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INDIANA UTILITY
REGULATORY COMMISSION

**SOUTHERN INDIANA GAS AND ELECTRIC COMPANY
d/b/a CENTERPOINT ENERGY INDIANA SOUTH
(CEI SOUTH)**

**DIRECT TESTIMONY
OF
RONALD W. BAHR
VICE PRESIDENT, INFORMATION TECHNOLOGY**

ON

INFORMATION TECHNOLOGY INVESTMENTS

**SPONSORING PETITIONER'S EXHIBIT NO. 8 (PUBLIC),
ATTACHMENT RWB-1**

DIRECT TESTIMONY OF RONALD W. BAHR1 **I. INTRODUCTION**2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**3 A. My name is Ronald W. Bahr. My business address is 1111 Louisiana Street, Houston,
4 Texas 77002.5 **Q. BY WHOM ARE YOU EMPLOYED?**6 A. I am employed by CenterPoint Energy Service Company, LLC ("Service Company"),
7 a wholly owned subsidiary of CenterPoint Energy, Inc. The Service Company provides
8 centralized support services to CenterPoint Energy, Inc.'s operating units, one of
9 which is Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy
10 Indiana South ("CEI South", "Petitioner", or "Company").11 **Q. ON WHOSE BEHALF ARE YOU SUBMITTING THIS DIRECT TESTIMONY?**

12 A. I am submitting testimony on behalf of CEI South.

13 **Q. WHAT IS YOUR ROLE WITH RESPECT TO THE SERVICE COMPANY?**

14 A. I am the Vice President, Information Technology ("IT").

15 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**16 A. I earned my Bachelor of Science degree in Accounting from Eastern Illinois University
17 and a Master of Business Administration degree from Bowling Green State University.18 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.**19 A. I have over 40 years of energy industry experience and have held leadership roles
20 within IT for over 22 years, for both non-regulated and regulated companies. In 2017,
21 I joined CenterPoint Energy Services, which was the company's nonregulated natural
22 gas subsidiary. My role as Vice President included oversight over all technology
23 functions. In 2020, I accepted a position as Vice President, Information Technology for
24 utility and corporate IT functions for all CenterPoint Energy, Inc. subsidiaries, including
25 CEI South. During my time with the Service Company, I have also led large enterprise-
26 wide information technology projects for CenterPoint Energy, Inc., and its subsidiaries.
27 I was appointed to my current role, Vice President of IT, in 2022.

1 Q. WHAT ARE YOUR PRESENT DUTIES AND RESPONSIBILITIES AS VICE
2 PRESIDENT OF IT?

3 A. My responsibilities include overseeing technology governance, technology financials,
4 and business and customer solutions.

5 Q. HAVE YOU EVER TESTIFIED BEFORE THE INDIANA UTILITY REGULATORY
6 COMMISSION (“COMMISSION”) OR ANY OTHER STATE REGULATORY
7 COMMISSION?

8 A. No.

9 II. PURPOSE AND SCOPE OF TESTIMONY

10 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

11 A. My testimony describes the IT organization’s role and key strategies as provider of
12 information technology services in support of achievement of customer and business
13 objectives. I further describe the IT services provided by the Service Company to CEI
14 South, along with major enterprise-wide programs and associated charges. My
15 testimony demonstrates that these charges are reasonable and prudent. Petitioner’s
16 Witness Christopher G. Wood will describe the allocation methodology for charging
17 CEI South for the technology services.

18 Q. ARE YOU SPONSORING ANY ATTACHMENTS IN THIS PROCEEDING?

19 A. Yes. I am sponsoring the following attachment in this proceeding:

- 20 • Petitioner’s Exhibit No. 8, Attachment RWB-1 EIP Phase 2 Upgraded
21 Software Applications

22 Q. WERE THESE ATTACHMENTS PREPARED BY YOU OR UNDER YOUR
23 SUPERVISION?

24 A. Yes, they were.

1 **III. IT ORGANIZATION & FUNCTIONS**

2 **Q. PLEASE DESCRIBE THE ROLE OF TECHNOLOGY IN THE OPERATIONS OF A**
3 **UTILITY.**

4 A. Use of technology is critical to efficiently operate an electric utility in a safe and reliable
5 manner. Technology systems include applications and other software, networks, and
6 hardware that are integrated together to provide critical data to both utility workers in
7 the field performing construction and maintenance and those performing back-office
8 functions such as accounting. In addition, utility systems are also securely connected
9 to people and businesses outside the utility, including customers, suppliers, and
10 financial institutions. These external connections provide the ability to receive and
11 remit payments, order supplies, and provide customers with important information
12 about their utility services. One of the most critical benefits of technology is related to
13 safety. Through applications, field workers can access information about facility
14 locations including electric transmission and distribution lines, substations, electric
15 poles, and other critical data elements that allow them to respond to emergency
16 situations quickly and safely. In addition, systems integration allows for very fast
17 communication from a customer, through the call center, to operations dispatching,
18 and to the field worker.

19 **Q. WHAT ARE THE DRIVERS FOR MAINTAINING TECHNOLOGY SYSTEMS?**

20 A. Software such as applications, hardware such as computers and servers, and
21 networks all need to be regularly updated, maintained, and/or replaced. With
22 technology systems, routine maintenance includes updating software or firmware
23 versions, applying vendor patches, monitoring performance, and remediating issues.
24 Routine maintenance is also a key to protecting against security vulnerabilities.
25 Hackers from around the world are continuously trying to attack utilities to access our
26 data, control systems, employee records, and customer records. Applying security
27 patches, software, and firmware upgrades, together with regular upgrades to
28 applications, hardware and networks, and constant monitoring are critical to
29 maintaining both efficient utility operations as well as a secure business for our
30 stakeholders.

1 **Q. HOW OFTEN MUST SOFTWARE TECHNOLOGY BE REPLACED?**

2 A. There are many factors involved in determining when software applications need to
3 be replaced including supportability, operating costs, functionality, performance,
4 reliability, and age. Supportability includes both third-party support that is typically
5 provided by the software vendor, and in-house support that is provided by
6 employees/contractors. As software applications age, vendor support becomes more
7 expensive and sometimes systems become unsupported. The risk of operating
8 unsupported software is considered a high business risk because if the software
9 breaks or fails there is no path to resolution, and that will affect utility operations and
10 customer service.

11 Operating costs can also increase with the age of software because the likelihood of
12 needed support increases. Functionality and performance are closely linked factors in
13 which new software or applications normally result in greater operational efficiencies
14 due to faster response times, better integration between systems, or new feature
15 functionality for users. Reliability and age are also linked, because as software ages,
16 it becomes slower relative to newer applications; it becomes a more familiar target for
17 cyber-attacks; and it becomes unreliable because of the greater number of patches
18 that have been applied over the life of the asset.

19 **Q. MUST REGULAR INVESTMENTS IN TECHNOLOGY BE MADE TO PRUDENTLY**
20 **MANAGE A PUBLIC UTILITY?**

21 A. Yes. CEI South regularly makes investments in technology. Such investments are
22 necessary to upgrade systems and software applications, add new business
23 capabilities, replace hardware that fails or is out of date, and to maintain software
24 crucial to our operations. CEI South's rate base reflects ongoing investments in
25 technology that have been prudently made to ensure reliable service to our customers.

