BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

***IN RE*: APPLICATION OF ENTERGY LOUISIANA, LLC FOR APPROVAL TO CONSTRUCT BAYOU POWER STATION, AND FOR COST RECOVERY**	))))	**DOCKET NO. U-_____**

DIRECT TESTIMONY

OF

LAURA K. BEAUCHAMP

ON BEHALF OF

ENTERGY LOUISIANA, LLC

PUBLIC REDACTED VERSION

MARCH 2024

TABLE OF CONTENTS

EXHIBITS

I. INTRODUCTION

Q1. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.

A. My name is Laura K. Beauchamp. I am employed by Entergy Louisiana, LLC ("ELL" or the "Company") as the Director, Resource Planning and Market Operations, a role I assumed in March 2022. My business address is 4809 Jefferson Highway, Jefferson, Louisiana 70121.

Q2. ON WHOSE BEHALF ARE YOU FILING THIS DIRECT?

A. I am filing this Direct Testimony on behalf of ELL.

Q3. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. In 2000, I earned a Bachelor of Science in Management degree with a concentration in Finance and in 2004 I was awarded a Master of Business Administration degree with a concentration in Energy Finance; both of these were granted by Tulane University's A. B. Freeman School of Business.

I have been employed by affiliates of Entergy Corporation since 2000 and have held various roles of increasing responsibility in Accounting, Finance, Regulatory, and Innovation. From 2009 through 2014, I served as the Manager of Regulatory Affairs for Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. ("EGSL"), a role in which I was responsible for providing regulatory support services to those utilities, including in rate proceedings and associated regulatory filings with the Louisiana Public Service Commission ("LPSC" or "the Commission"). Later, from

2016 through 2018, I served as the Finance Director for ELL. From 2018 through 2022 I held roles as the Director of Utility Finance and Strategy for Entergy Services, LLC and as Director of Innovation Strategy and Consulting at KeyString Labs, Entergy's innovation center.

Q4. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES.

A. As the Director of Resource Planning and Market Operations for ELL, I am responsible for managing the planning of generation, transmission, and wholesale power activities for ELL. This involves working closely with Entergy Services, LLC's ("ESL") generation and transmission planning organizations on these activities.[1]

Q5. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

A. Yes. A list of my prior testimony is attached as Exhibit LKB-1.

Q6. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony supports the Company's Application in this proceeding, which seeks, among other things, approval to construct and operate the Bayou Power Station ("BPS" or the "Project"), which is a proposed new 112 megawatt ("MW") aggregated capacity power barge generating station consisting of six natural-gas fired reciprocating internal combustion engines ("RICE") with black-start capability in Leeville, Louisiana and an

[1] ESL is an affiliate of the Entergy Operating Companies ("EOCs") and provides engineering, planning, accounting, technical, and regulatory-support services to each of the EOCs. The five EOCs are Entergy Arkansas, LLC, ELL, Entergy Mississippi, LLC, Entergy New Orleans, LLC, and Entergy Texas, Inc.

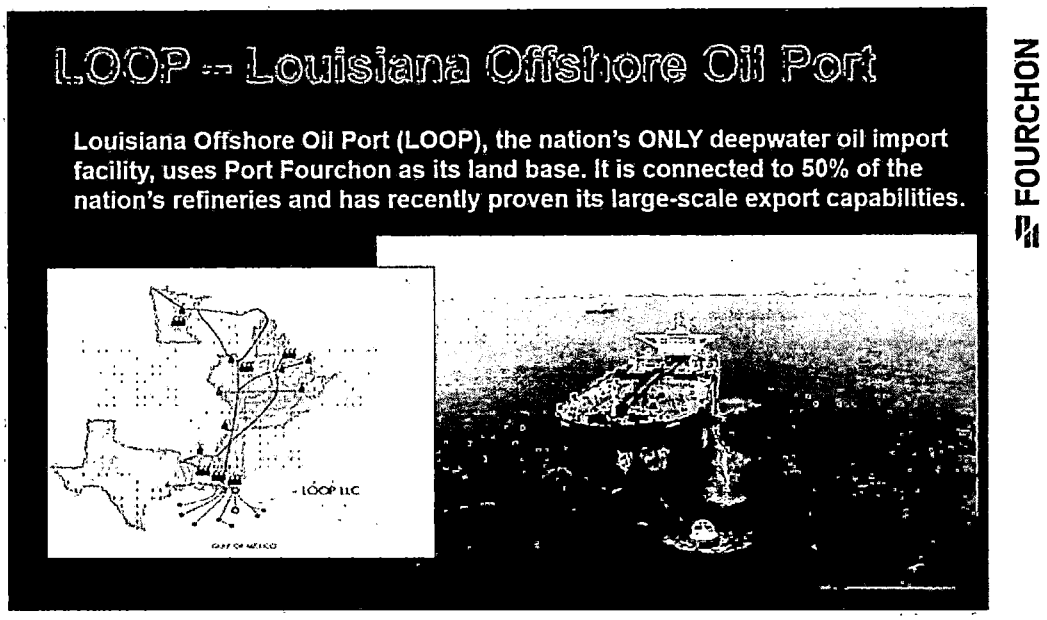
associated microgrid that would serve downstream of the Clovelly substation, including Port Fourchon, Golden Meadow, Leeville, and Grand Isle. Specifically, in Section II, I address the Company's long-term resource plan, capacity needs, and anticipated load growth in the region. In Section III, I explain the need for distributed generation in the region, and I also explain how a power barge is uniquely suited to meet those needs. Finally, in Section IV, I provide an overview of the Application and introduce the other witnesses.

Q7. CAN YOU FIRST PROVIDE AN OVERVIEW OF THE REGION AND ITS CUSTOMERS AND ACTIVITIES?

A. ELL serves a diverse mix of approximately 7,000 residential, commercial, and industrial customers downstream of the Leeville substation, including industrial customers vital to the nation's economy and oil and gas infrastructure at Port Fourchon. Port Fourchon services 90% of all deepwater oil and gas activity in the Gulf of Mexico, and ELL's customers at Port Fourchon provide service for more than 18% of the nation's oil and gas supply through its oil service and extensive pumping infrastructure. According to the Greater Lafourche Port Commission ("GLPC"), this translates into a direct daily impact of $46 million on the oil and gas industry and infrastructure and a $500 million daily impact on the national GDP.

The area includes the Louisiana Offshore Oil Port ("LOOP"), the nation's only deepwater oil import facility, which uses Port Fourchon as its land base. LOOP is connected to fifty percent of the nation's refineries, making Port Fourchon an intermodal hub critical for the nation's oil and gas industry. Indeed, if Port Fourchon

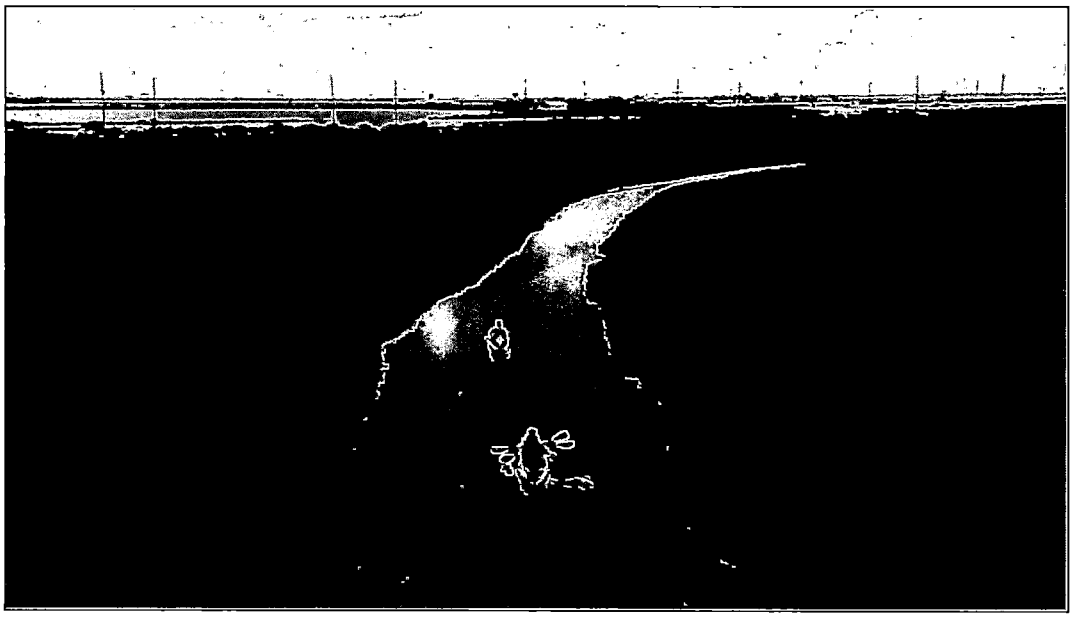
was unable to service the outer continental shelf ("OCS") industry and infrastructure, all of the remaining United States Gulf of Mexico port facilities combined would only be capable of fulfilling twenty-five percent of the national need for these services. Researchers with the Louisiana State University's Center for Energy Studies have studied the impact of disruptions related to Hurricane Ida, finding that each day LOOP was offline led to an additional $200 million in fuel costs nationwide.[2]



