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BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

IN RE: APPLICATION OF 1803 ELECTRIC) DOCKET NO. U-_____
COOPERATIVE, INC. FOR APPROVAL)
OF POWER PURCHASE AGREEMENTS)
AND FOR COST RECOVERY)

DIRECT TESTIMONY

OF

CHARLES A. HILL

ON BEHALF OF

1803 ELECTRIC COOPERATIVE, INC.

PUBLIC VERSION

MARCH 17, 2021

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I. INTRODUCTION AND BACKGROUND

1 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION AT 1803
2 ELECTRIC COOPERATIVE, INC. (“1803”).

3 A. My name is Charles Hill, 950 Pearl Street, Franklinton, Louisiana 70438. I am the
4 President and General Manager of 1803. I am also the General Manager and Chief
5 Executive Officer of Washington-St. Tammany Electric Cooperative, Inc. (“WST”).

6 Q. HOW LONG HAVE YOU HELD THE POSITION OF PRESIDENT AND GENERAL
7 MANAGER OF 1803?

8 A. I have held the position since April 16, 2019.

9 Q. HOW LONG HAVE YOU HELD THE POSITION OF GENERAL MANAGER/CHIEF
10 EXECUTIVE OFFICER AT WST?

11 A. I have held the position since April 15, 2010.

12 Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND BUSINESS EXPERIENCE.

13 A. I have a Bachelor of Science degree in Electrical Engineering from Mississippi State
14 University and twenty-seven (27) semester hours towards a Master of Business
15 Administration degree. I am a registered Professional Engineer in both Louisiana and
16 Mississippi.

17 I have over forty-eight (48) years of experience in utility engineering design,
18 management of utility operations and capital expenditures, as well as daily management of
19 a utility per policies set forth by a board of directors.

20 I began my career in the mid-1960s as an interior communications electrician in the
21 U.S. Navy. From that position I attended Mississippi State University (“University”)

1 pursuing a degree in Electrical Engineering. While in college I gained additional utility
2 experience working as a staking assistant at a Mississippi electric cooperative and at the
3 University's high voltage test laboratory as a technician. From 1975 to 2002, I was the
4 Manager of Engineering at Magnolia Electric Power Association in McComb, Mississippi.
5 During that time, I was responsible for the management and direction of the engineering
6 and operations of the cooperative and was involved daily in the design, operation, cost
7 estimating, economic development and member education functions.

8 In 2002, I became the Manager of Engineering and Operations at WST. In addition
9 to the technical aspects of the position I also prepared capital and operating budgets for the
10 cooperative's distribution system as well as providing input and policy recommendations
11 concerning interconnections, utility regulation matters and contracts and agreements.

12 In 2010, I became the General Manager and CEO of WST. In this capacity I direct
13 the daily operations of the cooperative in accordance with policies established by WST's
14 Board of Directors. My responsibilities also include the development, oversight and
15 tracking of the yearly budget, tracking of major capital expenditures, evaluation and
16 negotiation of various contracts, regulatory matters, and RUS loans and required support
17 services.

18 In 2019, I became the President and General Manager of 1803. In my role with
19 1803, I have presided over board meetings, directed and authorized activity and action in
20 this Request for Proposals ("RFP"), had oversight of the budget and expenditures, and
21 participated in numerous conferences related to bid analyses and considerations and the
22 negotiation of power purchase agreements ("PPAs").

1 **II. PURPOSE & SUMMARY OF DIRECT TESTIMONY**

2 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

3 A. The purpose of my testimony is to discuss the process undertaken by 1803 in seeking and
4 evaluating options for power purchase for 1803 and negotiating power purchase
5 agreements. I will also discuss the objectives which 1803 desired to accomplish with the
6 power supply options chosen and how the proposed options addressed each objective and
7 resulted in what I and the Board of Directors feel is the best course of action for 1803 in
8 fulfilling its power supply requirements for 2025 and beyond, particularly meeting the
9 objective of providing reliable service at the lowest reasonable cost.