26 **Q. PLEASE DESCRIBE THE IT SERVICES THE SERVICE COMPANY PROVIDES TO**
27 **CEI SOUTH.**

28 A. The Service Company provides the following general categories of IT services to CEI
29 South: (1) Technology and Infrastructure; (2) Application Development and Delivery;
30 (3) Operations and Support; and (4) Data and Cyber Security. These broad categories
31 can be narrowed and described more specifically in terms of eight types of services,
32 which I describe in more detail below.

1 **Desktop Data Device Services** consists of life-cycle management of desktop and
2 desktop-related network devices, such as desktop computers, laptops, printers,
3 network servers, standard desktop/network software, e-mail, internet and remote
4 access, and disaster recovery and business resumption planning and support.
5 Desktop Data Device Services are necessary for the performance of daily
6 responsibilities by employees. Through this desktop and network environment,
7 employees gain access to their business applications and collaboration tools which
8 include systems such as SAP and Microsoft Office. In addition, employees can create
9 files, print documents, and use internal and external e-mail messaging capabilities.

10 **Data Management** includes the use and support for various storage mediums (or
11 platforms), the related hardware and software used to manage storage, staff, daily
12 operations, and technical management and maintenance of systems that manage
13 storage and data. IT also maintains off-site data archive storage, which is used to
14 support business continuity efforts as well as contingency plans for disaster recovery.
15 Additionally, this service includes all technology and services to replicate mission
16 critical data between primary and secondary data centers.

17 **Distributed Systems** involves the use and support of hardware (e.g., UNIX/LINUX,
18 gateways, and specialized servers) platforms supporting business-specific or
19 enterprise-distributed systems, along with related software, staff, and data center
20 management and maintenance. This service includes support of hardware systems,
21 data storage, network systems, and daily operations and maintenance.

22 **Enterprise Applications Development and Support** provides the ongoing
23 maintenance of application software, training, and system enhancements for
24 integrated applications (such as SAP) that run numerous critical business processes,
25 including financial reporting, payroll, accounts payable, accounts receivable, human
26 resources, materials management, purchasing and logistics, budgeting, and work
27 management.

28 **Applications Development and Support** involves working with CEI South to
29 implement packaged and automated solutions to satisfy business needs and internal
30 requirements. The cost of this service includes partnering with personnel to develop
31 strategic business plans, assess feasibility, understand and gather requirements,

1 perform analysis, and design documents. Additional services include software
2 development and acquisition, integration testing, implementation, support of
3 production applications, technical consultations, and facilitation, using a variety of
4 software languages and database tools, across distributed environments as well as
5 the Intranet/Internet.

6 Telephone Service consists of the installation of individual telephone line connections
7 and equipment at various CEI South offices, service centers, and other locations as
8 needed. The Service Company also works with various telecommunication companies
9 (e.g., ATT) for access, and maintenance coordination on their network that may affect
10 CEI South. IT, working with Procurement, secures communications service for CEI
11 South, including Voice Over Internet Protocol ("VOIP") domestic and international
12 calling.

13 **Telecommunications Move/Add/Change** includes labor and equipment associated
14 with moving, adding, or changing telecommunications equipment for personnel.

15 **Data and Cyber Security Management** includes management oversight and support
16 for Cyber/SAP/Network security. Data and Cyber Security Management involves
17 identifying and implementing the appropriate tools and procedures to ensure
18 Sarbanes-Oxley compliance.

19 **IV. INFORMATION TECHNOLOGY'S STRATEGY AND VISION**

20 **Q. PLEASE DESCRIBE INFORMATION TECHNOLOGY'S STRATEGY AND VISION.**

21 A. IT strives to drive innovative technology solutions in support of CEI South's objectives,
22 including providing sustainable, resilient, and affordable services for CEI South and its
23 employees. To achieve this vision, IT has identified strategies which include Cost
24 Optimization and Resiliency.

25 **Q. PLEASE FURTHER DESCRIBE THE COST OPTIMIZATION AND RESILIENCY
26 STRATEGIES.**

27 A. The Cost Optimization Strategy focuses on operating technology efficiently and
28 effectively and delivery of services in a more cost-effective manner. The Resiliency
29 Strategy focuses on investments to improve, modernize, or maintain technology

1 operations and infrastructure to ensure delivery of secure and reliable technological
2 systems.

3 **Q. PLEASE SUMMARIZE THE MAJOR IT INVESTMENTS THAT HAVE BEEN, OR**
4 **ARE IN THE PROCESS OF BEING, IMPLEMENTED FOR CEI SOUTH.**

5 A. Consistent with the above-described strategies, the following IT investments have
6 been, or are in the process of being, implemented:

- 7 • Investments consistent with Cost Optimization include: Enterprise Integration
8 Program (“EIP”); Advanced Metering Infrastructure (“AMI”); Advanced
9 Distribution Management System (“ADMS”); Supervisory Control and Data
10 Acquisition (“SCADA”); Digital Delivery, Cloud Acceleration, Transformation,
11 and Optimization (“CATO”); and the SAP Business, Planning, and
12 Consolidations (“BPC”) Program.
- 13 • Investments consistent with Resiliency include: Cybersecurity, Network
14 Transformation, and Data Center Refresh and Resiliency.

15 Unless otherwise indicated, all investments provided in this testimony and Attachment
16 are specific to electric operations within CEI South.

17 **V. COST OPTIMIZATION INVESTMENTS**

18 **A. ENTERPRISE INTEGRATION PROGRAM (“EIP”) INVESTMENT**

19 **Q. PLEASE DESCRIBE THE EIP INVESTMENT.**

20 A. The EIP investment consists of two phases: EIP Phase 1 (or “EIP Core”); and EIP
21 Phase 2 (or “EIP Customer”). EIP Phase 1, which was completed in 2021 involved
22 integrating and combining the technology systems of what was then-legacy Vectren¹
23 with those of the other CenterPoint Energy, Inc. subsidiaries. Specifically, EIP Phase
24 1 achieved the following strategic benefits:

- 25 • Migrated most of the functionality of legacy Vectren’s technologies.

¹ On February 1, 2019, CenterPoint Energy, Inc. closed on the merger with then-Vectren Corp. (“Vectren”). Following the close of the transaction, Vectren became a direct wholly owned subsidiary of CenterPoint Energy, Inc. For purposes of this testimony, CenterPoint Energy, Inc. as it existed prior to the merger with Vectren is generally referred to as “legacy CenterPoint Energy, Inc.”; and Vectren, as it existed prior to the merger with CenterPoint Energy, Inc. is generally referred to as “legacy Vectren.”

- 1 • Leveraged the strength of CenterPoint Energy Inc.'s business systems to
2 achieve synergies, align operational processes, and eliminate duplicate
3 systems support.
- 4 • Applied a single digital security and data protection approach to address
5 current challenges and reduce the complexity of ongoing security needs.

6 Go-Live for EIP Phase 1 was July 1, 2021 with elevated support ending September
7 30, 2021. Elevated support is the time period immediately after the system Go-Live
8 where an elevated level of technical support is available to system users to quickly
9 resolve defects, analyze issues, and answer questions to drive faster end user
10 adoption of the new system.

11 **Q. PLEASE DESCRIBE THE TECHNOLOGIES THAT WERE UPGRADED IN EIP**
12 **PHASE 1.**

13 A. EIP Phase 1 migrated most of the functionality of legacy Vectren technology systems
14 supporting finance and accounting, gas and electric operations, human resources,
15 supply chain management, and other related technologies that needed to be
16 upgraded, such as, but not limited to: Oracle Enterprise Business Suite, Maximo,
17 Hyperion, PowerPlan, Markview, and Avantis.