Port Fourchon is also a commercial and recreational fishing destination, serving as a land base for more than 250 companies, and the GLPC is engaged in numerous environmental efforts, including the construction of a Coastal Wetlands Park near the main entrance of the port along with the recent announcement of a wind turbine that will sit adjacent to this park. According to the GLPC, the turbine will collect data and also include the ability to use the energy offtake to aid in powering the Port's nearby

[2] David E. Dismukes and Gregory B. Upton, Jr., LSU Center for Energy Studies, *The National Importance of Post-Storm Electricity Restoration to Critical Energy Infrastructure* (March 31, 2022).

emergency operations building as well as provide port officials a guide as to how wind-related energy can be integrated into the grid to make the port a greener port. Between these initiatives and an eventual plan to place several transportation electrification stations in the port and its many continual mitigation efforts where the GLPC is participating in coastal land rebuilding/renourishment projects, it is clear that the GLPC is taking steps to not only increase its sustainability, but also reduce its overall carbon footprint by incorporating meaningful steps into its overall port development plan.



Kayakers at the Coastal Wetlands Park

The region also includes Grand Isle, which is Louisiana's last inhabited barrier island with only one road in and one road out. Grand Isle's economy depends almost entirely on tourism, the seafood industry, and oilfield-related operations. Finally, Golden Meadow is the last incorporated town on Bayou Lafourche, and it is a major seafood sales and processing center for Louisiana.

Q8. WHAT ARE THE UNIQUE ELECTRICAL NEEDS OF, AND CHALLENGES IN, THAT REGION?

A. As explained by Company witness Samrat Datta, the Golden Meadow – Barataria line sustained critical damage during Hurricane Zeta, and it has since been retired. Retirement of this line means that the area downstream of the Golden Meadow substation is now served by only one transmission source, and it cannot support incremental load growth without causing the transmission line connecting the Clovelly and Golden Meadow substations to exceed its capacity. This limitation threatens industrial growth in the Port Fourchon region, raises the possibility of North American Electric Reliability Corporation ("NERC") reliability violations, and it means that the Port Fourchon region downstream of the Golden Meadow substation will be without power if the sole transmission source to Golden Meadow is out of service.

In addition, as Mr. Datta explains, the topography in this region is particularly challenging for transmission projects. These lines traverse marshlands and open water, which is not compatible with the heavy machinery used in both construction and maintenance of transmission lines. These challenges can make routine maintenance more difficult and delay restoration after storms, which can lead to longer and more sustained outages in the region. Given the vital role this region plays in the national and state economy, reliability and resiliency in this region are critical.

Q9. WHAT SOLUTIONS WERE CONSIDERED FOR ADDRESSING THE NEEDS AND CHALLENGES IN THE PORT FOURCHON AREA?

A. The Company's transmission and generation planning teams explored alternative options available to provide reliable service to the growing load in the Port Fourchon area, ultimately focusing on either rebuilding the Golden Meadow – Barataria line (transmission-only solution) or constructing a floating power barge with an associated microgrid (BPS).

Q10. WHY WAS THE BPS SELECTED AS THE PREFERRED ALTERNATIVE?

A. The team's analysis showed that BPS was consistent with, and uniquely suited to meet, the needs of the region when compared to the transmission-only solution. As discussed in greater detail by Mr. Datta, the microgrid aspect of the Project will allow ELL to operate the entire area downstream of Clovelly as an "island" from the rest of the transmission grid during outages caused by a trip of the Golden Meadow – Valentine transmission line. That is, BPS will be capable of restoring power to the region without any assistance from the grid by way of power for auxiliary systems of the generator that are necessary to start the generator and will be capable of sustaining the electrical load in the region without the benefit of being connected to the rest of the ELL electrical system while the line and substation repairs are being carried out. Once islanded, BPS would be able to start up and provide power and necessary voltage support for customer needs in the region until transmission service is restored. In particular, this configuration will allow industrial customers at Port Fourchon, including LOOP, to continue their operations and support the national oil and gas infrastructure.

In addition to providing these significant reliability benefits to the region, the Project will provide essential benefits related to capacity, energy, and resiliency. The Project will be capable of providing quick voltage recovery and will add synchronous inertia and short-circuit capability to the system. As a quick-start resource with fast ramp rate capability, it will be available much faster than generators with slower ramp rates and will be easily dispatchable by Midcontinent Independent System Operator, Inc. ("MISO") to ensure reliability when intermittent and inverter-based resources (e.g., wind resources) are unavailable.

The Project will provide generation capacity that will assist ELL in addressing its long-term capacity need. In particular, as I explain below, it will help address ELL's current short position with respect to peaking and reserve resources, which neither a transmission-only solution nor purchased capacity credits would resolve. In addition, the Project will also provide energy when it is dispatched as a lowest variable cost resource.

As discussed by Company witness Sean Meredith, the Project is expected to offer resilience benefits to the region as it would be the only generation source in the area, thereby acting as a distributed energy resource. Further, the Project's design as a floating power plant in an area prone to flooding, coupled with its black-start capabilities and the characteristics afforded by the microgrid, will assist the Company's efforts to prepare for, adapt to, and recover from extreme weather events. The transmission-only alternative simply would not provide these benefits that are essential to the region and the state.

ELL also performed an economic analysis comparing the customer net benefit for the Project relative to a transmission alternative that would increase the load-serving capability with alternative generation capacity provided outside the region in the form of a generic new-build combustion turbine ("CT"). As discussed in greater detail in the Direct Testimony of Company witness Phong Nguyen, the results of the economic analysis show the net cost of BPS is on par with the cost of the transmission alternative, which is likely conservative relative to the BPS considering the conservative nature of many of the cost estimates used in the analysis and that BPS may qualify for property tax abatement.

Based on those qualitative and quantitative reasons, and in addition to helping meet ELL's long-term resource needs as I discuss below, Company witness Ryan Jones concludes that BPS represents the lowest reasonable cost option to address the needs in this region and is in the public interest.

Q11. DO YOU AGREE WITH MR. JONES'S ASSESSMENT?

A. Yes. The Project provides a reliable, resilient, and economic solution to meet the important and unique needs of ELL's diverse customer base in the Port Fourchon region and across the ELL system. In the Port Fourchon region, the Project supports the specific needs of the growing and thriving industrial development and commercial activities. The Project also helps ELL meet its long-term capacity needs, which benefits all customers. BPS also benefits all customers by avoiding the need and cost to upgrade the transmission system to import power to this region from other resources on ELL's system. Finally, as it relates to the siting of the Project, Mr. Datta explains

the siting of the microgrid to enable servicing the power needs of the area as well as proximity to transmission lines, the substation, and access to natural gas pipelines. These considerations also support the Project as the lowest reasonable priced option to address the needs of the region.

II. RESOURCE PLANNING NEEDS MET BY BPS

Q12. WHAT IS THE GOAL OF ELL'S RESOURCE PLANNING?