10 Q. PLEASE PROVIDE A BRIEF SUMMARY OF YOUR TESTIMONY.

11 A. 1803's five (5) member cooperatives include Beauregard Electric Cooperative, Inc.
12 ("BECi"); Claiborne Electric Cooperative, Inc. ("Claiborne"); Northeast Louisiana Power
13 Cooperative, Inc. ("NELPCO"); South Louisiana Electric Cooperative Association
14 ("SLECA"); and WST (collectively, "1803"). 1803 was created to assist the 1803
15 Cooperatives by combining load, efforts, and resources to achieve economies of scale,
16 efficiencies, and savings through sharing of costs, efforts, and resources.

17 1803 is governed by its Board of Directors ("Board"), which consists of ten (10)
18 directors. The ten (10) directors consist of two (2) from each 1803 Cooperative, including
19 the General Manager of each 1803 Cooperative. The 1803 Board has been engaged and
20 thorough throughout the RFP process, focused on seeking reliable power for the 1803
21 Cooperatives at the lowest reasonable cost.

22 1803 conducted an RFP pursuant to the rules and regulations of the Louisiana

1 Public Service Commission (the “Commission” or “LPSC”). 1803 engaged Alliance for
2 Cooperative Energy Services Power Marketing LLC (“ACES”), an experienced and
3 reputable national energy management company, to assist 1803 with conducting its RFP
4 and analyzing the responses received. The RFP response was robust. 1803 initially received
5 197 unique offers from a total of 31 Bidders in the Phase 1 of its RFP, of which 37 offers
6 from 20 Bidders were advanced by 1803 to the Phase 2 of the RFP.

7 Throughout the process, to ensure a fair and unbiased analysis of the RFP
8 responses, the 1803 Board and ACES’s Portfolio Strategy and Analysis Team kept
9 confidential the identity of the Bidders, with the Bidder identities not being revealed until
10 tentative selections were made, subject to the successful negotiation of PPAs. Throughout
11 the RFP process, 1803 kept LPSC Staff, including the outside consultant, and
12 Commissioners aware of the status and developments and considerations being made in
13 the RFP.

14 At our December 17, 2020 Board Meeting, the 1803 Board authorized me to enter
15 into contracts with counterparties whose bids were being considered. As provided for in
16 1803’s RFP timeline, this continued the Phase 2 screening and analysis period, with the
17 negotiation of PPA terms with the counterparties, with all Phase 2 bids remaining under
18 consideration until PPA terms were agreed upon.

19 Negotiations with Bidders on PPA terms continued comprehensively and regularly
20 over the next two (2) months and, at 1803’s February 22, 2021 Board Meeting, the 1803
21 Board unanimously approved a portfolio of six (6) power purchase agreements, with five
22 (5) different Bidders, subject to the agreement of terms on PPAs, and subject to the

1 regulatory approval of the LPSC.

2 **III. 1803 BACKGROUND AND 2019 LONG-TERM RFP**

3 Q. WHAT WERE THE CIRCUMSTANCES THAT LED TO THE CREATION OF 1803
4 AND THE INITIATION OF THE RFP FOR LONG-TERM CAPACITY AND ENERGY
5 RESOURCES?

6 A. All of the 1803 Cooperatives have all-requirements power contracts that are scheduled to
7 expire in a similar timeframe, at the end of 2024, in the case of NELPCO, and on March
8 31, 2025 for BECi, Claiborne, SLECA, and WST. The 1803 Cooperatives believed that it
9 would be most efficient, cost effective, and attractive to potential power suppliers if they
10 were to combine their loads, efforts, and resources to achieve economies of scale,
11 efficiencies, and savings. The cooperative business model does not require the rate of return
12 of other utilities in Louisiana, and instead, the savings goes to the consumers of 1803
13 Cooperatives. The 1803 Cooperatives began consulting with ACES in 2018 to begin
14 exploring options for power supply beyond their current contracts. 1803 was created on
15 April 1, 2019 to conduct an RFP under the LPSC's Market Based Mechanism General
16 Order ("MBM Order"). As required by the MBM Order, 1803 provided notice to the
17 Executive Secretary of the LPSC that 1803 intended to conduct an RFP for a competitive
18 solicitation process for long-term power purchase contracts and or generating capacity for
19 the 1803 Cooperatives.