18 **Q. PLEASE DESCRIBE EIP PHASE 2 – EIP CUSTOMER.**

19 A. EIP Phase 2 started in March 2022 and is focused on migrating most of the
20 functionality of legacy Vectren technology systems supporting the Customer function,
21 including, but not limited to: Banner, Bill Print, Vectren Graphical Information System,
22 and Oracle Meter Data Management. EIP Phase 2 has a planned Go-Live date in
23 2024. Please refer to Petitioner's Exhibit No. 8, Attachment RWB-1 that reflects the
24 technology in EIP Phase 2 that is planned for upgrade.

25 **Q. PLEASE DESCRIBE THE BENEFITS OF THE EIP PHASE 1 AND 2 INVESTMENTS**
26 **TO CEI SOUTH AND ITS CUSTOMERS.**

27 A. EIP aligns with IT's overall Cost Optimization and Resiliency strategies, discussed
28 earlier in my testimony. Both phases of EIP are designed to improve efficiency and
29 increase resiliency through enhanced system reliability and security. CEI South and
30 its customers have realized, with Phase 1, or will realize, with Phase 2, two main
31 benefits from EIP. First, CEI South and its customers have benefited with

1 implementation of Phase 1, or will benefit with implementation of Phase 2, from
2 workforce efficiencies in the field and in customer service. For example, for Phase 1,
3 CEI South and its customers have benefited from efficiencies in the field related to
4 work order dispatch of customer service calls. And, for EIP Phase 2, operational
5 consolidation of systems and resources will result in improved business continuity for
6 customer call centers by being on a single platform. Notably, CEI South and its
7 customers will benefit from reduced wait times during peak call volumes by allowing
8 call center agents in other regions to assist in serving CEI South's customers when
9 CEI South's call center is busy. In other words, calls that ordinarily could only be
10 answered and responded to by CEI South call center representatives will now, upon
11 implementation of EIP Phase 2, be re-directed to another customer call center, located
12 outside of CEI South's service territory. This shift of call volume produces shorter wait
13 times for CEI South customers during the peak or busy call service times – for
14 example, during move-in or outages during weather events or storms.

15 Finally, the migration from an unsupported legacy Customer Information System
16 (namely, Banner) to the core enterprise-wide business system ("SAP") serving all
17 other CenterPoint Energy, Inc. affiliates will increase stability, increase security
18 compliance or controls, and reduce cyber security risks associated with Banner while
19 supporting the efficiencies and benefits to business operations mentioned above.

20 **Q. PLEASE DESCRIBE THE CAPITAL INVESTMENTS, BY YEAR, THAT ARE**
21 **ASSOCIATED WITH EIP.**

22 A. The capital investments allocated to CEI South for EIP Customer are \$13,563,911 for
23 the 2022 base year; \$5,003,646 for 2023; and \$618,998 for 2024. The capital allocated
24 to CEI South for EIP Core was \$17,578,517 between 2019-2022.

25 **Q. PLEASE EXPLAIN WHY THE EIP PHASE 1 AND PHASE 2 INVESTMENTS ARE**
26 **REASONABLE AND PRUDENT.**

27 At the outset, EIP was separated into two phases instead of one to minimize the risk
28 to operations and avoid impacting too many parts of the business at the same time.
29 Essentially, the risk management was to avoid one large go live and break out
30 consolidation of corporate systems from customer systems. This also helps to ensure
31 the planned business benefits were achieved in a cost-effective manner. In addition to
32 benefits discussed earlier in my testimony, the investments associated with Phase 1

1 and Phase 2 were reasonable and prudent in light of the operational synergies and
2 business efficiencies gained by more efficient technology management – that is,
3 standardizing and consolidation to one platform. First, fewer systems within which
4 employees are required to operate or maintain reduces the administrative burden;
5 streamlines employee training, eliminating the need to train personnel on multiple
6 platforms or systems; avoids duplicative processing of documentation in multiple
7 systems; mitigates the opportunities for errors from copying or moving data between
8 two different systems when creating and producing regulatory and other reporting
9 requirements; and generally minimizes inefficient use of personnel and resources.
10 Harmonizing or migrating the functionality of the systems also offers the benefit of
11 reduced application maintenance, support costs, and consolidated cyber security
12 monitoring and protection, thereby resulting in lower security risks and shared costs
13 and technical support to maintain the system and address issues. It also provides the
14 opportunity to improve operational synergies by leveraging resources, sharing support
15 as well as best practices, and enhancing collaboration and standardization of
16 processes across the workforce thereby enabling additional efficiencies and
17 improvement opportunities.

18 Moreover, Phase 2 involves replacing much of the functionality of Banner, CEI South's
19 current core Customer Information System which, as previously mentioned, is at end
20 of life and no longer supported. As mentioned previously, EIP Phase 2 transitions CEI
21 South to a supported and modern Customer Information System to provide reliable
22 and secure services to CEI South customers. For the aforementioned reasons, the
23 investments associated with EIP Phases 1 and 2 are reasonable and prudent and will
24 allow CEI South to consolidate technology to provide safe, reliable and secure delivery
25 of electricity to customers, enhance the customer experience, and drive efficient and
26 effective operations in the future.

27 **B. ADVANCED METERING INFRASTRUCTURE**

28 **Q. PLEASE DESCRIBE ADVANCED METERING INFRASTRUCTURE AND IN**
29 **PARTICULAR THE AMI CONSOLIDATION EFFORT.**

30 **A.** As explained in greater detail by Petitioner's Witness Amy L. Folz, the Advanced
31 Metering Infrastructure ("AMI") system is an electric distribution system asset that

1 helps CEI South improve the safety, reliability, and performance of the electric
2 distribution grid. It is the framework for two-way communication of energy data and
3 electric systems operations between advanced meters and CEI South's management
4 systems, namely billing, customer service, outage information, and distribution
5 management. Ms. Folz provides an overview of the benefits of AMI through the
6 deployment of the meters, installation of the network equipment in the field, and
7 general integration of the AMI control system with Meter Data Management ("MDM")
8 infrastructure, whereas I will discuss consolidation efforts related to the MDM system.

9 Consolidating the MDM system consists of centralizing the AMI meter data
10 management, validation, processing, and customer usage business process on one
11 MDM system. Specifically, in 2024, MDM functions used by CEI South, which are
12 currently supported by the Oracle MDM, will be supported instead by the Siemens
13 MDM system – the same system that supports the AMI meter to cash processes of
14 CenterPoint Energy, Inc.'s Houston Electric affiliate, resulting in business efficiencies
15 and synergies related to meter data collection, related billing functions, and operational
16 support.

