE DESCRIBE THE ACTIVITIES DISTRIBUTION PROGRAMS
AND CONSTRUCTION AND THE ASSOCIATED O&M COSTS.

A. For the test year, Distribution Programs and Construction O&M-related costs were
$53.2 million. This department is responsible for distribution and transmission
vegetation management, substation and transmission right-of-way mowing,
distribution programs, including pole maintenance and URD cable assessment,
distribution construction, and quality assurance. The Pole Maintenance Program,
the Cable Assessment Program and the Vegetation Management Program are
discussed in detail later in the testimony.
Q. PLEASE DESCRIBE THE ACTIVITIES PERFORMED BY OPERATIONS AND THE ASSOCIATED O&M COSTS.

A. For the test year, Operations O&M-related costs were $7.9 million. This department is responsible for Primary Metering, Central Metering, Emergency Operations, and Distribution Support Services. Primary Metering handles distribution customers that take service at 12 kV or 35 kV. Central Metering is responsible for installing, maintaining, removing and repairing metering equipment, including transformer-rated metering services, and for procuring, testing, and calibrating meters, as well as the central meter shop that supports this effort. Central Metering is also responsible for the high voltage metering employees that perform these same tasks for transmission customers, the Electric Reliability Council of Texas, and inter-tie locations. Emergency Operations provides support for the Company’s Emergency Operations Plan (“EOP”). Distribution Support Services is responsible for providing data analytics and business intelligence for the Distribution Operations Division.

Q. PLEASE DESCRIBE THE ACTIVITIES PERFORMED BY DISTRIBUTION CONTROL AND THE ASSOCIATED O&M COSTS.

A. For the test year, Distribution Control O&M-related costs were $6.1 million. The Distribution Control Department is responsible for the daily operation of the distribution grid, which includes proactive and reactive switching, remote control and monitoring of all distribution level switching devices, as well as trouble dispatching and daily system load monitoring. Distribution Control also dispatches trouble orders for outage restoration and CSOs to facilitate customer-related work. The department is also responsible for dispatching support, Field Service
Representatives ("FSRs"), and revenue protection. Dispatching support is responsible for all testing, training, and rollout assistance with the Advanced Distribution Management System ("ADMS") and Service Suite (mobile data application for dispatching purposes), direct support for training, reporting and issue resolving for the dispatchers, tracking and reporting on distribution development plan construction work, performing quality assurance on all outage events to make sure the duration and customer count is correct, and providing specialized reporting from the ADMS system.

The FSR group is responsible for dispatching FSRs to handle field service orders involving residential and small commercial customers for single phase 120/240 volt 3 wire meters up to the 200 amp rating. They also remove and install lockbands at the request of electricians and customers to facilitate customer work behind the meter. The FSR group investigates meter tampering alerts that come from the AMS Analytics programs and help gather evidence to support a meter tampering case. Revenue protection is responsible for identifying, investigating and collecting lost revenue resulting from the theft of services and irregular meter conditions.

Q. WHAT O&M COSTS ARE ASSOCIATED WITH THE ADMINISTRATIVE AND GENERAL CATEGORY FOR DISTRIBUTION OPERATIONS?

A. For the test year, distribution administrative and general O&M costs were $4.9 million. These expenses include managerial labor, administrative support and miscellaneous general expenses for the Distribution Operations Division.
Q. ARE ALL OF THESE O&M EXPENDITURES REASONABLE AND NECESSARY?
A. Yes. The test year O&M expenses for Distribution Operations were related to necessary functions that directly impacted the reliability and operation of the distribution system to serve both existing and new customers.

V. DISTRIBUTION SYSTEM CAPITAL ADDITIONS

Q. WHAT CAPITAL INVESTMENT IN DISTRIBUTION PLANT ADDITIONS DOES CENTERPOINT HOUSTON SEEK TO INCLUDE IN RATE BASE IN THIS PROCEEDING?
A. The Company spent $2,344.7 million for distribution plant additions between January 1, 2010 and December 31, 2018. These capital investments were reasonable and necessary to satisfy service area growth, reliability improvements, service restoration, and operations & support activities.