20 Q. WHAT STEPS WERE TAKEN AFTER THE NOTICE OF INTENT TO CONDUCT
21 THE RFP WAS FILED?

22 A. The LPSC assigned the matter Docket No. X-35283 and then retained J. Kennedy and

1 Associates as outside consultant at its September 11, 2019 Open Session. 1803 then
2 consulted with LPSC Staff, including the outside consultant, in finalizing the draft of its
3 RFP, which was filed with the LPSC on November 26, 2019.

4 Q. PLEASE BRIEFLY DESCRIBE 1803's 2019 LONG-TERM RFP.

5 A. By means of the 2019 Long-Term RFP, 1803 has sought to purchase reliable and
6 economically competitive power supplies to meet the long-term load-serving obligations
7 of the 1803 Cooperatives, the reliability goals of the state of Louisiana, and the
8 requirements of the MISO market. 1803 requested proposals from all types of suppliers
9 including, but not limited to: electric utilities, power marketers, exempt wholesale
10 generators, independent power producers, and renewable developers. Subject to
11 limitations specified in the RFP, 1803 advised that it would consider proposals for all types
12 of resources, as well as for full-requirements service contracts, partial requirements service
13 contracts, energy only contracts, capacity only contracts, and call option contract proposals.
14 1803 advised that it would evaluate all offers using the criteria and procedures specified in
15 the RFP. 1803 also stated that it would not purchase, assume ownership of, or acquire any
16 generating assets as a result of the RFP.

17 Q. WAS AN INDEPENDENT MONITOR INVOLVED IN THE 2019 LONG-TERM RFP?

18 A. No. An independent monitor was not engaged because no affiliate bids or self-supply
19 options participated in the RFP. Nonetheless, LPSC Staff and its outside consultant were
20 involved in the process, including reviewing processes and decision-making regarding
21 proposals retained after each RFP phase.

1 Q. WHAT STEPS WERE TAKEN TO ENCOURAGE BROAD MARKET
2 PARTICIPATION IN THE RFP?

3 A. 1803 sought maximum distribution and awareness of its RFP for market participants. The
4 RFP was widely publicized, and potential Bidders were given ample notice and a
5 reasonable opportunity to participate. The draft RFP was filed with the Commission and
6 notice of the filing was published in the LPSC Bulletin. The draft RFP was published on
7 the 1803 RFP webpage¹ and distributed electronically to an extensive number of known
8 market participants and industry trade associations approximately three (3) months before
9 the Bidder registration deadline.

10 Q. WHAT OPPORTUNITIES DID 1803 PROVIDE TO MAKE INFORMATION
11 AVAILABLE TO POTENTIAL BIDDERS RELATED TO THE RFP?

12 A. In addition to the information provided on the 1803 RFP webpage, 1803 provided many
13 opportunities for Bidders to obtain information, seek clarification, and have questions
14 answered in the RFP. Along with LPSC Staff and its outside consultant, 1803 held a
15 Technical and Bidders' Conference on January 16, 2020, where 1803 officials, counsel,
16 and consultants provided presentations and then allowed opportunities for questions and
17 comments at the conference regarding any aspect of the RFP process and power supply
18 efforts. Further, market participants were provided opportunities to submit anonymous
19 written questions and comments, to call an RFP hotline, and to email the RFP
20 Administrator. All written questions submitted were answered in written form on the RFP
21 webpage by 1803. The 1803 Board hired a load forecasting consultant, PowerStat, LLC,

¹ <https://www.acespower.com/1803lrfp2019/> (last accessed March 15, 2021).

1 to provide a 20-year requirements study for energy and peak demand. Based upon that
2 study, 1803 reaffirmed the determination that the 1803 Cooperatives would need to secure
3 approximately 1,000 megawatts of resources in 2025 to meet their power supply
4 requirements. Load forecasts were also provided to potential Bidders who entered into
5 appropriate Confidentiality Agreements.

6 Q. WAS THERE A HIGH LEVEL OF PARTICIPATION IN THE 2019 LONG-TERM RFP?

7 A. Yes. 1803 received 197 unique offers from a total of 31 Bidders in Phase 1 of its RFP. In
8 addition to multiple full and partial requirement contract bids, 1803 received bids for a
9 wide range of resources, including combined cycle facilities, peaking plants, solar, battery
10 storage, solar plus battery storage, and market products (block energy, block energy plus
11 capacity, call options, and zonal resource credits (“ZRCs”).