17 **Q. PLEASE DESCRIBE THE BENEFITS TO CEI SOUTH AND ITS CUSTOMERS.**

18 A. Aside from the AMI benefits discussed by Petitioner's Witness Folz, the MDM
19 consolidation effort provides additional benefits, such as lower operating costs. By
20 having one common MDM system, CenterPoint Energy, Inc. affiliates including CEI
21 South leverage resources, such as a shared technical support team, in addition to
22 substantially reducing redundant application maintenance costs, streamlining
23 employee training, and cyber monitoring and protection. Having one platform also
24 provides opportunities for operational efficiencies such as standardization of
25 processes, sharing of best practices, and enhanced workforce collaboration allowing
26 for additional improvement opportunities. The consolidated platform will also benefit
27 CEI South customers with more accurate billing from mature validation, estimation,
28 and editing ("VEE") MDM functions, and will result in faster and more accurate electric
29 service outage detection for electric customers. Also, as explained by Petitioner's
30 Witness Folz, in the future, the consolidated MDM platform will extend AMI analytics
31 capabilities related to identifying and investigating potential diversion and theft cases.
32 The consolidated MDM will also provide a solid platform to develop demand-side
33 management programs such as time-of-use billing, etc. These capabilities will provide

1 customers with better service reliability. For information on the time-of-use Critical
2 Peak Pricing Pilot, please refer to the Direct Testimony of Petitioner's Witness Matthew
3 A. Rice.

4 **Q. PLEASE DESCRIBE THE CAPITAL INVESTMENTS, BY YEAR, ASSOCIATED**
5 **WITH THE AMI CONSOLIDATION INVESTMENT.**

6 A. The capital investments directly charged to CEI South for AMI Investments are
7 \$3,425,196 for 2023; \$2,100,000 for 2024; and \$1,200,000 for 2025.

8 **Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND**
9 **PRUDENT.**

10 A. The investments associated with the ongoing AMI infrastructure investments and
11 consolidation investment are reasonable and prudent given the long-term benefits to
12 CEI South and its customers as described above. Not only will having one common
13 MDM system create an efficient and effective end-to-end AMI meter to cash process,
14 but consolidating to one system will also allow CEI South to control long-term
15 maintenance and operations expenses more effectively. The consolidation will also
16 aid in delivering capabilities more reliably and securely.

17 **C. ADVANCED DISTRIBUTION MANAGEMENT SYSTEM ("ADMS")**
18 **CONSOLIDATION**

19 **Q. PLEASE DESCRIBE THE ADVANCED DISTRIBUTION MANAGEMENT SYSTEM**
20 **(ADMS) CONSOLIDATION.**

21 A. ADMS is a system that supports the distribution management and optimization of the
22 electrical grid. The functions of ADMS support automated outage restoration through
23 fault location, isolation, and restoration. The optimization of grid performance includes
24 capabilities like voltage reduction for conservation and peak demand management.
25 The ADMS Consolidation Investment consists of standardizing and centralizing the
26 Houston and CEI South electric distribution management and control functions to a
27 common, single, distribution management system. In 2024, CEI South's Outage-to-
28 Restoration functions, which are currently supported by Oracle Network Management
29 System ("NMS")/ADMS, will be supported by the Hitachi ADMS system.

1 **Q. DESCRIBE THE BENEFITS TO CEI SOUTH AND ITS CUSTOMERS.**

2 A. Consistent with Cost Optimization, standardizing and consolidating the ADMS function
3 to one platform leverages resources and economies of scale, resulting in efficiencies
4 and synergies, including a shared technical support team to maintain the system and
5 address issues, reduced application maintenance and support costs, streamlined
6 employee training, and cyber monitoring and protection. Consistent with the Resiliency
7 Strategy, the consolidation to the Hitachi ADMS platform adds an additional level of
8 security hardening for CEI South and its customers due to the migration to a secure
9 control systems network. The consolidation effort also offers access to advanced
10 outage management features that were not utilized in the Oracle NMS/ADMS system.
11 In addition, the ADMS consolidation allows for greater collaboration and sharing of
12 data and resources, for example, during emergency operation events. A consolidated,
13 single, platform allows CEI South and Houston Electric Distribution Operations to
14 share information and resources more efficiently and effectively during emergency
15 operations, bolstering CEI South's ability to receive or support disaster recovery and
16 storm response. Specifically, if CEI South had an emergency operations event, IT will
17 be able use team members in Texas to support CEI South ADMS operations as
18 needed, and if Texas had emergency operations event, team members in CEI South
19 will be able to support Texas ADMS operations as needed.

20 **Q. PLEASE DESCRIBE THE INVESTMENTS, BY YEAR, ASSOCIATED WITH THE**
21 **ADMS CONSOLIDATION.**

22 A. The capital investments directly charged to CEI South for the ADMS Consolidation
23 project are \$1,281,467 for 2023; \$659,211 for 2024; and \$551,882 for 2025.

24 **Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND**
25 **PRUDENT.**

26 A. The investments for the ADMS Consolidation effort are reasonable and prudent given
27 the efficiencies and benefits to be achieved, as described earlier in my testimony,
28 including reduced system operating and maintenance costs associated with technical
29 support for multiple platforms, more standardized and collaborative business
30 operations, the potential for enhanced customer service during Emergency Events,
31 and migrating to a more secure network environment.

1 **D. SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)**

2 **Q. PLEASE DESCRIBE WHAT SUPERVISORY CONTROL AND DATA ACQUISITION**
3 **(“SCADA”) IS AND THE IT INVESTMENT ASSOCIATED WITH SCADA.**

4 A. Several CEI South departments, such as Transmission System Operations (“TSO”),
5 Distribution System Operations (“DSO”), and Wholesale Power Marketing (“WPM”)
6 rely upon the Energy Management System (“EMS”)/SCADA network to perform day-
7 to-day functions, such as remotely switching transmission or distribution equipment in
8 or out of service. It is therefore critical that CEI South invest in the SCADA network to
9 ensure the hardware and software on the EMS/SCADA network remain up-to-date,
10 secure, and on supported hardware and software systems, as well as compliant with
11 federal regulation (i.e., North American Electric Reliability Corporation Critical
12 Infrastructure Protection or “NERC CIP”).

13 **Q. DESCRIBE THE BENEFITS OF THE SCADA INVESTMENTS TO CEI SOUTH AND**
14 **ITS CUSTOMERS.**

15 A. The SCADA capital investments allow CEI South systems to remain reliable and
16 operate more efficiently and securely. Specifically, the SCADA updates harden the
17 systems to better detect and prevent issues related to equipment failure, software
18 vulnerabilities, and potential malware events from external threats.

19 **Q. PLEASE DESCRIBE THE INVESTMENTS, BY YEAR, THAT ARE ASSOCIATED**
20 **WITH SCADA.**

21 A. The capital investments directly charged to CEI South for the SCADA program are
22 \$435,320 for 2023; \$557,655 for 2024; and \$1,829,385 for 2025.

23 **Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND**
24 **PRUDENT.**

25 A. As explained earlier, several CEI South operational departments rely upon the
26 EMS/SCADA networks, making it critical the systems remain secure, and available
27 24/7. It is therefore necessary to ensure the systems receive regular maintenance and
28 upgrades to the hardware and software to ensure not only the SCADA/EMS systems
29 remain supported by the manufacturers but also provide the functionality necessary
30 for TSO, DSO, and WPM to operate efficiently, effectively, and securely, day-to-day.
31 In addition, as Federal and other regulatory or compliance requirements evolve or

1 change, CEI South must add new systems or modify existing hardware or software to
2 remain not only secure, but also compliant with the various externally mandated
3 requirements.