Q. WHY WERE DISTRIBUTION CAPITAL INVESTMENTS NECESSARY?
A. The major factors necessitating the distribution capital investments are service area load growth, the associated improvements that are necessary for reliable service, service restoration replacement costs for damaged distribution facilities, and the investments that are required for fleet, office facilities and equipment that occur as our system grows and ages.
Q. IS ALL OF THE DISTRIBUTION SYSTEM CAPITAL INVESTMENT THAT THE COMPANY SEEKS TO RECOVER IN RATES USED AND USEFUL IN THE PROVISION OF ELECTRIC SERVICE AND WAS THIS INVESTMENT PRUDENTLY INCURRED?

A. Yes. The $2,344.7 million for distribution plant additions that the Company made between January 1, 2010 and December 31, 2018 were prudently incurred and are used and useful in the operation of the distribution system that serves both existing and new customers.

A. Categories of Distribution Capital Investment

Q. WHAT ARE THE CATEGORIES FOR CAPITAL INVESTMENTS FOR THIS RATE FILING?

A. The costs for capital investments from January 1, 2010 through December 31, 2018 are in the following categories: customer growth, including relocations for public improvements; reliability improvements; service restoration investments; and operations & support investments associated with the replacement of deteriorated equipment and facilities. These costs are identified in Figure 3, Capital Investment by Category.

### Figure 3. Distribution Capital Investment by Category

<table>
<thead>
<tr>
<th>Capital Investment by Category</th>
<th>Amount In Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Growth (including relocations)</td>
<td>$ 1,095.1</td>
</tr>
<tr>
<td>Reliability Improvement</td>
<td>$ 865.9</td>
</tr>
<tr>
<td>Service Restoration Investments</td>
<td>$ 392.4</td>
</tr>
<tr>
<td>Operations and Support Investments</td>
<td>$(8.7)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 2,344.7</strong></td>
</tr>
</tbody>
</table>

Direct Testimony of Randal M. Pryor
CenterPoint Energy Houston Electric, LLC
1. Customer Growth Investments

Q. WHAT ARE THE CAPITAL INVESTMENTS FOR CUSTOMER GROWTH FROM JANUARY 1, 2010 THROUGH DECEMBER 31, 2018?

A. As shown in Figure 4, the capital investment for customer growth generally falls into the categories of distribution development, relocations, and new service.

Figure 4. Customer Growth Expenditures

<table>
<thead>
<tr>
<th>Customer Growth Investments</th>
<th>Amount In Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Development</td>
<td>$ 288.5</td>
</tr>
<tr>
<td>Relocations (Public Improvement)</td>
<td>$ 23.6</td>
</tr>
<tr>
<td>New Service</td>
<td>$ 783.0</td>
</tr>
<tr>
<td>Overhead Installations</td>
<td>$ 273.8</td>
</tr>
<tr>
<td>Underground Installations</td>
<td>$ 270.7</td>
</tr>
<tr>
<td>Meters and Drops</td>
<td>$ 145.8</td>
</tr>
<tr>
<td>Street Lighting</td>
<td>$ 97.0</td>
</tr>
<tr>
<td>(Over)/Under Recovery Construction Overhead</td>
<td>$(4.3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 1,095.1</strong></td>
</tr>
</tbody>
</table>

Q. WHAT CAPITAL INVESTMENTS ARE REQUIRED TO ADD NEW DISTRIBUTION INFRASTRUCTURE TO SUPPORT DISTRIBUTION DEVELOPMENT AND ACCOMMODATE CUSTOMER GROWTH?

A. Area development projects resulting from the distribution planning process account for $288.5 million in capital expenditures since January 1, 2010. These projects include new overhead and underground distribution circuits, line extensions, the reconfiguration of existing circuits to shift load, and the installation and modification of capacitors to manage load. The capital additions typically occur slightly in advance of population and business growth, so that the electrical infrastructure will be in place to serve the demand. The Greater Houston area has experienced continued residential and commercial growth. Also, redevelopment of
these areas is frequently denser than the original development, which requires an
upgrade to the electrical infrastructure.