A. ELL's resource planning efforts are driven by the fundamental goal to deliver a resource portfolio that is centered on customer outcomes and the safe, reliable delivery of electricity. Building a robust portfolio requires that ELL carefully balance three key objectives: reliability, affordability, and environmental stewardship. This balance looks at both the near-term and long-term benefits and risks associated with each key objective.

ELL's portfolio development places an emphasis on customer needs and preferences. ELL recognizes that customer expectations for electric service will continue to change alongside advancements in technology and evolving market and policy considerations both in and out of the traditional utility framework. Accordingly, ELL aims to meet customers' needs for reliable, reasonably priced electric services and energy solutions both today and in the future.

Initially, the need for the Project arose after extensive damage to the Golden Meadow – Barataria 115 kilovolt ("kV") transmission line that occurred during Hurricane Zeta in 2020. With that line out of service, the service area is now supplied by only one source of transmission, the Valentine – Clovelly 115 kV transmission line.

This Project will increase the load-serving capability of the transmission system downstream of the Clovelly substation, including Port Fourchon, Golden Meadow, Leeville, and Grand Isle, in a cost effective and reliable manner.

Q13. PLEASE ELABORATE ON THE THREE KEY OBJECTIVES YOU MENTIONED FOR BUILDING A SUSTAINABLE PORTFOLIO.

A. Reliability as a planning objective means ensuring that the stability of the grid is maintained through adequate resources to meet capacity and energy needs along with adequate transmission and distribution systems to ensure that power is reliably delivered to customers. Ensuring that there are adequate resources to meet customer demand is more than just supplying a certain number of megawatts or zonal resource credits. Resource adequacy must consider the diversity of the supply portfolio—both in technology type and operational characteristics—combined with customer-targeted energy efficiency and demand-side resources. It also must consider the location of resources, proximity of those resources to customer load, and the availability of those resources under various conditions. The ability of the transmission and distribution system to deliver those resources to customers is also a key aspect of maintaining reliability, and the careful integration of generation, transmission, and distribution ensures that this reliability can be delivered at the lowest reasonable cost.

Affordability as a planning objective means keeping customer costs reasonable, considering current and expected cost impacts of infrastructure improvements made on behalf of our customers and taking advantage of scale to provide cost synergies. ELL recognizes the importance of maintaining affordable rates for customers and prides

itself on the ability to maintain rates amongst the lowest in the country and well below the national average. This requires balancing of various cost components such as capital investment, operations and maintenance expense, and fuel costs. Cost stability requires that ELL examine its portfolio over a variety of futures to ensure the long-term supply productivity of the resource.

Environmental stewardship as a planning objective refers to the use and protection of the natural environment, ensuring compliance with existing and likely regulations, adaptability of resources, and paths towards a lower-carbon economy. Portfolios that are capable of adapting and remaining sustainable over the long-term horizon bring customers increased benefits and help to manage long-term cost-stability. When considering our environmental stewardship objective, we also monitor customers' desire for decarbonization through lower emission generation, local renewables, and offerings that allow customers to meet their own sustainability goals in partnership with their utility. ELL's customers have publicly stated their intent to reduce the carbon intensity of their operations. The Greater Lafourche Port Commission, a political subdivision of the state of Louisiana tasked with facilitating the economic growth of the communities in which it operates, is also working to reduce greenhouse gas emissions to, among other things, address the wellbeing of the port tenants and the surrounding rural communities near the port. With our ability to provide broad access to customers, ELL stands in a unique position to enable and extend a lower carbon economy to customers and the communities it serves.

Appropriately balancing these three objectives with consideration of the near-term and long-term risks associated with each result in the lowest reasonable cost portfolios for customers.

Q14. PLEASE DESCRIBE ELL'S LONG-TERM RESOURCE PLANNING PROCESS.

A. The core elements of ELL's resource planning process are: (1) a determination of the capability of the Company's current resources, (2) a forecast of the peak load plus reserve margin and energy that the Company expects to serve over the planning horizon, and (3) a determination of the amount and types of additional supply-side and demand-side resources that will be needed to meet the Company's load and energy requirements.

As part of its resource planning efforts, ELL has developed and continues to refine an Integrated Resource Plan ("IRP"), which is filed at the LPSC pursuant to the Commission's IRP rules.[3] ELL's most recent submission of an IRP to the Commission was on May 22, 2023 (ELL's "Final 2023 IRP") and reflects inputs and assumptions that were established based on ELL's Business Plan 2022.[4] Given the uncertainty and fluidity inherent in long-term resource planning, ELL's IRP provides a framework for the Company to plan for resources over the next several years but does not and cannot reasonably serve as a prescriptive plan to address ELL's long-term generation needs

[3] See Corrected General Order No. R-30021 (April 20, 2012), LPSC, Ex Parte, In re: Development and Implementation of Rule for Integrated Resource Planning for Electric Utilities, Docket No. R-30021.

[4] See Docket No. I-36181 (May 22, 2023), Ex Parte: In Re: 2021 Integrated Resource Planning ("IRP") Process for Entergy Louisiana, LLC Pursuant to the General Order No. R-30021. The Final 2023 IRP was acknowledged by the LPSC on February 21, 2024.

and options for meeting those needs. Circumstances will necessarily change, and to be reasonable and prudent, resource procurement decisions must be made based on the best information reasonably available at the time those decisions are made. ELL presents those decisions and the support for them to the Commission when seeking resource certifications required under applicable General Orders and does not seek certification via the IRP (nor, per my understanding of the Commission's IRP rules, does the Commission's acknowledgement of an IRP confer such approval).

ELL also has presented results of certain aspects of its continuous resource planning efforts outside of the formal IRP process to the Commission. For example, ELL recently received LPSC approval for its 2021 Solar Portfolio, which consists of four solar photovoltaic resources with a total nameplate capacity of 475 MW as well as ELL's Geaux Green Option ("Rider GGO") green tariff.[5] Further, on January 24, 2024, the LPSC approved ELL's 2022 Solar Portfolio, which consists of two solar photovoltaic resources with a total nameplate capacity of 224 MW.[6] Finally, the Company has two applications pending before the Commission to enable additional

[5] See Order No. U-36190 (October 14, 2022), In re: Application for Certification and Approval of the 2021 Solar Portfolio, Rider Geaux Green Option, Cost Recovery and Related Relief, Docket No. U-36190. The facilities are 1) the Sunlight Road Facility, 2) the Vacherie Facility, 3) the Elizabeth Facility, and 4) the St. Jacques Facility.

[6] See Docket No. U-36685 (February 28, 2023), Ex Parte: Application of Entergy Louisiana, LLC for Approval of the 2022 Solar Portfolio, Expansion of the Geaux Green Option, Cost Recovery and Related Relief. The resources at issue in that docket are the Iberville Facility and the Sterlington Facility.

resources via ELL's 2023 Solar Application and ELL's 3 GW filing, Docket Nos. U-37071 and U-36697 respectively.[7]

As described in detail in ELL's Final 2023 IRP, the record of Commission Docket No. U-36190 (in which the Commission approved ELL's 2021 Solar Portfolio),[8] and ELL's applications and testimony in Dockets Nos. U-36685, U-37071 and U-36697, ELL is projected to need additional long-term generating capacity over the course of the long-term planning horizon to replace deactivated capacity and address load growth in order to reliably serve customers.

Q15. PLEASE DESCRIBE THE COMPANY'S CURRENT RESOURCE PORTFOLIO.

A. ELL controls approximately 11 GW of in-service capacity through direct ownership, capacity contracts with third parties, life-of-unit contracts with other Entergy Operating Companies, or Demand Response Resources. Over the last fifteen years, ELL has transformed and modernized its generation portfolio to support existing customers' needs and address significant current and expected industrial load growth in Louisiana by adding reliable and more efficient CT and combined cycle gas turbine ("CCGT") generating units to meet its supply needs. More recently, and as I noted above, ELL has begun its transition to more renewable resources, including:

[7] See Docket No. U-37071 (December 18, 2023), Ex Parte: Application for Approval of the Mondu Solar Power Purchase Agreement, Expansion of the Geaux Green Tariff, and Cost Recovery. This application involves the purchase power agreement for the Mondu Facility; Docket No. U-36697, In re: Application of Entergy Louisiana, LLC for Approval of Alternative Process to Secure up to 3,000 MW of Solar Resources, Certification of those Resources, Expansion of the Geaux Green Option, Approval of a New Renewable Tariff, and Related Relief.