12 Q. HOW MANY BIDDERS AND OFFERS WERE ADVANCED TO THE SECOND
13 PHASE OF THE RFP?

14 A. 37 offers from 20 Bidders were advanced to Phase 2.

15 Q. WHAT SAFEGUARDS WERE ESTABLISHED TO ENSURE THAT THE RFP WAS
16 CONDUCTED IN AN OBJECTIVE AND IMPARTIAL MANNER?

17 A. Throughout the process, in Phase 1 and into Phase 2, until 1803 tentatively made the
18 selection of a portfolio of Bidders, contingent upon the successful negotiation of PPAs, the
19 identity of the Bidders remained anonymous to all of the 1803 Board and the Portfolio
20 Strategy and Analysis Team. This ensured that no preference or bias for or against any
21 Bidder occurred by the decision makers (the 1803 Board) or the consultant developing the
22 alternative portfolios and presenting the various options (ACES).

1 Q. ON WHAT BASIS WERE THE OFFERS RECEIVED ANALYZED?

2 A. The 1803 Board considered and ranked criteria to achieve the objectives they considered
3 important for the 1803 power supply selection or selections. These goals, as selected by
4 the 1803 Board, in order of relative importance were:

- 5 1. Reliably serving load at the lowest reasonable cost;
- 6 2. Minimize the potential volatility and market risk associated with 1803's rates;
- 7 3. Minimize cost exposure to future environmental regulations and unknown
8 environmental mitigation and/or clean-up costs;
- 9 4. Minimize exposure to future cost increases passed through to 1803;
- 10 5. 1803 prefers fixed price contracts over cost based contracts;
- 11 6. 1803 prefers a longer-term contract length, all else being equal;
- 12 7. Desirable counterparty creditworthiness;
- 13 8. Desired contract terms outlined in an appendix to the RFP;
- 14 9. Renewable generation attributes; and
- 15 10. The location of resources near load or in the same MISO Zone 9 and the state of
16 Louisiana.

17 These criteria and their ranking in importance were directly identified in the RFP, and 1803
18 made their selections in the Phase 1 and Phase 2 of the RFP on the basis of these criteria,
19 in accord with their degree of importance and other metrics detailed in several of the Direct
20 Testimonies including the Direct Testimony of Kevin P. Suhanic and Derek D. Waite.

21 Q. HOW INVOLVED WERE YOU AND THE 1803 BOARD IN THE RFP PROCESS?

22 A. The 1803 Board and I have been fully involved and engaged throughout this process,

1 throughout each phase. The 1803 Board has met continually and regularly, for hours at a
2 time, being thoroughly advised and consulted on options and considerations, the specificity
3 of the various bids, and the corresponding benefits and risks of each since 2018. The 1803
4 Board Directors have taken their roles and duties seriously and have carefully and
5 diligently considered the options and acted in the best interests of 1803 and ultimately the
6 1803 Cooperatives. Along with the other officers of 1803, I have participated in
7 comprehensive conferences on a weekly basis, sometimes more, with multiple members of
8 the 1803 consulting team and counsel. I have also reviewed numerous PPAs and revised
9 PPAs and participated in multi-hour conferences regularly over an approximate two-month
10 period of intense PPA negotiation. The 1803 Board Directors have also regularly consulted
11 with the 1803 Cooperatives' Boards. The 1803 Board has been fully dedicated to this most
12 important task.

13 Q. WAS LPSC STAFF INVOLVED IN THE VARIOUS EVALUATION PROCESSES?

14 A. Yes. Throughout the process, thorough conferences were held with LPSC Staff and the
15 outside consultant to review the proposed evaluation and elimination processes.
16 Discussions were had regarding the comparisons of developed portfolios against each other
17 and against full requirements proposals, the benefits and risks of each, regulatory
18 compliance, and other considerations.

19 Q. PLEASE IDENTIFY THE SELECTIONS MADE BY 1803 AS A RESULT OF THE RFP
20 PROCESS.

21 A. 1803 made the following selections, subject to the approval of the Commission:

22 1. 409 MW Combined Cycle Gas Turbine 20-year PPA with capability to burn

hydrogen;

2. 98 MW 20-year solar PPA at a fixed price;

3. 150 MW 20-year solar PPA at a fixed price;

4. 95 MW 20-year solar PPA at a fixed price;

5. 27% partial requirements load following PPA at a fixed price for 5 years; and

6. 185 MW Combined Cycle Gas Turbine 5-year PPA.