4 **E. CLOUD COMPUTING AND THE CLOUD ACCELERATION,**
5 **TRANSFORMATION, AND OPTIMIZATION (“CATO”) PROGRAM**

6 **Q. PLEASE EXPLAIN CLOUD COMPUTING AND HOW IT IS BEING USED.**

7 A. Cloud computing is the delivery of Information Technology products, including servers,
8 storage, databases, networking and software, over the internet or “cloud”.
9 Increasingly, companies can access complex and flexible IT infrastructure and
10 software through a cloud delivery model, reducing in-house technical support
11 requirements and costly hardware system requirements. The use of cloud-based IT
12 infrastructure and software will grow over time as more companies move away from
13 purchasing IT products or applications within their own premises. Primarily, CEI
14 South’s cloud computing arrangements (“CCAs”) are for infrastructure as a service
15 (“IaaS”) and software as a service (“SaaS”).

16 **Q. HOW DO CCAS DIFFER FROM TRADITIONAL ON-PREMISES IT SOLUTIONS?**

17 A. On-premise IT solutions (“on-prem”) typically refers to IT products, including servers
18 storage, databases, networking, and software that a company manages and maintains
19 within their own data centers. The primary difference between traditional on-premise
20 IT solutions and CCAs involves ownership. With on-prem, a company purchases and
21 owns software licenses, infrastructure software licenses, and infrastructure, and is
22 responsible for any maintenance and replacement. Specifically, an on-prem approach
23 requires the owner to manage and maintain in-house server hardware, software
24 licenses, integration capabilities, and personnel necessary to support and manage the
25 applications as issues arise. With on-prem, identifiable assets with a useful life greater
26 than one year will be capitalized, such as licenses for hardware and software, while
27 costs associated with operation and maintenance of those assets would be expensed.
28 Under a CCA, a company purchases a service for the delivery of the IT products and
29 pays a fee for the delivery of the product. Under either approach, the user requires
30 and has access to the same level of hardware and software solutions. The only
31 difference is where the hardware is located—whether on-site under an on-prem
32 approach or off-site if accessed through a CCA.

1 **Q. PLEASE EXPLAIN WHAT “INFRASTRUCTURE AS A SERVICE” MEANS AND**
2 **PROVIDE AN EXAMPLE.**

3 A. Infrastructure as a Service (“IaaS”) is a type of cloud service that provides a company
4 computing, storage, and networking resources that are typically consumed on an on-
5 demand or ‘pay as you go’ basis. In this scenario, a company does not have to
6 purchase servers, storage capacity, or networking equipment as that is the
7 responsibility of the cloud service provider. The company instead has the flexibility to
8 increase or decrease IT resources consumed to meet the demand. An example of
9 IaaS is where a company activates one server (computer processors) in the cloud
10 (using a cloud provider like Microsoft, Google, Amazon, IBM, etc.) and assigns a
11 specific storage (for example, a hard drive of 1TB) amount to the server.

12 **Q. PLEASE EXPLAIN WHAT “SOFTWARE AS A SERVICE” MEANS AND PROVIDE**
13 **AN EXAMPLE.**

14 A. Software as a Service (or “SaaS”) is a type of cloud service that provides a complete
15 application solution for end users that is a ‘pay as you go’ model. SaaS solutions are
16 usually accessed by an internet browser or mobile device. Depending on the SaaS
17 solution, companies may be required to configure the SaaS solution. Data related to
18 the SaaS is also stored in the cloud which allows companies to access data anywhere
19 via the internet and prevents data loss in case of a desktop or laptop failure. In this
20 case, typically all application components and infrastructure are managed by the SaaS
21 provider. An example of SaaS solutions are email services like Gmail or Yahoo, and
22 Microsoft Office 365.

23 **Q. PLEASE EXPLAIN THE BENEFITS OF INVESTING IN CLOUD-BASED**
24 **TECHNOLOGY RATHER THAN THE TRADITIONAL DELIVERY OF ON-PREMISES**
25 **IT SOLUTIONS.**

26 A. Investing in cloud-based technology benefits CEI South and its customers through
27 enhanced security, increased reliability, and flexibility. When the infrastructure is
28 owned and maintained by the cloud provider, a company can avoid some of the upfront
29 costs and the complexity of owning and maintaining the IT infrastructure. Many
30 technology vendors that offer both owned and leased usage options, as well as options
31 delivered via the cloud, include more features in the cloud version than their on-
32 premise version, including patches, software enhancements, and security updates that
33 are automatically updated. Additionally, updates and upgrades are typically a lower

1 burden on in-house staff and usually can be delivered more quickly when compared
2 to on-premise based technology. Finally, a cloud computing arrangement may offer
3 additional applications and services that are not provided to on-premise deployments
4 while allowing a company to pay for only those resources they consume. In terms of
5 security, the cloud model adds layers of defense and multiple security measures to
6 protect an organization's assets. Some examples of additional security in the cloud
7 include: intrusion detection and prevention, web firewalls to prevent web attacks (e.g.,
8 denial of service), authentication for authorized users, and expansion of network
9 security groups to prevent or limit access to certain data inside a network. The security
10 measures are a shared responsibility between the cloud provider and an organization.

11 **Q. IS CEI SOUTH PROPOSING ANY ACCOUNTING AUTHORITY ASSOCIATED**
12 **WITH THE MOVE TO CLOUD-BASED COMPUTING?**

13 A. Yes, please refer to the Direct Testimony of Witness Chrissy M. Behme, who
14 discusses the accounting request.

15 **Q. PLEASE DESCRIBE THE CLOUD ACCELERATION, TRANSFORMATION, AND**
16 **OPTIMIZATION (“CATO”) PROGRAM.**

17 A. As part of the Cost Optimization effort, IT evaluated the entire application inventory to
18 identify which applications were eligible to move to the cloud and the most appropriate
19 approach to moving the eligible applications to the cloud. For example, in most cases
20 an application can be migrated to the cloud as-is, but in some cases an upgrade of a
21 component or entire application may be required to meet the requirements of the cloud
22 migration. Once on the cloud, this will allow total costs (application and infrastructure)
23 to increase or decrease based on the utilization or demand from the business or end
24 users. This method allows total costs to be optimized because if additional resources
25 are needed on premise, then larger increments of infrastructure resources (for
26 example, servers and storage) may need to be procured that may cost more than the
27 on-demand or ‘pay as you go’ basis as described earlier. This program also supports
28 IT's efforts to increase innovation and drive a competitive advantage in the utilities
29 industry. The program established a cloud foundation that will accelerate growth to the
30 cloud, increase automation in infrastructure operations that will drive efficiencies, and
31 establish a secure environment that will improve the resiliency of the applications
32 moved.

1 **Q. PLEASE DESCRIBE THE BENEFITS TO CEI SOUTH AND ITS CUSTOMERS**
2 **ASSOCIATED WITH THE CATO INVESTMENT.**

3 A. CEI South and its customers will benefit from efficiencies gained by establishing
4 common cloud platforms and automation of infrastructure operations that will allow IT
5 to increase resources for applications experiencing peak loads like the public websites
6 that allow customers to access their usage, view their billing, or report outages. This
7 will also allow flexibility to scale the cloud application resources using on-demand or
8 'pay as you go' model for services consumed on the cloud that may otherwise require
9 higher costs for increasing resources on-premise. Moreover, investment in CATO
10 supports use of cloud environments enhancing resiliency, stability, and security. In the
11 future, if key applications are moved to the cloud, it may provide an alternative for
12 disaster recovery, if needed. In this scenario, an application may only be needed in
13 the cloud instead of on-premise in the primary and secondary data center.