[8] See Order No. U-36190 (October 14, 2022), In re: Application for Certification and Approval of the 2021 Solar Portfolio, Rider Geaux Green Option, Cost Recovery and Related Relief, Docket No. U-36190.

- the 50 MW Capital Region Solar facility in Port Allen, Louisiana, a Power Purchase Agreement ("PPA") that commenced in 2020;
- a 475 MW solar portfolio that consists of 4 solar resources to be developed in the State of Louisiana, which the LPSC approved in 2022; and
- an additional 224 MW of solar to be developed in Louisiana that the Commission approved in January 2024.

Table 1 below shows ELL's current (as of 2023) resources by fuel type, including demand-side resources and supply-side resources owned by ELL and under contract through PPAs.

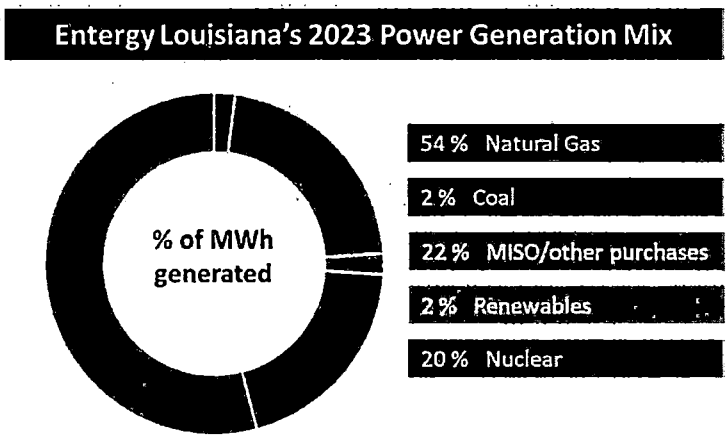
Table 1

2023 ELL Resource Portfolio			
		Summer Seasonal Accredited Capacity ("SAC")[8]	**SAC %**
Coal		328	3.0%
Nuclear		1,834	16.7%
CCGT		5,200	47.3%
CT		795	7.2%
Legacy Gas-Steam		2,395	21.8%
Renewable		187	1.7%
Load Modifying Resources ("LMRs")		260	2.4%
Total		**10,999**	**100.0%**

[9] The amount of SAC MW shown in Table 1 is in accordance with MISO capacity accreditation rules reflected in the MISO *Business Practices Manual Resource Adequacy,* MISO Energy (October 1, 2023), *available at* https://www.misoenergy. *Id.* at Section 4.2.1.4. The nameplate capacity of these resources is higher than the amount shown in the table.

Figure 1 below shows ELL's energy mix in 2023 by generation type.

Figure 1



Approximately 22% of the capacity in the Company's current resource portfolio is composed of legacy generation units that have been in-service for over 49 years with the oldest being in operation for 58 years. While the Company has made and will continue to make investments to maintain these generators when economic to do so, many of these generators are expected to reach the end of their economic useful lives and become deactivated during the next eight years.[10]

Q16. HOW DO MISO RESOURCE ADEQUACY REQUIREMENTS INFLUENCE THE COMPANY'S RESOURCE NEEDS?

A. ELL's resource planning efforts are primarily focused on the planning objectives I noted above to deliver the right type and amount of generating capacity to reliably serve

[10] For example, ELL deactivated Waterford 1 during the first quarter of 2021. See Docket No. X-35751 (March 30, 2022), In Re: Notification of Deactivation and Retirement Decisions Pursuant to Louisiana Public Service Commission's Deactivation General Order (Docket No. R-34407). See also, e.g., Docket No. I-36181 at p. 27 (May 22, 2023), Ex Parte: In Re: 2021 Integrated Resource Planning ("IRP") Process for Entergy Louisiana, LLC Pursuant to the General Order No. R-30021.

ELL's customers in Louisiana. In doing so, ELL must also account for the resource adequacy requirements set out by MISO for the prompt Planning Year to ensure that the results of ELL's planning efforts meet those requirements.

While MISO has no responsibility to build or provide capacity, it nevertheless assigns resource adequacy requirements to load-serving entities in its footprint, including ELL. Historically, MISO provided annual resource adequacy requirements; however, MISO has implemented its new Seasonal Resource Adequacy Construct beginning in the 2023-2024 planning year. For this new resource adequacy construct, MISO has conducted seasonal assessments to evaluate potential resource adequacy risks for the various seasons. These assessments evaluate seasonal loss of load risk by modeling near-term capacity subject to historic outage conditions and by modeling a wide range of potential load forecast and weather scenarios, including extreme weather scenarios. The assessments also highlight potential issues in the upcoming seasons to help system operators and stakeholders prepare for potentially strained system conditions and develop preventative actions.[11]

As part of its resource adequacy requirements, MISO determines how much capacity must be located within each Local Resource Zone ("LRZ") defined by MISO relative to how much capacity can be "imported" from other LRZs. In the event a load-serving entity's resources fall short of those seasonal requirements, either in total or in-zone, that load-serving entity is exposed to the zonal clearing price for MISO's annual capacity auction for that shortfall, which clearing price can approach and ultimately

[11] MISO Energy, *Resource Adequacy*, Midcontinent Independent System Operator, Inc., *available at* https://www.misoenergy.org/planning/resource-adequacy2/resource-adequacy.

reach the cost of new entry ("CONE") as market conditions tighten.[12] Notably, LRZs 1 through 7 cleared at or near CONE in the 2022-23 MISO Planning Resource Auction ("PRA"), or $236.66/MW-day.[13] The same 2022-23 MISO Planning Resource Auction yielded a clearing price for LRZ 9, the LRZ that ELL belongs to, of $2.88/MW-day.[14] The 2023 PRA Results for the 2023-2024 MISO Planning year represent the first time MISO has released PRA results based on its new Seasonal Accreditation Construct. While no LRZ cleared at CONE in any season, significant tightening was noted in LRZ 9 in the Fall season, which cleared at $59.21/MW-day, and in Winter, which cleared at $18.88/MW-day.[15] In fact, MISO's data show that the capacity surplus that MISO LRZ 9 previously enjoyed was reduced by nearly 40% on an annual basis from the previous year, and the surplus completely disappeared during the 2023 PRA for the Summer season, where the Zone's Planning Reserve Margin Requirement ("PRMR") was higher than the capacity included in the offers that were submitted.[16] Indeed, LRZ 9, in which Louisiana sits, is the only Zone in MISO to have experienced elevated pricing in the most recent MISO PRA, and it experienced this elevated pricing in two out of the four seasons.[17]

---

[12] The "cost of new entry" represents the regional, annualized capital cost of building a new combustion turbine.

[13] MISO Energy, *2022/2023 Planning Resource Auction (PRA) Results*, Midcontinent Independent System Operator, Inc. (April 14, 2022), *available at* https://cdn.misoenergy.org/2022%20PRA%20Results624053.pdf.

[14] *Id.*

[15] MISO Energy, *Planning Resource Auction Results for Planning Year 2023-24,* Midcontinent Independent System Operator, Inc. (May 19, 2023), *available at* https://cdn.misoenergy.org/2023%20Planning%20Resource%20Auction%20(PRA)%20Results628925.pdf.

[16] *Id.*

[17] *Id.* at 4.

As I noted, ELL's planning efforts carefully consider the location of resources and the proximity of those resources to customer load and therefore are aligned with these MISO zonal requirements. This alignment serves to mitigate the level of exposure to capacity shortfalls and places an emphasis on securing adequate in-zone resources.

Q17. DOES THE COMPANY NEED ADDITIONAL LONG-TERM GENERATING CAPACITY TO SATISFY ITS PLANNING OBJECTIVES?