Q. WHY WERE THESE RESOURCES SELECTED?

A. The selected portfolio of resources meets the primary objective of both the 1803 Board and the Commission in that it will provide 1803 and the 1803 Cooperatives reliable power to meet their needs and the needs of the 1803 Cooperatives' members at the lowest reasonable cost. The portfolio selected was not only the low-cost portfolio, but it also did the best job of mitigating future risks like higher natural gas and power prices due to the diversity of the contracts selected, including highly efficient combined cycle generation, fixed price solar contracts, and shorter-term fixed price partial requirements contracts. The 1803 Board decided they wanted to leave some of the decisions for future resources for 2030 and beyond to retain flexibility for future technologies like battery storage. Additionally, when considering decarbonization, the portfolio selected performed extremely well as it has extremely efficient natural gas fired generation that can also burn up to 50% hydrogen, 343 MW of nameplate solar and the ability add more solar and/or battery storage resources in 2030 and beyond. Upon certification, if granted, of this portfolio by the LPSC, 1803 would conduct future Integrated Resources Plans ("IRP") as part of the LPSC process.

1 Q. DO YOU BELIEVE THAT THE COSTS OF THE PORTFOLIO PROPERLY
2 MEASURES THE ENERGY SERVICES MANAGEMENT COSTS THAT ARE
3 INCLUDED IN THE FULL REQUIREMENTS PROPOSAL?

4 A. Yes. 1803's consultant, Brian W. Hobbs, based on his extensive experience in the area and
5 his research, has developed a comprehensive budget for the additional services needed for
6 a portfolio approach that cautiously leans on the side of overinclusion. With those added
7 costs, the portfolio chosen by the 1803 Board is significantly more cost effective than the
8 best full requirements proposal.

9 Q. MR. HILL, HOW WILL THE RETAIL RATES OF THE 1803 COOPERATIVES
10 COMPARE TO THEIR RATES UNDER THEIR CURRENT CONTRACTS?

11 A. Based on the Direct Testimony of Jason M. Painter submitted in this proceeding, the
12 expected wholesale rate to the 1803 Cooperatives will substantially decrease. Mr. Painter
13 testifies that the portfolio selected was the lowest cost option by 5% relative to available
14 full requirements alternatives and approaching 10% lower than available full requirement
15 alternatives when considering and accounting for the potential impact of a carbon
16 emissions tax on future portfolio costs. Such lower wholesale rates will result in a decrease
17 in the retail rates for the 1803 Cooperatives.

18 Q. IS IT YOUR OPINION THAT THE PORTFOLIO OF RESOURCES SELECTED ARE
19 IN THE BEST INTERESTS OF 1803, THE 1803 COOPERATIVES, AND THE
20 MEMBER/RATEPAYERS OF THE 1803 COOPERATIVES?

21 A. Yes. 1803 has engaged in a prudent process in full compliance with the MBM Order and
22 1803's RFP, and it has made power supply decisions that will ensure that the electric

1 cooperative member-customers receive reliable, low-cost power on a long-term basis, for
2 the reasons stated above.

3 Q. DO YOU REQUEST LPSC APPROVAL OF THE PPAs PRESENTED?

4 A. Yes. The PPAs entered into by 1803 are in the best interest of the 1803 Cooperatives and
5 their member owners.

6 **IV. CONCLUSION**

7 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

8 A. Yes, it does.

BEFORE THE
LOUISIANA PUBLIC SERVICE COMMISSION

APPLICATION OF 1803 ELECTRIC)
COOPERATIVE, INC. FOR APPROVAL)
OF POWER PURCHASE AGREEMENTS) **DOCKET NO. _____**
AND FOR COST RECOVERY)

AFFIDAVIT OF WITNESS

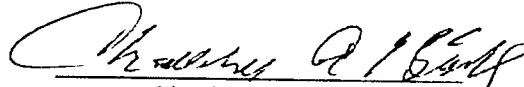
I, Charles A. Hill, being duly sworn, depose

that the Direct Testimony in the

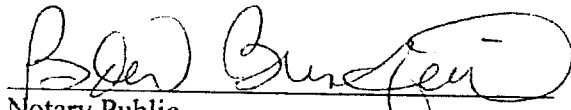
above referenced matter on behalf of

1803 Electric Cooperative, Inc.

are true and correct to the best of my knowledge, information and belief.