14 **Q. WHAT CAPITAL INVESTMENTS ARE ASSOCIATED WITH THE CATO**
15 **PROGRAM?**

16 A. The capital investments allocated to CEI South for CATO are \$958,947 for the base
17 year 2022, \$617,058 for 2023; \$696,685 for 2024; and \$17,708 for 2025.

18 **Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND**
19 **PRUDENT.**

20 A. This Program aligns with the overall IT strategy of Cost Optimization to improve
21 efficiency, increase resiliency through greater security, and increase automation of
22 operations. Moreover, the investments are necessary to create a cloud foundation that
23 will drive innovation and environment that can be used to move on-premise
24 applications to the cloud.

25 **F. DIGITAL DELIVERY**

26 **Q. PLEASE DESCRIBE DIGITAL DELIVERY.**

27 A. Digital Delivery is a program established to build new user-friendly business
28 capabilities on a resilient and easily scalable framework. The program established a
29 secure front-end cloud application platform that supports the entire enterprise as a
30 foundation for digital products targeted to increase operational efficiencies and support

1 accelerated capital deployment. The products are built with a focus on usability to
2 ensure high satisfaction and maximum adoption from both employees and customers.

3 **Q. PLEASE DESCRIBE THE CAPABILITIES OF THE DIGITAL DELIVERY**
4 **PRODUCTS USED BY CEI SOUTH.**

5 A. CEI South primarily uses two of the Digital Delivery products:

6 1. CrewPoint is a new digital tool that allows CEI South to manage distributed
7 field crew resources more effectively across the territory from a centralized
8 location. Specifically, CrewPoint provides dashboards to track crew utilization
9 across service center boundaries and facilitate resource sharing to maximize
10 productivity. CrewPoint also includes a portal that streamlines work packet
11 distribution to contractors and minimizes manual tasks. With implementation of
12 CrewPoint, contractors can now access a portal to provide status updates on
13 their assigned work which minimizes delays in downstream activities.
14 CrewPoint also provides employees and contractors access to productivity
15 dashboards to help communicate impediments and ensure efficient work
16 practices. For example, CEI South employees may communicate a delay in
17 materials for a particular work order while a contractor may communicate
18 challenges with site readiness or access to property that may cause delays.
19 CEI South will use the tool starting in Q4 2023.

20 2. ClearPath Builders Portal will become available to CEI South customers in
21 2024; it is a new customer self-service portal for new service requests (or “work
22 orders”), such as new construction. The tool walks customers/builders through
23 a simple step-by-step process to enter all required information to request the
24 work, schedule their request, and track the progress of the request through
25 completion. The system validates any necessary site readiness or permit
26 requirements that have been met and sets timing expectations with
27 customers/builders on when work is estimated to complete.

28 **Q. DESCRIBE THE BENEFITS OF DIGITAL DELIVERY TO CEI SOUTH AND ITS**
29 **CUSTOMERS.**

30 A. In addition to the benefits and efficiencies described earlier in my testimony, Digital
31 Delivery also provides a new methodology for technology delivery. The design process
32 is heavily focused on co-innovation with the business so that the functionality delivered
33 is intuitive and easily adopted with maximum satisfaction. The functionality is also built

1 in a modular, component-based way so that IT has reusable code blocks that will
2 accelerate IT's ability to add new tools in the future. The infrastructure is cloud-based
3 to easily scale as demand increases, and a common integration design creates
4 reusable interfaces to back-end systems for data retrieval and work order processing.
5 The platform and applications went through all standard protocols for security and
6 penetration testing to ensure a safe experience for customers and employees.
7 Ultimately, the goal is to create a foundation that allows technology to support the
8 speed of business to drive operational efficiencies and increased productivity.

9 **Q. PLEASE DESCRIBE THE INVESTMENTS, BY YEAR, ASSOCIATED WITH THE**
10 **DIGITAL DELIVERY APPLICATIONS.**

11 A. The capital investments allocated to CEI South associated with the Digital Delivery
12 Applications are \$6,334,842 for the base year 2022; \$471,497 for 2023; \$265,266 for
13 2024; and \$48,565 for 2025.

14 **Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND**
15 **PRUDENT.**

16 A. These investments will provide builders and developers a self-service option for
17 entering and tracking new service construction requests. This portal minimizes call
18 volume to customer service, lowers the cost to serve, and improves customer
19 experience while also supporting real-time updates and communication to the
20 customer throughout the process. Moreover, the Digital Delivery Program creates an
21 operating model that allows IT to effectively meet business demands while relying
22 increasingly on technology and automation to control costs in the delivery of safe and
23 reliable service by CEI South.

24 **G. SAP BUSINESS PLANNING AND CONSOLIDATIONS ("BPC")**
25 **PROGRAM**

26 **Q. PLEASE DESCRIBE THE BPC PROGRAM.**

27 A. The Program involves the implementation and configuration of SAP Business,
28 Planning, and Consolidations ("BPC") system for financial planning, forecasting,
29 business financial consolidations, and reporting. The Program consists of modifying
30 the current planning, forecasting and reporting processes to leverage inputs and

1 reports available from the SAP BPC system, as well as enhancing master data to
2 improve data transparency and simplify financial allocations.

3 **Q. DESCRIBE THE BENEFITS OF BPC TO CEI SOUTH AND ITS CUSTOMERS.**

4 A. CEI South and its customers will generally realize benefits related to cost optimization
5 and operational efficiency as the BPC Program will equip Financial Planning and
6 Analysis ("FP&A") with more enhanced planning and forecasting tools. FP&A and
7 leaders across the organization, including CEI South leaders, will be able to evaluate
8 operational results more efficiently and effectively through faster reporting of actuals
9 at the end of each month, ability to better understand variances and trends, and
10 improved tools for analyzing financial results.

11 **Q. PLEASE DESCRIBE THE INVESTMENTS, BY YEAR, THAT ARE ASSOCIATED**
12 **WITH THE BPC PROGRAM.**

13 A. The capital investments allocated to CEI South associated with the BPC Program are
14 \$554,922 for 2023; and \$115,801 for 2024.

15 **Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND**
16 **PRUDENT.**

17 A. The Service Company's planning, reporting, and forecasting systems and processes
18 have remained largely unchanged since the early 2000s. Improvements to these
19 processes and installation of a dedicated planning, reporting and forecasting system
20 will allow CEI South to be supported by a more streamlined and integrated financial
21 and budgeting tool; provide a centralized planning platform that offers leaders with
22 more comprehensive insights into performance metrics; and provide improvements
23 and automation of financial data consolidation. The decision to use BPC as the
24 planning, reporting, and forecasting solution was reached through a rigorous and
25 competitive multi-month bidding process, ensuring comprehensive evaluation against
26 alternative solutions. The decision also relied heavily on the fact Service Company
27 already holds a license and has familiarity with the system as it is used currently for
28 financial consolidations.

1 VI. RESILIENCY INVESTMENTS

2 A. CYBERSECURITY PROGRAMS

3 Q. PLEASE DESCRIBE CEI SOUTH'S CYBERSECURITY PROGRAMS.

4 A. The following Cybersecurity Programs apply to CEI South:

5 • [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED]

14 • [REDACTED]

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 • Extend Privileged Access Management and Single Sign-On to the cloud,
22 developing a cohesive security strategy to manage authentication and
23 authorization to cloud resources and hosted applications.