A. Yes. Projected load (plus a planning reserve margin) exceeds the capacity of ELL's existing and LPSC-approved resources, which indicates a need for additional long-term capacity. My exhibit, LKB-2, which contains Highly Sensitive Protected Materials ("HSPM"), reflects ELL's resources relative to forecasted load for 2024 – 2035, with the red line depicting the resource deficit from year to year. HSPM Exhibit LKB-2 was prepared using the load forecast from ELL's Business Plan 2024 ("BP24"), with consideration of current owned and contracted resources as well as those future resources that have been approved by the LPSC. In terms of resource availability, HSPM Exhibit LKB-2 reflects unit deactivation assumptions from BP24, and existing PPAs that are assumed to expire on stated expiration dates. As seen in HSPM Exhibit LKB-2, using ELL's summer seasonal accredited capacity, ELL will need approximately [redacted].

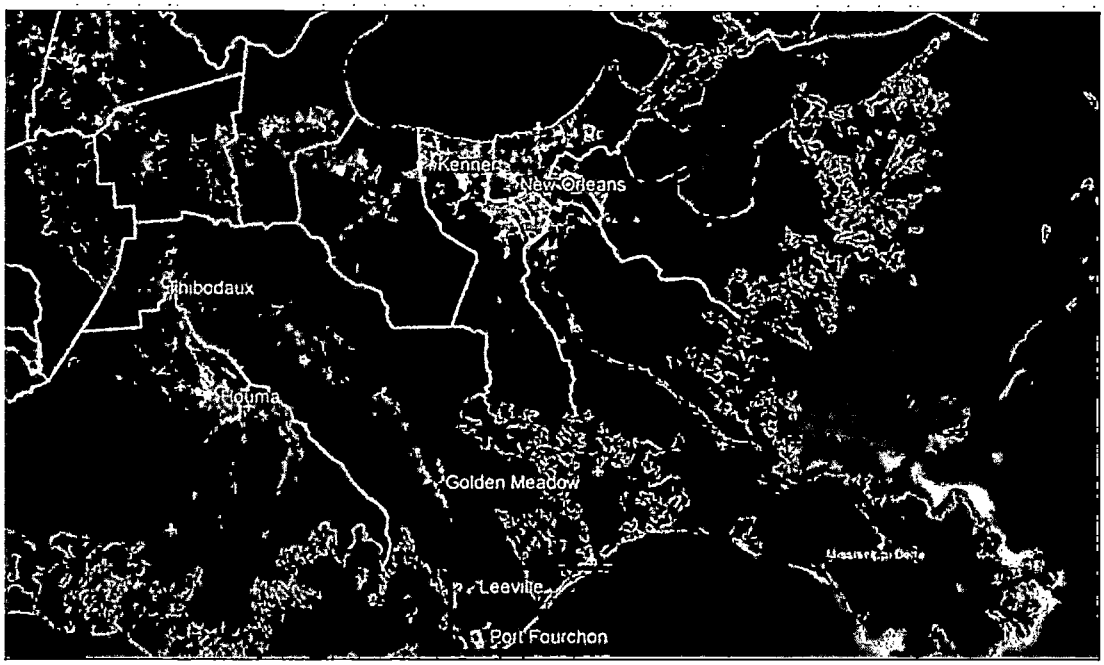
Q18. WHAT ARE ELL'S CURRENT PLANS TO MEET THE LONG-TERM CAPACITY NEEDS OF ITS CUSTOMERS?

A. As noted above, the Company has developed and continues to refine an integrated plan that considers generation and transmission and is expected to meet customer needs in the lowest-reasonable-cost manner. The Company continues to need long-term capacity over the planning horizon, and the plan is to meet ELL's needs from a diverse set of resources that will provide efficient operating flexibility to serve evolving customer demands. BPS will operate as a dispatchable generation resource, which will help maintain reliability when intermittent resources are not available. In addition, as I discuss above, this Project will directly address the needs of critical oil and gas customers at Port Fourchon, which is experiencing significant load growth and serves a critical role in the nation's oil supply through its oil service capabilities and extensive pumping infrastructure as well as the needs of customers in the fishing and tourism industries in the region.

Q19. DOES THE PROPOSED PROJECT SUPPORT ELL'S THREE KEY PLANNING OBJECTIVES FOR BUILDING A SUSTAINABLE PORTFOLIO?

A. Yes. In terms of reliability, the Project will complement other planned projects to meet the long-term capacity needs that I discussed above. In addition, the Project will address both the specific energy needs of ELL's customers in the region and support electric reliability across the state of Louisiana. As seen in HSPM Exhibit LKB-2, using ELL's existing resources and those approved at the LPSC, [redacted].

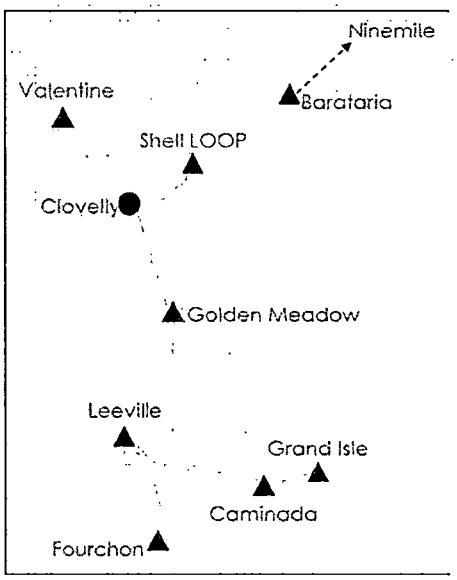
Figure 2



Q21. HOW IS SERVICE CURRENTLY PROVIDED TO THE CUSTOMERS IN THIS AREA?

A. The Leeville substation is connected to the transmission grid by a radial transmission feed out of the Golden Meadow substation located approximately 15 miles north of Leeville. The Golden Meadow substation is currently fed by one transmission line from the Clovelly substation, as seen in Figure 3 below. Previously, there was another line into Golden Meadow from the Barataria substation, but that line was heavily damaged in Hurricanes Zeta and Ida and has since been retired from service.

Figure 3



As Mr. Datta explains in greater detail in his Direct Testimony, these lines traverse marshlands and open water, which presents construction and maintenance challenges that can lead to reliability issues at times. Due to the large amount of industrial load served and the limited short-circuit current capabilities available in the area, ELL has also experienced issues with voltage support for its industrial customers.

Q22. ARE THERE LIMITS TO ELL'S SERVICE CAPABILITIES BASED ON THE CURRENT TOPOLOGY OF THE ELL SYSTEM?

A. Yes. Since the retirement of the Barataria – Golden Meadow line, the transmission system in Lafourche Parish cannot support incremental load growth without causing the transmission facilities in the area to exceed their thermal capacities. As such, if new load growth materializes, NERC reliability standards would require that ELL rebuild that line as a baseline reliability project. With an additional 10 to 15 MW of

load growth, planning analysis shows that the area would exceed voltage stability thresholds. In order to address that issue, the area substations would need to be upgraded to 230 kV capability, and a new Barataria – Golden Meadow line would need to be constructed to 230 kV capability to provide two transmission sources to the Golden Meadow substation. ELL would need to perform these additional upgrades to comply with NERC reliability standards.

Q23. DOES THE COMPANY ANTICIPATE LOAD GROWTH FOR THIS AREA?

A. Yes. Areas downstream of the Golden Meadow substation, particularly at Port Fourchon, are anticipating significant load growth in the coming years as the port continues to grow. In one example, in May 2023, the port announced a Cooperative Endeavor Agreement with C-Logistics that will pave the way for the development of a comprehensive multi-purpose heavy industry facility.[18] In addition to growth of industry and new facilities at the port, as vessel operators in the Port Fourchon area look for opportunities to supply power to their vessels from the electric grid as opposed to diesel generators to improve their sustainability, ELL has seen a rapid increase in the demand for shore power. Since March 2020, customers have contracted or inquired with ELL for approximately 7 MW of shore power demand in the Port Fourchon area, and we expect this electrification pipeline to continue to grow in the coming years. Other customers in the area are also actively exploring development opportunities, with

[18] Thad Angelloz, *Fourchon Island Development Advances with Execution of Multi-Party Agreement,* Fourchon (May 11, 2023), *available at* https://portfourchon.com/fourchon-island-development-advances-with-execution-of-multi-party-agreement/.

discussions currently underway with an industrial customer for a 5 MW expansion of pumping capacity near Port Fourchon. Some of these needs will be met with sustainable resources, such as plans for an off-shore wind turbine announced in January 2024 and to be located at the Port Fourchon Coastal Wetlands Park;[19] however, these resources alone will not fully meet the needs identified for this region – for example, the reactive power needs that Mr. Datta discusses in more detail.