Q. WHAT FACTORS DRIVE THE NEED FOR INVESTMENT RELATED TO
RELOCATIONS?

A. Growth and changes in population often result in public improvement projects such
as road expansions, new roadways, right-of-way changes and changes in land use,
which, in turn, require relocations and other changes to the existing distribution
infrastructure. In total, CenterPoint Houston spent $23.6 million to relocate
overhead facilities and street lights to accommodate major road, highway, and
freeway construction during the period from January 1, 2010 to December 31, 2018.

Q. CAN YOU PROVIDE EXAMPLES OF RELOCATION ACTIVITY
NECESSARY TO ACCOMMODATE CUSTOMER GROWTH SINCE
DOCKET NO. 38339?

A. Examples of facility relocations that have taken place since the Company’s last rate
case include: US 290 (segment F & G), Westpark Tollway (Phase I & II), FM 2234,
FM 521, FM 762, Rayford Rd, FM 1774, Grant Rd, Tomball Tollway Phase II,
Treschwig Rd, and Telge Rd.

Q. WHY ARE INVESTMENTS FOR OVERHEAD AND UNDERGROUND
SERVICE INSTALLATIONS, METERS AND DROPS AND STREET
LIGHTING NECESSARY?

A. Continued home building and the construction of associated services that follow
new residential construction, such as new retail and restaurant facilities, schools,
churches, and businesses, has necessitated new overhead service installations and
URD installations, as well as new meters and drops and street lighting. In addition,
there has been office and warehouse development in the Company’s service area resulting in new services.

2. Reliability Improvements

Q. WHAT CAPITAL RELIABILITY IMPROVEMENTS WERE NECESSARY DURING THE PERIOD JANUARY 1, 2010 THROUGH DECEMBER 31, 2018?

A. As shown in Figure 5, the Company incurred necessary reliability improvements for poles, capacitors, overhead service rehabilitation, URD replacement, street lighting, grid hardening and intelligent grid switching devices ("IGSD").

<table>
<thead>
<tr>
<th>Capital Reliability Improvements</th>
<th>Amount in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead Service Rehabilitation</td>
<td>$244.9</td>
</tr>
<tr>
<td>Pole</td>
<td>$238.4</td>
</tr>
<tr>
<td>URD Replacement</td>
<td>$220.7</td>
</tr>
<tr>
<td>Street Lighting</td>
<td>$108.7</td>
</tr>
<tr>
<td>Capacitors</td>
<td>$45.8</td>
</tr>
<tr>
<td>IGSD Installations</td>
<td>$7.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$865.9</strong></td>
</tr>
</tbody>
</table>

Q. WHY WERE INVESTMENTS IN POLES, CAPACITORS, OVERHEAD SERVICE REHABILITATION, URD REPLACEMENT, STREET LIGHTING, GRID HARDENING AND IGSD'S NECESSARY?

A. Reliability-related capital costs are primarily caused by the aging of the Company’s overhead distribution system and the programs needed to meet the reliability standards required by the Public Utility Regulatory Act and the Commission’s Substantive Rules. For instance, the Company inspected approximately 148,500 poles in 2018. As a result of its pole maintenance program, as well as pole...
replacements by service centers on an as-needed basis, the Company replaced or
braced approximately 9,000 wooden poles in 2018 alone. In addition,
approximately 1,300 URD cables were replaced to maintain service. Capacitors
were replaced as needed to support an adequate power factor. Street lights were
replaced as necessary to maintain lighting requirements. IGSDs are installed to
enhance the switching capability of the distribution system and thus improve
reliability.

Q. DOES CENTERPOINT HOUSTON HAVE CAPITAL IMPROVEMENT
PROGRAMS THAT ARE DESIGNED TO MAINTAIN OR IMPROVE
RELIABILITY?

A. Yes. Programs to improve reliability often result in a capital improvement. These
programs include the Company’s pole maintenance program, its URD Cable Life
Extension Program, the feeder inspection program, the power factor program, the
infra-red program, the root cause analysis program, the hot fuse program and the
distribution automation program. Ms. Bodden’s testimony addresses the power
factor program, while Ms. Sugarek addresses the infra-red program, the root cause
analysis program, the hot fuse program and the distribution automation program.