Charles A. Hill

Subscribed and sworn before
me this 15 day of
March, 2021.


Notary Public

Name of Notary and Notary/Bar Roll No.:

BRENDA V. BRUMFIELD
NOTARY PUBLIC
#62941
COMMISSION FOR LIFE

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Notarization constitutes verification
of signature(s) only.

**BEFORE THE
LOUISIANA PUBLIC SERVICE COMMISSION**

**APPLICATION OF 1803 ELECTRIC)
COOPERATIVE, INC. FOR APPROVAL)
OF POWER PURCHASE AGREEMENTS) DOCKET NO. _____
AND FOR COST RECOVERY)**

**DIRECT TESTIMONY
OF
STEPHEN J. ZWILLING
ON BEHALF OF
1803 ELECTRIC COOPERATIVE, INC.**

PUBLIC VERSION

MARCH 17, 2021

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I. INTRODUCTION AND BACKGROUND

1 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION AT ACES.

2 A. My name is Stephen J. Zwilling, 4140 West 99th Street, Carmel, Indiana 46032. I am the
3 Executive Director of Trading Control at Alliance for Cooperative Energy Services Power
4 Marketing LLC ("ACES").

5 Q. HOW LONG HAVE YOU HELD THE POSITION OF EXECUTIVE DIRECTOR OF
6 TRADING CONTROL AT ACES?

7 A. I have held my current position since March 1, 2014.

8 Q. WHAT ARE YOUR RESPONSIBILITIES AND DUTIES AS THE EXECUTIVE
9 DIRECTOR OF TRADING CONTROL AT ACES?

10 A. In this role, my primary responsibilities are overseeing the Trading Control department and
11 Process Control functions; managing the implementation and administration of energy
12 trading and risk management systems; and integrating new clients, products, and markets.

13 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

14 A. I have a Bachelor of Science degree from Indiana University.

15 Q. WHAT PROFESSIONAL CERTIFICATIONS DO YOU HOLD?

16 A. I am a Certified Public Accountant.

17 Q. PLEASE DESCRIBE YOUR BUSINESS EXPERIENCE.

18 A. I have been an employee of ACES since 1999, when I was hired as a Transaction Analyst.
19 I was promoted to Manager of Trading Control in 2001, Director of Process Control in
20 2006, and Executive Director of Trading Control in 2014. Prior to joining ACES, I spent

1 one (1) year as an auditor with AdminaStar Federal and ten (10) years with Deluxe
2 Financial Services, holding several positions between 1989 and 1998.

3 Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

4 A. I am testifying before the Louisiana Public Utility Commission (“Commission” or
5 “LPSC”) on behalf of 1803 Electric Cooperative, Inc. (“1803”) for which, ACES has been
6 engaged to assist 1803 in seeking power supply opportunities to fulfill the power supply
7 requirements upon the completion of their current wholesale power supply contracts in
8 early 2025.

9 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

10 A. My Testimony will address the RFP Process and work of the Process Control Team as
11 outlined in the RFP.

12 Q. PLEASE PROVIDE A BRIEF SUMMARY OF YOUR TESTIMONY.

13 A. My testimony describes in detail the Process Control Team’s efforts to ensure the RFP
14 administered by ACES for 1803 met the requirements of the RFP and the Commission’s
15 2008 Market-Based Mechanism (“MBM”) Order¹.

II. PROCESS CONTROL TEAM

16 Q. WHAT IS THE PROCESS CONTROL TEAM?

17 A. The Process Control Team is an internal team at ACES tasked with numerous
18 responsibilities to facilitate the Request for Proposals (“RFP”) and ensure the

¹ In re: Possible suspension of, or amendments to, the Commission’s General Order dated November 3, 2006 (Market Based Mechanisms Order) to make the process more efficient and to consider allowing the use of on-line auctions for competitive procurement. Decided October 15, 2008 (MBM Order).