Q24. HOW DOES ELL DETERMINE THE LEVEL OF LOAD GROWTH TO USE IN DEVELOPING ITS LOAD FORECASTS?

A. ELL has an annual process to examine current levels and trends in electricity consumption and to update its long-term consumption forecast. Because different types of customers consume electricity in different ways, ELL's forecasts are prepared by customer type – residential, commercial/governmental, and industrial. The residential forecast is driven largely by the numbers and types (single family, multi-family, mobile homes) of households in the area that ELL serves and expectations for growth or declines in those levels. The residential forecast is also affected largely by expectations around the effects of energy efficiency as well as by the expected numbers of types of electricity end-use items, such as trends in electric heating versus gas heating. The commercial/governmental forecasts are driven largely by the population outlook in the area ELL serves and, similar to the residential forecast, by expectations around the

[19] Thad Angelloz, *Fourchon First: Lafourche Parish Port to Feature State's Inaugural Wind Turbine*, Fourchon (January 8, 2024), *available at* https://portfourchon.com/fourchon-first-lafourche-parish-port-to-feature-states-inaugural-wind-turbine/.

effects of energy efficiency as well as by the expected numbers of types of electric end-use items. Electricity consumption for both residential and commercial customers is also affected by growth in adoption of electric vehicles, which is expected to continue to increase over time.

Existing industrial customers, whose energy consumption made up over half of ELL's sales volume for 2023, are evaluated individually for larger customers or as a group for smaller customers, to assess any trends or expected changes in electricity consumption including outages or seasonal patterns.

With respect to new industrial customers or expansions for existing large industrial customers, each of these projects that is included in the forecast is based on a probability that the customer's consumption will be realized at a certain level and at a certain time. These probabilities are based on progress made toward the execution of a contract for electric service or delivery of service. For example, a "70%" probability indicates that significant investment has been made on the part of the potential customer. In addition to the information provided by the customer, the probability assessments are impacted by specific customer actions such as load studies, facilities studies, project funding decisions, public announcements, permits, incentive packages, reimbursement agreements, and executed Electric Service Agreements ("ESAs"), all of which signal certain levels of progress toward a particular industrial load materializing on the electric system. Probability assessments are based on the informed judgment of ELL's industrial customer representatives, and, like project development itself, the assessment process is dynamic.

Probability assessments are provided to and discussed with ESL's Sales and Load Forecasting Group. As a general matter (and thus subject to exceptions), a project is not included in ELL's sales forecast unless it has a probability assessment of 50% or higher, and even projects with executed ESAs are often included in the forecast at a probability-weighted amount (as opposed to the Project's full expected load or sales impact). The discussions between industrial account representatives and the Sales and Load Forecasting Group may also result in adjustments to load-factor assumptions for sales/load forecasting purposes. To give an example of this conservative approach, an 80 MW addition used in developing the forecast may correspond to a project with a 200 MW peak demand, an executed ESA, and a probability assessment of 50%. This approach is reflected in ELL's most recent BP24 forecast. Note, however, that all of these probability assessments are estimates, and the thresholds are not absolute.

ELL has over 10,000 industrial class customers; the largest fifty of those customers accounted for over 75% of the total consumption from the entire class. While many industrial customers tend to have relatively steady usage year-over-year, new, large industrial customers or large customers who have large project expansions tend to drive step-changes in growth. ELL anticipates that, through the end of this decade, the majority of the load growth discussed above is expected to come from new, large industrial customers or from large industrial expansions.

Q25. WOULD IT BE ECONOMIC FOR ELL TO ADDRESS ITS LONG-TERM CAPACITY NEED THROUGH THE PURCHASE OF CAPACITY CREDITS IN THE MISO SEASONAL PRA RATHER THAN BY BPS?

A. No. While the MISO PRA provides an avenue to correct short-term imbalances, over-reliance on the short-term market in lieu of a long-term resource planning strategy is an imprudent and risky practice – especially at a time when market conditions are tightening. The MISO PRA is a one-year-ahead mechanism that is not designed to ensure that an adequate amount of, or appropriate types of, resources will be available in the long-term. As a result, relying on the MISO PRA involves greater risk compared to a long-term resource such as BPS. Unlike a long-term resource, purchasing capacity credits in the MISO PRA does not provide any additional capacity, and provides no energy benefits or local area benefits. Rather, purchasing capacity credits satisfies only the financial requirement of the MISO PRA construct. Long-term resource planning is essential to ensure reliable electric service at the lowest reasonable costs. Physical generation, like BPS, is necessary to generate electricity that can be transported to customers for consumption. Therefore, even if ELL could be assured that sufficient capacity was available to meet ELL's current needs through the MISO PRA (which it cannot), this would still not address the local voltage issues or the anticipated load growth in the region. Consequently, reliance upon the MISO PRA to meet the needs of this coastal region would place the reliability of service to ELL's customers in this region at risk, while also exposing all ELL customers to financial risk associated with tightening conditions in the MISO PRA, particularly in LRZ 9.

Further, as discussed in greater detail above in the response to Q.16, significant tightening has been noted in LRZ 9 (in which Louisiana is located) since MISO implemented the seasonal PRA. MISO's data show that the capacity surplus that MISO LRZ 9 previously enjoyed has significantly decreased.

Finally, while the precise timing of market equilibrium is unknown, there is an expectation that market conditions in the MISO market will tighten in the coming years, which is expected to lead to higher capacity prices.[20] Moreover, unlike reliance on the capacity auction, the construction of BPS will provide customers with a highly flexible resource that produces energy revenues to offset the cost of purchasing energy in the MISO day-ahead energy market and thereby protects customers from increasing energy prices in the market. In contrast, capacity credits provide no energy revenues to offset the cost to ELL customers of purchasing energy in the MISO market.

Q26. WHAT CAPACITY BENEFITS WOULD BE RECOGNIZED AS A RESULT OF ADDING BPS?

A. Unlike a transmission-only solution, the addition of BPS provides generation capacity that supports ELL's resource planning requirement. The value of capacity is quantified in terms of an avoided CT, as discussed in greater detail in the Direct Testimony of Company witness Phong D. Nguyen. It is important to note that BPS is expected to operate in a peaking and reserve supply role based on its operating characteristics.

[20] MISO Energy, *2023 OMS-MISO Survey Results* at pp. 2, 14, and 21 (July 14, 2023), Midcontinent Independent System Operator, Inc., *available at* https://cdn.misoenergy.org/20230714%20OMS%20MISO%20Survey%20Results%20Presentation629607.pdf.

Peaking and reserve capacity is an area of specific need as ELL is currently short of peaking and reserve supply role resources and is expected to continue to be short in that supply role for the foreseeable future.

Q27. PLEASE ELABORATE ON THE COMPANY'S NEED FOR PEAKING AND RESERVE CAPACITY IN THIS REGION.

A. In conducting long-term resource planning, ELL analyzes its overall capacity needs as well as its need for capacity that serves specific supply roles, such as base load, core and seasonal load-following, and peaking and reserve. Having the right amount of capacity suitable to serve each of these supply roles enables the Company to most efficiently, cost-effectively, and reliably serve the time-varying level of customer load it experiences.

The Company defines its base load as the minimum level of load that is served 85 percent of the hours in a year. Core load-following requirements are those hours that exceed base load but are less than the load levels experienced in the highest 30 percent of hours of the year. The seasonal load following requirement is defined as the levels of load that exceed base load and core load-following but are less than load levels experienced in the highest 15 percent of the hours of the year. The Company's peaking requirement is defined as the level of load that is served in the highest 15 percent of the hours of the year.

Each supply resource has its own unique cost and performance characteristics that make it functionally and economically suited to serve certain supply roles. Base load resources typically cost more to construct per MW, but operate with relatively low

variable cost, and, because the resource is expected to operate in most hours at high utilization levels, the total supply cost is relatively low on a $/MWh basis. Conversely, a peaking or reserve unit is expected to operate at low utilization levels and higher variable costs but typically has a relatively low capital cost and, therefore, is the most economical alternative when utilized in a peaking or reserve role. Load following units have moderate capital cost and variable cost.