Q. WHY IS INVESTMENT IN URD REPLACEMENT NECESSARY?

A. Similar to overhead service rehabilitation, underground rehabilitation costs are
primarily caused by the aging of the underground distribution system. CenterPoint
Houston’s facilities installed during the economic boom of the late 1970s and early
1980s are aging, especially in residential areas served by underground URD
facilities. As underground cable approaches and exceeds 30 years of age, it is more
likely to fail. When a URD failure occurs, it typically requires the replacement of
one span of cable that is isolated between transformers.

3. Service Restoration Investments

Q. WHAT CAPITAL INVESTMENT WAS NECESSARY FOR SERVICE
RESTORATION DURING THE PERIOD JANUARY 1, 2010 THROUGH
DECEMBER 31, 2018?

A. As shown in Figure 6, capital expenditures for service restoration have been made
for URD, overhead, weather related, major underground, and street lighting.

<table>
<thead>
<tr>
<th>Capital Service Restoration Investments</th>
<th>Amount In Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overhead</td>
<td>$ 143.7</td>
</tr>
<tr>
<td>URD</td>
<td>$ 97.2</td>
</tr>
<tr>
<td>Weather Related</td>
<td>$ 80.7</td>
</tr>
<tr>
<td>Street Lighting</td>
<td>$ 70.7</td>
</tr>
<tr>
<td>Total</td>
<td>$ 392.3</td>
</tr>
</tbody>
</table>

Q. WHY WERE INVESTMENTS IN URD, OVERHEAD, WEATHER-
RELATED, AND STREET LIGHT SERVICE RESTORATION
NECESSARY?

A. Service Restoration costs are non-discretionary in nature and are the result of
equipment damage or failure caused by events beyond the Company’s control, such
as poles being damaged due to vehicle accidents, third-party cable cuts, and
inclement weather. Street light restoration costs are also non-discretionary in
nature and are mainly the result of equipment damage to streetlight systems due to
severe storms or poles being damaged due to vehicle accidents.
4. Operations and Support Investments

Q. WHAT CAPITAL INVESTMENT WAS INCURRED FOR OPERATIONS AND SUPPORT DURING THE JANUARY 1, 2010 THROUGH DECEMBER 31, 2018 PERIOD?

A. Capital investment for operations and support related to miscellaneous expenses, shop service, vessel moves, and other total to ($8.7 million) during the period.

Q. WERE INVESTMENTS IN MISCELLANEOUS EXPENSES, SHOP SERVICE, VESSEL MOVES AND OTHER OPERATIONS AND SUPPORT INVESTMENTS REASONABLE AND NECESSARY?

A. Yes. Capital operations and support investments include miscellaneous capital expenses for the purchase of distribution computer hardware, premise equipment, tools, and test equipment, the cost of distribution materials and services as provided by the Shops Department, the capital cost of vessel moves, which entails raising distribution lines to accommodate the moving of very large vessels down city streets, and other capital investments such as capital tools, climbing kits and salvage. Scrap sales and transformer sales resulted in a negative value for operations and support investments.

B. Capital Project Classification and Allocation

Q. WHAT POLICIES OR GUIDELINES DETERMINE THE MANNER IN WHICH SPECIFIC PROJECTS ARE CAPITALIZED ON THE COMPANY’S BOOKS AND RECORDS?

A. The three primary policies that determine how project costs are to be either capitalized or expensed include: various Federal Energy Regulatory Commission (“FERC”) guidelines relating to capitalization and expenses; CNP’s Capitalization
Policy (which was developed consistent with the FERC guidelines); and CNP’s Capitalization of Computer Software Policy (also developed consistent with FERC guidelines). The Company’s Capitalization Policy and Capitalization of Computer Software Policy are attached to Ms. Colvin’s testimony as Exhibit KLC-11 (Capitalization Policy). The various FERC guidelines are voluminous, but are generally publicly available at https://www.ferc.gov/enforcement/acct-matts.asp.

Q. HAS THE COMPANY CONSISTENTLY FOLLOWED THESE POLICIES IN PREVIOUS RATE PROCEEDINGS?

A. Yes. CenterPoint Houston consistently applied these policies in its prior rate case in Docket No. 38339 as well as its prior Distribution Cost Recovery Factor and Transmission Cost of Service adjustment filings.