1 confidentiality of the RFP process as further described in Section 4.9, 4.10 and 4.11 of the
2 RFP.

3 Q. PROVIDE A BRIEF OVERVIEW OF THE PROCESS CONTROL TEAM'S ROLE IN
4 THE RFP.

5 A. The Process Control Team reviewed all proposals for accuracy and completeness and
6 contacted any Bidder who submitted inaccurate or incomplete data to inform them of the
7 omissions and/or errors and asked the Bidder(s) to correct the data and resubmit their
8 proposal. Beyond evaluating proposals, this team managed the unique Bidder ID process,
9 the 1803 website, and ensured the confidentiality of the RFP process through redaction.

10 Q. DESCRIBE THE PROCESS CONTROL TEAM'S EFFORTS REGARDING THE 1803
11 WEBSITE.

12 A. Under my direction and supervision, ACES' Process Control Team managed the publicly
13 available 1803 RFP website at <https://www.acespower.com/1803ltrfp2019/>. Request(s) to
14 update content were reviewed by one or more Process Control Team members prior to
15 posting on the RFP website. The Process Control Team, pursuant to Sections 4.6 and 4.7
16 of the RFP, posted all non-confidential questions submitted by Bidder(s), including those
17 posed at the technical conference, and responses to those questions.

18 Q. HOW DID THE PROCESS CONTROL TEAM MANAGE 1803'S CONFIDENTIAL
19 DATA?

20 A. As part of the final RFP, Appendix C provided a Confidentiality Agreement ("CA") for
21 Bidder(s) to sign and 1803 to fully execute. Upon full execution of the CA, the Bidder was
22 provided with an email from the Process Control Team with the password to access 1803's

1 hourly load forecast for the period of 2025-2044, four years of audited financial statements,
2 hourly load data for five years, and EPNodes for each member cooperative of 1803. The
3 password-protected website is [https://www.acespower.com/1803-confidential-](https://www.acespower.com/1803-confidential-information/)
4 [information/](https://www.acespower.com/1803-confidential-information/).

5 Q. PLEASE DESCRIBE HOW THE PROCESS CONTROL TEAM MANAGED
6 INTERNAL DISCLOSURES.

7 A. At my request, a member of the Process Control Team, Courtney Stooksbury Parker, Esq.,
8 drafted an internal non-disclosure agreement (“NDA”) that outlined what information
9 could be shared with who pursuant to the RFP and managed the execution process of
10 ACES’ staff. This internal NDA was created pursuant to Section 3.2 of the RFP and strictly
11 prohibited sharing Confidential Information outside of the 1803 RFP Process.
12 Additionally, the Process Control Team working with ACES’ information technology
13 department set up folders with restricted access to ensure that improper access to 1803 RFP
14 information was unlikely, if not impossible.

III. BID AND BIDDER COMMUNICATION AND REDACTION

15 Q. PLEASE BRIEFLY DESCRIBE THE PROCESS CONTROL TEAM’S
16 COMMUNICATIONS TO AND FROM BIDDER(S) AS PART OF THE RFP PROCESS.

17 A. The Process Control team sent emails periodically to communicate changes to the RFP
18 timeline as well as posting these changes to the RFP website. We sent emails assigning
19 unique Bidder identifications. We sent emails regarding the CA from Appendix C. We
20 sent emails with the passwords and access instructions for the confidential 1803 website.
21 In addition to emails, we participated in the technical conference at the LPSC in January

1 of 2020, we received technology questions regarding the website via a hotline and received
2 hard copies of bids via the mail.

IV. AFFILIATE BIDDERS

3 Q. DID YOU HAVE ANY AFFILIATE BIDDER CONCERNS?

4 A. No, I understood from my participation in the technical conference that various participants
5 had concerns about ACES' affiliates bidding on the 1803 RFP, however ACES has no
6 affiliates and further no ACES' member-owners bid on the 1803 RFP. Therefore, no
7 presumed or actual conflict of interest related to affiliate bidding existed in this RFP.
8 Additionally, Sections 1.2 and 1.3 of the RFP state the following, respectively:

9 1.2 Neither 1803, the Member Cooperatives, nor any affiliate thereof are
10 proposing a self-build or self-supply option through this RFP. Accordingly, the
11 2019 Long-Term RFP does not require supervision by an IM pursuant to the MBM
12 Order.