Peaking and reserve resources can be called upon to respond to contingency situations, such as transmission line loss or generation failure in other parts of the system. When that occurs, a peaking and reserve resource is called upon to fill in for an otherwise more economic resource until that resource can be returned to service or other arrangements can be made.

Q28. ARE THERE OTHER AREAS WHERE PEAKING AND RESERVE CAPACITY WOULD SUPPORT ELL'S RESOURCE PLANNING GOALS?

A. Yes. As I mentioned above, and as explained more fully by Company witnesses Dickens and Datta, BPS will be a highly flexible resource capable of quickly providing incremental energy with the ability to cycle back down quickly. Such highly flexible resources serve an important role in supporting the integration of intermittent resources into the grid.[21] BPS, then, complements ELL's recently approved portfolio of six

[21] According to the U.S. Energy Information Administration ("EIA"), one of the main advantages of reciprocating engines is their ability to provide incremental electricity quickly, which, the EIA states "have become increasingly important in areas with high shares of renewable electric generation from wind and solar." EIS, *Natural Gas-Fired Reciprocating Engines are Being Deployed more to Balance Renewables*, U.S. Energy Information Administration (February 19, 2019), *available at* https://www.eia.gov/todayinenergy/detail.php?id=37972.

photovoltaic resources with a total nameplate capacity of 699 MW in Docket Nos. U-36190 and U-36685, and its recent application for an additional resource related to its 2023 Solar Portfolio, Docket No. U-37071.

Q29. PLEASE EXPLAIN HOW BPS IS CONSISTENT WITH, AND UNIQUELY SUITED TO MEET, THE SUPPLY ROLE NEEDS OF THIS REGION.

A. Utilizing a barge design mitigates risk for extensive damage and outages compared to transmission lines, which are more vulnerable to storm damage—both catastrophic damage from major storms like hurricanes, as well as smaller storms that routinely cause flooding in the area. In addition, choosing generation over transmission in this case increases the opportunity for operational flexibility (e.g., storm response) in the future with the potential to further enhance reliability for customers in the area and reduces costs to both ELL and its customers. Besides the addition of an efficient generating resource to the ELL fleet, BPS adds resiliency to the southeast Louisiana electric grid and enables this local power source to be used for the initiation of storm restoration plans without depending on generation sources further away.

Q30. WHAT ENERGY BENEFITS WOULD BPS PROVIDE?

A. In the MISO markets, portfolio balance means, among other things, having resources capable of supplying energy into the day-ahead and real-time markets at roughly the same volumes and same times as is expected to be purchased from those markets to serve customers. A generator in MISO, then, provides energy benefits when MISO determines that the variable cost of running the unit is lower than other available units

on the system. As Mr. Datta explains in greater detail in his Direct Testimony, BPS would be a quick-start and fast ramping resource. In addition, as a flexible, modular resource, BPS would be available and quickly dispatchable by MISO in order to ensure system reliability that will be impacted by the variability in intermittent renewable resources. Therefore, BPS will provide energy benefits when it is the lowest variable cost available resource on the system. In addition, BPS will also provide energy benefits when it is in island mode, as it would be the only source of power to customers downstream of the Clovelly substation during those times.

Q31. WHAT POTENTIAL ENHANCED RELIABILITY BENEFITS WOULD BPS PROVIDE?

A. As discussed above and in the Direct Testimony of Mr. Datta, the addition of BPS would allow ELL to operate the entire area downstream of Clovelly as an "island" from the rest of the transmission grid during outages. Islanded operation of the microgrid is expected only during long-term interruptions in power supply, either due to a widespread power outage in the broader electric grid or because of localized black-out of the microgrid region caused by a trip of the Golden Meadow – Valentine transmission line. The opportunity to operate in this configuration would provide reliability benefits to all customers downstream of the Clovelly substation. Once islanded, the power barge would be able to start up and provide the necessary power to support customer needs until transmission service is restored. This configuration will provide electricity and necessary voltage support to ELL's industrial customers in the region, allowing these customers to continue operations. While the transmission-only

alternative would provide a back-up source of power should there be an interruption in power supply to one line, it does not provide the same reliability benefits that BPS, a generation-based alternative, would. That is, should a severe storm significantly damage the line serving the area downstream of Clovelly or should the broader electric grid experience a widespread power outage, those customers downstream of the Clovelly substation would experience a power outage as well. Further, because of the time and work required to restore the transmission facilities after a storm event, some of which may require specialized equipment considering their remote location and challenging topography and associated access and logistical issues, the wires-only solution may still result in extended restoration times. By contrast, the microgrid option enables restoration of power after a storm to be sourced from the BPS and reduces the dependence on time-consuming repairs of transmission and distribution lines during storm restoration, thus potentially reducing the time to restore power after a storm significantly. Finally, the wires-only solution does not result in the addition of generation capacity for ELL, and, hence, does not address the significant reactive and real power needs of ELL customers, especially those in this area as advantageously as BPS does.

Q32. WHAT POTENTIAL POWER QUALITY IMPROVEMENTS WOULD BPS PROVIDE?

A. BPS adds dynamic reactive power capability to the system, in addition to real power. A lack of reactive power capability in the system can result in difficulty in regulating voltage, resulting in power quality issues, such as voltage dips and sags, that may be

experienced by customers. Some voltage dips may also be caused by induction motor starts in a system that has an insufficient amount of reactive power to maintain voltage and dynamic reactive power capability to support voltage recovery. Further, as a quick-start and fast ramping resource, BPS will add synchronous inertial response and short-circuit capability to the system, both of which may be increasingly valuable ancillary service market assets as MISO sees an increased penetration of renewable resources and inverter-based resources.

Q33. PLEASE SUMMARIZE THE FACTORS THAT LED THE COMPANY TO CHOOSE BPS OVER THE TRANSMISSION ALTERNATIVE TO MEET THE NEEDS OF ELL CUSTOMERS, INCLUDING ELL CUSTOMERS IN THE BAYOU REGION.

A. As discussed in Mr. Datta's Direct Testimony, a variety of quantitative and qualitative factors were considered when evaluating the wires-only option and BPS-anchored microgrid option. Given the critical nature of the industrial load in this region and the resilience benefits that would be enabled by the microgrid, ELL concluded that BPS was the preferred alternative to meet the needs of this region. In particular, there are several categories where BPS provides benefits over a wires-only alternative, including support for renewable generation, adding a black-start resource that provides additional grid support, potentially providing ancillary services in the MISO market, and providing resiliency benefits through its microgrid functionality during outages. Finally, the construction and maintenance of the wires-only alternative would present

unique challenges compared to BPS, given the terrain and location of the transmission system in the Valentine – Fourchon corridor.

IV. OVERVIEW OF APPLICATION AND INTRODUCTION OF WITNESSES

Q34. PLEASE EXPLAIN THE RELIEF SOUGHT BY THE COMPANY IN THIS PROCEEDING.

A. In compliance with the LPSC's 1983 General Order,[22] the Company is seeking LPSC approval to construct and operate BPS and a microgrid control system to serve load from the power station in the event of an outage on the existing Valentine – Clovelly 115 kV transmission line that currently serves as the only source of power to the area. The Company is seeking certification of BPS will serve the public convenience and necessity and is in the public interest.

Q35. PLEASE INTRODUCE THE OTHER WITNESSES WHOSE TESTIMONY IS BEING SUBMITTED WITH THE APPLICATION AND IDENTIFY THE SUBJECTS THAT EACH ADDRESSES.

A. In addition to my testimony, the Company's Application is supported by the testimonies of the following witnesses:

- **Ryan Jones** – Mr. Jones is the Manager, Regulatory Affairs for Entergy Louisiana. Mr. Jones enumerates the required regulatory approvals the Company is seeking, discusses the Company's compliance with applicable Commission

[22] ELL witness Ryan Jones discusses the requested exemption from the MBMO order.