Q. HOW DOES THE COMPANY ENSURE THAT THE CAPITALIZATION POLICIES ARE FOLLOWED AND THAT ITS BOOKS AND RECORDS ARE ACCURATE AND COMPLETE, AND CONSISTENT WITH THESE POLICIES?

A. The Company uses work management software, SAP, to track each project on a work order basis. Service consultants and engineers are responsible for creating work orders based on design and load specifications. These employees are trained on work order creation, including specification of what defines capital work versus non-capital work and correct coding of work orders. The employee training materials related to work order entry—Service Consultant Budget Training, Service Consultant SAP Training, and Settlement Rules for Work Orders—are provided as Exhibits RMP-2, RMP-3 and RMP-4. All work orders are reviewed multiple times.
throughout the work order lifecycle to ensure that the costs are accurately identified as capital.

Q. PLEASE DESCRIBE THE REVIEW PROCESS FOR WORK ORDERS.

A. Once a service consultant or engineer creates a work order, a peer, supervisor or manager reviews the order to ensure it has been properly created, including verifying if it is properly classified as capital versus expense-based on the material and work planned. The order is then provided to the Operations Manager or Operations Supervisor, who performs a second review of the order before the work is performed. Once work has been completed, a third review is performed by the Service Area Assistant/Distribution Projects Coordinator to verify that the actual work completed still meets the qualifications of capital work, and the order is still properly coded. Moreover, prior to unitization of the asset, the Asset Lifecycle Accounting ("ALA") process within SAP will automatically identify and issue an exception notification for a work order that has been coded as capital, but does not have capital material included on the order. This exception/error will remain until the order has been corrected. ALA will not allow the order to be unitized or closed until the proper work type is provided. Finally, prior to unitization, Property Accounting has a process in place to identify and flag completed work orders categorized as capital which do not include a retirement unit. These orders are researched and will not be unitized/placed in-service until the work is verified and determined to be eligible for capitalization.
Q. DO ANY OTHER PROCESSES AND CONTROLS ENSURE THAT WORK ORDERS ARE PROPERLY AND ACCURATELY COMPLETED?
A. Yes. On a monthly basis, testing is performed in accordance with the Company Sarbanes Oxley control, “Manage Fixed Assets.” The Company’s Finance Department randomly selects a sample of capital orders that have been completed, processed, and closed. A financial analyst then tests each order selected and provides evidence from SAP that the order meets the specifications of being a capital order. Finally, Deloitte & Touche LLP, the Company’s independent financial auditor, samples and reviews orders to determine if they are correctly classified as capital, as part of the annual financial audit and controls review.

VI. CAPITAL AND O&M EXPENSE PLANNING AND COST CONTROL

Q. HOW DOES CENTERPOINT HOUSTON ENSURE THAT ITS NECESSARY CAPITAL INVESTMENTS AND O&M EXPENSES ARE REASONABLE?
A. CenterPoint Houston carefully plans capital investments and O&M activities and related expenses in a five-year planning process, and adjusts the programs, as well as costs annually depending upon system performance. The Company uses several processes to accomplish this oversight. These processes include: 1) the workforce planning process, 2) budgeting and cost control, 3) the use of contractors, 4) the distribution planning process, and 5) the transmission planning process. I will discuss the workforce planning process, budgeting and cost control, and the use of contractors. The distribution planning process and the transmission planning process are discussed in Ms. Bodden’s testimony.
Q. HOW DOES CENTERPOINT HOUSTON ENSURE THAT IT MAINTAINS PERSONNEL LEVELS SUFFICIENT TO OPERATE AND MAINTAIN ITS DISTRIBUTION DELIVERY SYSTEM?

A. CenterPoint Houston must have an adequate number of experienced and well-trained field operations employees on staff at all times. This will enable the Company to support maintenance operations and construction for service area growth and facilitate timely response for restoration efforts. As such, the Company has processes in place to ensure adequate staffing while, at the same time, ensuring that its staffing is efficient and reasonable.

For instance, the Company regularly and consistently evaluates future staffing needs. Succession planning is reviewed and updated for key positions within the distribution organizations to address attrition, retirements, and promotions.