24 • Vulnerability Management is an ongoing process of identifying, assessing,
25 prioritizing, and mitigating Cybersecurity vulnerabilities across endpoints and
26 systems. This will reduce the likelihood and impact of security incidents by
27 addressing weaknesses that could be exploited. This helps CenterPoint
28 Energy, Inc. stay ahead of potential threats and minimize the likelihood of
29 security breaches which in return better protects our company data.

1 **Q. DESCRIBE THE BENEFITS OF THE CYBERSECURITY INVESTMENTS TO CEI**
2 **SOUTH AND ITS CUSTOMERS.**

3 A. Each of the cybersecurity related investments listed earlier in my testimony enable
4 day-to-day business activities across CEI South by allowing CEI South to manage
5 cyber-related risks. In particular, these efforts help ensure system resiliency, network
6 and application resiliency, and security hardening across all aspects of CEI South's
7 network and applications.

8 **Q. PLEASE DESCRIBE THE CAPITAL INVESTMENTS, BY YEAR, THAT ARE**
9 **ASSOCIATED WITH THE ABOVE CYBERSECURITY PROGRAMS.**

10 A. The capital investments allocated to CEI South for the Cybersecurity Programs are
11 [REDACTED] for 2023; [REDACTED] for 2024; and [REDACTED] for 2025.

12 **Q. PLEASE EXPLAIN WHY THE INVESTMENTS ARE REASONABLE AND**
13 **PRUDENT.**

14 A. As I mentioned earlier in my direct testimony, each of the investments associated with
15 the Cybersecurity Programs are prudent and reasonable as they enable CEI South to
16 manage cyber-related risks to systems and network. Specifically, each cost allows
17 CEI South to:

- 18 • Comply with Regulatory or Statutory Requirements: CEI South complies with
19 federal Cybersecurity regulations including Payment Card Industry Data
20 Security Standard ("PCI DSS"), Health Insurance Portability and Accountability
21 Act, ("HIPAA"), General Data Protection Regulation ("GDPR"), North American
22 Electric Reliability Corporation Critical Infrastructure Protection ("NERC CIP"),
23 and the Federal Energy Regulatory Commission ("FERC") for example.
- 24 • Ensure business continuity by protecting downtime of systems and preventing
25 disruption of operations.
- 26 • Respond to the ever-evolving cyber threat landscape; investments help
27 mitigate risk associated with data breaches, financial losses, legal
28 consequences, and reputational damage.
- 29 • Maintain customer trust and ensure CEI South upholds customer expectations
30 that personal information will be safeguarded.

- 1 • Protect Company Assets by helping protect digital assets, confidential data,
2 intellectual property, critical infrastructure, from damage, unauthorized access,
3 or theft.

4 **B. ENTERPRISE NETWORK TRANSFORMATION**

5 **Q. PLEASE DESCRIBE THE ENTERPRISE NETWORK TRANSFORMATION.**

6 A. The Enterprise Network Transformation consists of replacing aged data
7 communications hardware with a more scalable and manageable environment
8 enabled by Cisco's Application Centric Infrastructure ("ACI") and Meraki Platforms.
9 The Enterprise Network Transformation is designed to simplify and automate the
10 creation, deployment, and enforcement of network security policies improving CEI
11 South's overall data communications posture. This Enterprise Network Transformation
12 enables advanced networking capabilities and architecture that will facilitate increased
13 availability for critical applications at data centers. This will further reduce the need for
14 disaster recovery planning for select applications. In turn, this will ensure availability
15 of critical applications in an adverse event which will allow CEI South to continue
16 providing information and support for resiliency and recovery events.

17 **Q. DESCRIBE THE BENEFITS TO CEI SOUTH AND ITS CUSTOMERS.**

18 A. The Network Transformation moves CEI South to a more software-defined network
19 model and overall more resilient infrastructure allowing for centralized application
20 policy enforcement across all data center networks, remote locations, and public
21 clouds, minimizing risk, enabling agility, scaling to demand, and efficiency both in
22 people resources and time to deploy updates in supporting critical business processes
23 and ultimately CEI South customers. The project delivers network infrastructure that
24 aims to avoid outages that would impact public facing applications such as My Account
25 Online and Outage Tracker.

26 **Q. PLEASE DESCRIBE THE INVESTMENTS, BY YEAR, THAT ARE ASSOCIATED
27 WITH THE NETWORK TRANSFORMATION.**

28 A. The cost allocated to CEI South for the Network Transformation is \$1,790,531 for the
29 base year 2022; \$1,416,861 for 2023; and \$2,301,137 for 2024.

1 Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND
2 PRUDENT.

3 A. The investments associated with the Network Transformation initiative were
4 reasonable and prudent given the Network Transformation delivers a cloud ready
5 solution, improves resiliency, allows for remote automation, and enhances CEI South's
6 security posture by allowing for simple remote management of the security policies.

7 C. DATA CENTER REFRESH AND RESILIENCY

8 Q. PLEASE DESCRIBE THE DATA CENTER REFRESH AND RESILIENCY
9 PROGRAM INVESTMENTS.

10 A. As explained earlier in my direct testimony, in general, IT investments are reasonable
11 and prudent investments because as technology and threats evolve, so too must the
12 hardware, software, and technological systems and protection measures. Accordingly,
13 IT implemented hardware refreshes, to include adding capacity, refreshing, or
14 updating the server hardware running operating systems (for example, Windows,
15 Linux, and AIX – IBM's propriety UNIX operating system), and storage hardware at
16 data centers; as well as enhancing the resiliency of critical applications by providing a
17 highly available – or 24/7 ready – architecture environment within the primary data
18 center and a backup copy of the application at a secondary data center. The hardware
19 refresh supported applications and systems utilized by all business units including CEI
20 South.

21 Q. DESCRIBE THE BENEFITS OF THE DATA REFRESH TO CEI SOUTH AND ITS
22 CUSTOMERS.

23 A. As explained earlier in my testimony, the Data Refresh and Resiliency Program is
24 designed to enhance the resiliency, reliability, and recovery of critical IT applications
25 and systems that support CEI South. This is done by adding capacity, refreshing and
26 updating server hardware or storage hardware at all primary and secondary data
27 centers to provide a highly available environment to support daily operations and the
28 recovery of the critical applications (and associated information) during an emergency
29 event or disaster. Without this effort, CEI South would be hampered in business
30 operations that provide safe and reliable electric utility service to the customer as the
31 workforce may have to follow manual processes.

1 Q. PLEASE DESCRIBE THE INVESTMENTS, BY YEAR, THAT ARE ASSOCIATED
2 WITH THE DATA CENTER REFRESH AND RESILIENCY PROGRAM.

3 A. The capital investments allocated to CEI South for the Data Center Refresh and
4 Resiliency effort are \$2,318,696 for the base year 2022; \$1,914,703 for 2023;
5 \$1,091,754 for 2024; and \$1,227,078 for 2025.

6 Q. PLEASE DESCRIBE WHY THE INVESTMENTS ARE REASONABLE AND
7 PRUDENT.

8 A. The investments are reasonable and prudent because the investments help provide a
9 resilient, reliable, and supported server and storage environment with enhanced ability
10 to recover critical applications.