General Orders and the exemption from the Commission's MBM Order the Company is requesting for this Project, and explains why approval of the Project is in the public interest. Mr. Jones also proposes a plan by which Commission Staff can monitor the progress of the construction. Finally, Mr. Jones provides the estimated first-year revenue requirement associated with the Project and explains the proposed rate recovery.

- **Gary Dickens** – Mr. Dickens is the Vice President, Project/Construction Management, New Generation Program Execution for ESL. He provides an overview of the Project and describes and supports the EPC contract to construct BPS, including the process used to select the EPC contractor and the management of EPC work. In addition, Mr. Dickens describes the construction schedule and management post-commissioning, explains how the cost estimates associated with the Project were developed, and provides the current total cost estimate associated with the Project. Finally, Mr. Dickens addresses the gas service and costs and discusses the estimated non-fuel O&M costs for the Project.
- **Samrat Datta** – Mr. Datta is the Director of Advanced Network Planning for the System Planning Organization at ESL. He explains the alternatives the Company considered and the reasons why ELL determined that constructing BPS is the preferred alternative. Mr. Datta also discusses the development of the cost estimate for the transmission-only alternative and the cost of transmission substation upgrades necessary for interconnection.

- **Phong D. Nguyen** – Mr. Nguyen is the Director, Advanced Economic Planning, for ESL. Mr. Nguyen describes the economic evaluation of the Project compared to potential alternatives.
- **Sean Meredith** – Mr. Meredith is the Vice President, System Resilience for ESL. He explains how the Project incorporates the Company's resilience goals.

V. CONCLUSION

Q36. PLEASE SUMMARIZE THE REASONS WHY THE PROJECT SHOULD BE ADDED TO ELL'S RESOURCE PORTFOLIO.

A. ELL has identified a need for generation in Louisiana to meet the specific needs of the southeastern most part of the state, where Port Fourchon and Leeville are located, as well as the state as a whole. For the following reasons, I believe that BPS represents the lowest reasonable cost option to address these needs. First, BPS will promote reliability in the region and in Louisiana as a whole because it (1) can operate as a dispatchable generation resource, helping maintain reliability when intermittent resources are not available; (2) will allow ELL to operate the entire area downstream of Clovelly as an "island" from the rest of the transmission grid during outage; and (3) will provide electricity and necessary voltage support to ELL's industrial and commercial customers in the region. BPS will help create a more resilient, storm-hardened infrastructure in the region and in Louisiana because it (1) will provide black-start capabilities; (2) may reduce restoration times in the region; and (3) as a quick-start and fast ramping dispatchable resource, it will be a valuable asset in future enhancements to the MISO ancillary service market that may be necessitated by

increased penetration of renewable resources. Finally, BPS is well-suited to meet the unique challenges presented by the region's geography and customer needs.

Q37. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, at this time.

AFFIDAVIT

STATE OF LOUISIANA

PARISH OF JEFFERSON

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

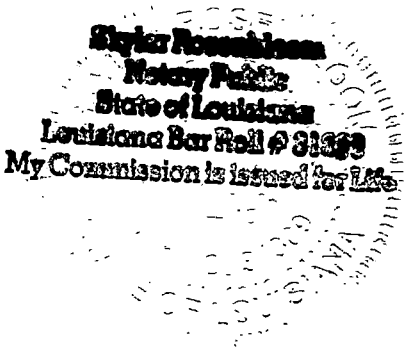
That the above and foregoing is his sworn testimony in this proceeding and that he knows the contents thereof, that the same are true as stated, except as to matters and things, if any, stated on information and belief, and that as to those matters and things, he verily believes them to be true.

Laura K. Beauchamp

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 23 DAY OF FEBRUARY, 2024

NOTARY PUBLIC

My commission expires: Death



Listing of Previous Testimony Filed by Laura K. Beauchamp

DATE	TYPE	SUBJECT MATTER	REGULATORY BODY	DOCKET NO.
06/03/2011	Settlement	Little Gypsy Securitization	LPSC	U-31894
07/07/2011	Direct	Carville-Calpine 2011 PPA	LPSC	U-32031
09/16/2011	Settlement	EGSL Fuel Adjustment Clause (1995-2004)	LPSC	U-27103
12/21/2011	Rebuttal	Carville-Calpine 2011 PPA	LPSC	U-32031
01/26/2012	Settlement	Retail Effects of FERC Opinion Nos. 468 and 468-A and Related Orders	LPSC	U-31099
03/02/2012	Settlement	Carville-Calpine 2011 PPA	LPSC	U-32031
02/15/2013	Direct	EGSL Base Rate Case	LPSC	U-32707
02/15/2013	Direct	ELL Base Rate Case	LPSC	U-32708
03/28/2013	Direct	ELL-Algiers 2013 Rate Case	CCNO	UD-13-01
09/27/2013	Settlement	MISO Implementation	LPSC	U-32675
02/18/2014	Rebuttal	ELL-Algiers 2013 Rate Case	CCNO	UD-13-01
03/22/2019	Adopting	ENOL 2018 Rate Case	CCNO	UD-18-07
06/06/2022	Adopting	ELL Solar Portfolio and Green Tariff	LPSC	U-36190
02/28/2023	Direct	ELL Solar CCN Application	LPSC	U-36685
03/13/2023	Direct	ELL 3,000 MW Solar Application	LPSC	U-36697
08/30/2023	Direct	ELL Regulatory Blueprint	LPSC	U-36959
12/18/2023	Direct	ELL 2023 Solar Application	LPSC	U-37071
01/31/2024	Affadivit	ELL Notice of Exemption – Audubon Substation	LPSC	S-37113

BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

***IN RE*: APPLICATION OF ENTERGY LOUISIANA, LLC FOR APPROVAL TO CONSTRUCT BAYOU POWER STATION, AND FOR COST RECOVERY**	))))	**DOCKET NO. U-____**

EXHIBIT LKB-2

HIGHLY SENSITIVE
PROTECTED MATERIAL

INTENTIONALLY OMITTED

MARCH 2024

BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

***IN RE*: APPLICATION OF ENTERGY LOUISIANA, LLC FOR APPROVAL TO CONSTRUCT BAYOU POWER STATION, AND FOR COST RECOVERY**	))))	**DOCKET NO. U-_____**

EXHIBIT LKB-3

HIGHLY SENSITIVE
PROTECTED MATERIAL

INTENTIONALLY OMITTED

MARCH 2024

Generating Assets Owned or Controlled by ELL as of February 2024					
Plant	**Unit**	**Summer Seasonal Accredited Capacity**	**Fuel**	**COD**	**Region**
ANO	1	23	Nuclear	1974	North
ANO	2	27	Nuclear	1890	North
Acadia	2	480	Gas	2002	WOTAB
Big Cajun 2	3	111	Coal	1983	Central
Calcasieu	1	136	Gas	2000	WOTAB
Calcasieu	2	154	Gas	2001	WOTAB
Grand Gulf	1	143	Nuclear	1985	Central
Independence	1	7	Coal	1983	North
J. Wayne Leonard	1	467	Gas	2019	Amite South
J. Wayne Leonard	2	467	Gas	2019	Amite South
Lake Charles	1	804	Gas	2020	WOTAB
Little Gypsy	2	352	Gas	1966	Amite South
Little Gypsy	3	340	Gas	1969	Amite South
Ninemile Point	4	683	Gas	1971	DSG
Ninemile Point	5	705	Gas	1973	DSG
Ninemile Point	6	454	Gas	2014	DSG
Ouachita	3	248	Gas	2002	Central
Perryville	1	316	Gas	2002	Central
Perryville	2	104	Gas	2001	Central
Roy Nelson	6	186	Coal	1982	WOTAB
Riverbend	1	572	Nuclear	1986	Central
Union	3	507	Gas	2003	Central
Union	4	484	Gas	2003	Central
Washington Parish	1	186	Gas	2020	Amite South
Washington Parish	2	186	Gas	2020	Amite South
Waterford	2	315	Gas	1975	Amite South
Waterford	3	1068	Nuclear	1985	Amite South
Waterford	4	30	Oil	2009	Amite South
White Bluff	1	13	Coal	1980	North
White Bluff	2	12	Coal	1981	North