Relatedly, CenterPoint Houston also uses Service Suite (formerly Mobile Data), which dispatches CSOs and trouble orders to line mechanics in the field. This enables the distribution dispatching group to analyze the Company's resource needs by reviewing work levels across the system and adjust CSO assignments across service center boundaries to meet daily work requirements. This eliminates the need for staffing for peak days within some service center offices and allows for a more equalized workload to be distributed across the system.

Additionally, CenterPoint Houston has established a Resource Allocation Team to review and authorize staffing levels for all administrative assistants and line skill positions for all shifts for the various types of crews. This includes
daytime one-man crews that perform trouble restoration and one-man CSO work,
daytime two-man crews that perform two-man CSO work and assist on trouble
restoration, daytime four-man crews, evening crews, night crews and weekend
crews. The Resource Allocation Team has representation that includes the Director
of Operations, a Regional Operations Director, the Director of Distribution
Control, the Director of Project Management, Service Area Operations Managers
and Human Resource Managers.

Finally, the Company has established the Distribution Services Resource
Utilization Team to support the Resource Allocation Team by analyzing staffing
needs based on historical and projected workloads and making recommendations
to the Resource Allocation Team accordingly.

Q. ARE WORK MANAGEMENT SYSTEMS IN PLACE?
A. Yes. All of the departments referenced in my testimony have work management
systems in place to analyze the need for resources and to schedule and monitor
work. Since 2000, all of these systems have been integrated with the corporate
enterprise information system, SAP. This effort has enhanced overall efficiency,
enabled resource allocation, and provided improved cost monitoring.

B. Budgeting and Cost Control

Q. WHAT MEASURES DOES THE COMPANY USE TO BUDGET,
MONITOR, AND CONTROL COSTS?
A. CenterPoint Houston develops the distribution organization’s budget as part of the
Company’s business planning process. In developing the distribution
organization’s budget, CenterPoint Houston uses historical trends for service
restoration and maintenance and analyzes current trends in development activity to
anticipate growth that must be addressed through the budget. To be sure that planned expenditures remain reasonable, the Company monitors actual expenses, compares them against budgeted amounts on a monthly basis, and investigates variances. On a quarterly basis, CenterPoint Houston makes projections and changes to the budget forecast based on this review. These spending evaluations result in continual system-wide cost control. Please refer to the testimony of Ms. Colvin for more detail on the Company’s planning and budget processes.

C. Use of Contractors

Q. DOES THE COMPANY UTILIZE CONTRACTORS IN ADDITION TO ITS INTERNAL WORKFORCE?

A. Yes. The Company utilizes contractors to supplement its workforce to handle variations in the workload due to changes in economic conditions, such as contractors for new distribution, substation and transmission construction, tree trimming, and work order design for new distribution facilities, as well as engineering for new transmission lines. Line contractors also aid in the Company’s service restoration response after severe weather.

Q. WHAT DEPARTMENTS UTILIZE CONTRACTORS IN ADDITION TO THE COMPANY’S INTERNAL WORKFORCE?

A. Company departments that rely on additional contractors are listed below:

- Within the Distribution Programs & Construction Department, Vegetation Management utilizes distribution tree trimming contractors. CenterPoint Houston has historically utilized outside contractors for line clearance due to the highly specialized skills and equipment required to perform this work in a cost-effective manner. The contractors have a proven track record and due to their size, have achieved the economies of scale required to provide both the proactive and reactive tree trimming necessary to ensure reliable service.

Direct Testimony of Randal M. Pryor
CenterPoint Energy Houston Electric, LLC

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• Also, within the Distribution Programs & Construction Department, the Pole Maintenance group utilizes contractors for pole inspections, pole replacements and pole bracings.

• Across several departments, Overhead construction, URD construction, and Street Lighting, the Company utilizes construction contractors. These contractors have specialized equipment and labor for activities such as overhead line construction, pole replacement, underground residential URD construction, URD span replacement, facilities replacement for road widening, streetlight construction, and streetlight maintenance.

• Major Underground Operations, in Mr. Narendorf’s organization, utilizes contractors for major civil construction, such as duct banks and equipment pads, boring jobs, three phase pad-mounted transformer installations, and preventative maintenance.

• Field Operations utilizes contractors to perform inspections for the Meter Inspection Program.