11 VII. **OTHER PROGRAMS AND DISCUSSION ITEMS**

12 A. **CRITICAL PEAK PRICING (“CPP”) PILOT PROGRAM**

13 Q. DESCRIBE THE IT-RELATED COMPONENTS OF THE CRITICAL PEAK PRICING
14 (“CPP”) PILOT PROPOSED.

15 A. There are two main technical components identified to support the CPP Pilot. The first
16 component is centered around the time-of-use (“TOU”) configuration. This component
17 will be supported by CEI South’s new, consolidated Meter Data Management (“MDM”)
18 system and SAP system. SAP will support the enrollment in the program and the
19 monthly billing functions while the MDM system will collect load profile kWh readings
20 for the applicable pilot customer accounts and calculate usage for each of the
21 predefined TOU periods. For additional information related to the applicable TOU
22 periods, please refer to the Direct Testimony of Petitioner’s Witness Rice. There will
23 also be some development involved in our MDM to support the dynamic nature of the
24 CPP charges. In addition to the configuration and development within the MDM and
25 SAP systems, this effort will also include middleware updates to the billing interface
26 between the MDM and SAP and extensive testing of the integrated solution.

27 The second component is centered around a new customer messaging process that
28 will provide the proper awareness when a critical peak event occurs. CEI South plans
29 to implement these new processes on the same platform which currently supports the
30 Power Alert Service.

1 **Q. HOW WERE THE ESTIMATES FOR THE CPP PILOT DEVELOPED?**

2 A. The estimates were developed using the expertise of our AMI technical manager and
3 SAP managers with input from their respective teams. This estimate relies on
4 leveraging existing SAP and MDM capabilities and existing development/test
5 environments. Thus, the cost estimate is focused solely on implementation costs. CEI
6 South estimates the project's duration at approximately 5 months with resources
7 working mostly full-time.

8 **Q. DESCRIBE HOW THE APPLICATIONS AND INFRASTRUCTURE CREATED FOR**
9 **THE CPP PILOT CAN BE USED AFTER THE PILOT.**

10 A. The CPP Pilot will be built on our MDM and SAP platforms. These platforms are core
11 to the meter to cash processes at CEI South. The CPP technical product will be tested
12 and qualified with the same level of scrutiny required of all billing processes. While the
13 pilot may have an initial target of 500 individual residential customers there will not be
14 a limitation to the number of Indiana electric residential customers the technical
15 components will support.

16 **B. SAP S/4HANA TRANSFORMATION PROGRAM**

17 **Q. PLEASE DESCRIBE THE SAP S/4HANA TRANSFORMATION PROGRAM.**

18 A. In 2024, there will be an investment to develop a comprehensive plan and business
19 case that supports transforming the existing end of life SAP ECC ecosystem and
20 business processes to the modernized SAP S/4HANA platform. The drivers for this
21 transformation include increased customer satisfaction with more automated and
22 innovative digital solutions. In addition, adoption of the modern technology can help
23 increase resiliency, reduce outages, increase application up time and availability and
24 improve overall system performance. In 2025, the transformation will begin which
25 involves a multi-year systems implementation to install and develop the new SAP
26 S/4HANA platform. SAP has published that maintenance for the company's current
27 version of SAP ERP 6.0 will end at the end of 2027.

28 **Q. PLEASE DESCRIBE THE EXPENSES ASSOCIATED WITH SAP**
29 **TRANSFORMATION PROGRAM.**

30 A. The expense allocated to CEI South for the SAP S/4HANA Transformation Program
31 is \$770,000 for 2025.

1 **VIII. CONCLUSION**2 **Q. CAN YOU SUMMARIZE THE KEY THEMES WITH REGARD TO YOUR DIRECT**
3 **TESTIMONY?**4 A. CEI South must operate at a fast pace to meet its customers' evolving needs and
5 expectations. Information Technology investments are made to yield increased safety,
6 faster service response, higher customer satisfaction, and lower costs. Investments
7 cover many areas, including upgrades to systems, new business capabilities, or
8 ongoing maintenance. Investments in IT are guided by the IT strategies of Cost
9 Optimization and Resiliency to ensure purpose and prudence. In my testimony, I've
10 discussed the alignment of CEI South's technology investment with these two key IT
11 strategies of Cost Optimization and Resiliency to support customer and business
12 objectives. Moreover, cloud computing is an enabler and growing pillar underlying the
13 two IT strategies. The innovation that comes with cloud computing will drive future
14 programs in IT that will benefit CEI South customers. Finally, the IT investments
15 discussed in my testimony allow for new and unique programs to be created for the
16 benefit of CEI South's customers like the CPP Pilot. The CPP Pilot will create new
17 options for customers that are discussed in the Direct Testimony of Witness Rice.18 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

19 A. Yes, it does.

VERIFICATION

I affirm under penalties for perjury that the foregoing representations are true to the best of my knowledge, information, and belief.

SOUTHERN INDIANA GAS AND ELECTRIC
COMPANY D/B/A CENTERPOINT ENERGY
INDIANA SOUTH



Ronald W. Bahr
Vice President, Information Technology

12/1/2023

Date

**Petitioner's Exhibit No. 9, Attachment RWB-1: EIP Phase 2
Upgraded Software Applications**

Core Capabilities Group	Application Name	To be Retired or Modified?	Future State Application
Billing & Invoicing	Bill Print Notification Ads and Templates (Approver, Editor)	To be Retired	StreamServe
Credit & Collection	Corporate Credit Manager	To be Retired	SAP ECC (Finance)
Credit & Collection	Energy Assistance Portal	To be Retired	Energy Assistance Portal(CNP)
Credit & Collection	Regulatory Extranet	To be Retired	Energy Assistance Portal (CNP)
Cross Team	OnBase	To be Retired	Filenet
Customer Experience	AppWorx	To be Retired	AutoSys
Customer Experience	Automatic Route Control System (ARCS)	To be Retired	SAP ISU
Customer Experience	Automatic Workload Automation (AWA)	To be Retired	AutoSys
Customer Experience	Banner	To be Retired	SAP ISU and SAP CRM
Customer Experience	Bill Print Notification Ads and Templates (Approver, Editor)	To be Retired	Genesys, Nuance
Customer Experience	CPAS (Customer Planning and Sales) Portal (Now called New Business Team)	To be Retired	BuilderPortal and SAP CRM
Customer Experience	NICE-IEX	Modified	Baybridge – Long-term forecasting CCPulse – Real time view
Customer Experience	NMS	To be Retired	ADMS OMS
Customer Experience	Nuance-NLU	Modified	Nuance-NLU Enhancements
Customer Experience	OMS Reporting	To be Retired	Filenet
Device Management	MITS	To be Retired	SAP ISU
Device Management	Oracle MDM	To be Retired	Siemens MDM
Digital/Web	eService/Off-Phone	To be Retired	SAP
Digital/Web	Opower	To be Retired	Opower Contact Center Tool (CNP)
Finance	Experian	To be Retired	Experian - Houston
Finance	FiServe (Legacy Vectren)	To be Retired	FiServe (CNP)
Finance	Speed Pay (western union)	To be Retired	FiServe (CNP)

GIS	Vectren GIS	To be Retired	Corporate GIS
Operations	Click Schedule	To be Retired	ABB Service Suite
Operations	ERA	To be Retired	ABB Service Suite (FieldWorker)
Operations	FOCAS	To be Retired	ABB Service Suite
Reporting & Analytics	Oracle Data Warehouse	To be Retired	SAP
Reporting & Analytics	Server Reporting Services	To be Retired	SAP
Reporting & Analytics	Golden Retriever	To be Retired	SAP