• Distribution Overhead Projects, in Ms. Bodden’s organization, utilizes contractors to design work orders for the construction of new overhead distribution projects and for road widening projects.

• Transmission Projects, also in Ms. Bodden’s organization, utilizes contractors to help engineer new transmission and substation projects.

• Transmission Operations, in Mr. Narendorf’s organization, utilizes contractors for capital construction and the maintenance work on transmission lines, off-shore support of projects and maintenance of structures in and along the waters of the Gulf Coast, the installation of gates, gaps, culverts, roads, and pads, the maintenance painting of steel structures, and helicopter contractors for project support.

• Substation Operations, in Mr. Narendorf’s organization, utilizes contractors to construct and install substation electrical equipment and structures, as well as replace damaged substation equipment.

Q. HAS DISTRIBUTION OPERATIONS ESTABLISHED WORKING ALLIANCES WITH CONTRACTORS TO OPTIMIZE PERFORMANCE AND TO MINIMIZE COSTS?

A. Yes. CenterPoint Houston established alliances with two contractors, North Houston Pole Line and MP Technologies, in 2008 in order to achieve additional

Direct Testimony of Randal M. Pryor
CenterPoint Energy Houston Electric, LLC

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cost savings for the Company’s capital construction programs. This was an area
where the Company believed there was potential benefit.

Q. **HOW DO THESE ALLIANCES ACCOMPLISH COST SAVINGS?**

A. A competitive bid will typically have a certain amount of contingency cost built
into it. However, in some instances, an alliance can take contingency costs out of
the cost equation. It is also an advantage to have alliances with two contractors.
This facilitates cost and performance comparisons, and provides resource
flexibility. The two contractors are familiar with CenterPoint Houston’s service
territory and practices, and have a significant presence in the area. CenterPoint
Houston utilizes an independent consultant to advise the Company on the alliance
process, and to benchmark price and performance against appropriate indices.

Q. **WERE THERE ANY OTHER REASONS FOR THE ALLIANCES?**

A. Yes. There is a growing industry shortage of electric utility line skills, due to the
aging work force and due to the increased number of electric utility transmission
projects in Texas and across the United States. Also, variables in the economy can
impact workload. Contractors are hesitant to hire and train without long-term
contracts. The alliances assure sufficient line resources for CenterPoint Houston
despite economic changes and despite industry competition for a limited resource.

Q. **DOES CENTERPOINT HOUSTON HAVE THE RIGHT TO TERMINATE THE ALLIANCE AGREEMENTS?**

A. Yes. CenterPoint Houston has the right to terminate the agreements and return to
competitive bidding at any time with adequate notice.
Q. HAS CENTERPOINT HOUSTON INCORPORATED ANY STEPS TO IDENTIFY FURTHER COST SAVINGS WITH THE ALLIANCES?

A. Yes. Increased efficiency and increased productivity are the drivers for further cost savings. To that end, process improvement teams for overhead projects, URD projects, streetlight projects, and materials were formed with each of the two contractors to identify cost saving initiatives.

VII. DISTRIBUTION DELIVERY SYSTEM OVERVIEW, PROGRAMS AND INITIATIVES

Q. WHAT ASSETS MAKE UP THE COMPANY'S ELECTRIC DISTRIBUTION DELIVERY SYSTEM?

A. As shown on Exhibit RMP-5, the Company's distribution system begins at the distribution substation where high voltage, bulk power delivered by the Company's transmission system, is lowered to distribution voltage levels. The electric distribution delivery system consists of poles, wires, transformers, meters, and other equipment that efficiently transports power from the transmission delivery system to the customer.

Distribution feeder lines transport power from the distribution substations at 12,470 volts ("12 kV") and 34,500 volts ("35 kV"). CenterPoint Houston has approximately 1,700 distribution feeders. The distribution system includes approximately 5,488 miles of 12 kV and 4,919 miles of 35 kV overhead main feeder lines as well as underground main feeder lines.

Customers not served directly from main distribution feeder lines receive their electric service from fused overhead or URD lines originating from these main feeders. These fuse lines are referred to as laterals. CenterPoint Houston's distribution system includes over 12,805 miles of overhead primary laterals.

Direct Testimony of Randal M. Pryor
CenterPoint Energy Houston Electric, LLC