13 1.3 As stated in Subsection 1.2 above, neither 1803, the Member Cooperatives,
14 nor any affiliate thereof are proposing a self-build or self-supply option, therefore,
15 no inter-affiliate bidding is contemplated in this RFP.

16 As outlined in the RFP and pursuant to the MBM Order, an Independent Monitor
17 ("IM") was only necessary if a utility proposes a self-build, permits affiliate bidding or
18 proposes self-supply." I can confirm that neither 1803, the Member Cooperatives, nor any
19 affiliate of either proposed a self-build or self-supply option through this RFP, or in any
20 way bid into this RFP. Thus, no IM was required.

V. BID SPECIFICS AND ADVANCEMENT IN THE RFP

Q. HOW MANY BIDS WERE RECEIVED INTO THIS RFP?

A. The Process Control Team received 197 unique bids from 31 suppliers.

Q. WHERE ANY OF THE APPROXIMATELY 200 UNIQUE BIDS NON-CONFORMING AND REMAINED NON-CONFORMING?

A. Yes, the Process Control Team notified two (2) Bidders whose bid(s) were non-conforming. One (1) Bidder submitted other conforming bids.

Q. WHAT DOES IT MEAN FOR A BID TO BE NON-CONFORMING?

A. Section 4.11 of the RFP provides as follows for non-conforming bids:

Proposals may be deemed non-conforming if they do not meet the requirements specified in the applicable appendix or if they do not meet the basic requirements for the appropriate proposal detailed in Section 3.3. Proposals not received on time will be rejected. Proposals that are deemed non-conforming for reasons other than timeliness will be given three (3) business days after notification of non-conformity from the Process Control Team to remedy any non-conformity. 1803 and the RFP Process Control Team will notify the LPSC Staff of the disqualification of any proposal on the basis it is non-conforming and shall identify the manner in which it is non-conforming.

Q. DID THE RFP HAVE ANY BIDS THAT WERE IDENTIFIED AS NON-CONFORMING THAT REMAINED NON-CONFORMING?

A. Yes, on May 29, 2020, the Process Control Team received a proposal for a land lease in response to the RFP. The Process Control Team determined that the proposal was non-

1 conforming as it did not meet the basic requirements set forth in Section 3.3 of the RFP.

2 The Process Control Team conferred with the LPSC staff of determining that this bid or

3 proposal was non-conforming. On June 3, 2020, the Process Control Team notified the

4 Bidder that the bid or proposal was non-conforming. The Bidder agreed and did not cure

5 the bid to be conforming. On June 15, 2020, another Bidder submitted two (2) non-

6 conforming bids that consisted of proposals for terms substantially longer than requested

7 by 1803, extended five (5) years beyond the term stated in the RFP. The Bidder stated

8 their intent was to demonstrate to 1803 that a longer-term agreement could provide

9 potential cost savings to 1803. On June 15, 2020, the Process Control Team notified the

10 Bidder that the two bids or proposals were non-conforming. The Bidder agreed and did

11 not cure the bids to be conforming.

12 Q. PLEASE DESCRIBE IN DETAIL THE REDACTION PROCESS FOR CONFORMING
13 BIDS.

14 A. Pursuant to Section 4.10 of the RFP, the Process Control Team reviewed all bids or
15 proposals and ensured "all identifying information, including a Bidder's company name,
16 office location, contact information, and affiliate names were appropriately redacted." For
17 each Bidder, the Process Control Team created a bidder proposal checklist to identify and
18 document information in the proposals and appendices that were redacted. For each
19 proposal, the Process Control Team assigned a unique Bidder ID, Proposal ID, and
20 Generator ID, where applicable. The unique Bidder ID, Proposal ID, and Generator ID
21 were entered into the applicable fields on each Appendix B submitted by a Bidder. Upon
22 redaction of a proposal by a Process Control Team, the team member responsible entered

1 his/her/their name on the checklist along with the date and then had a second Process
2 Control Team member review the redaction and fill out the checklist. Finally, a Process
3 Control Team lead (myself or Melissa Fischer) preformed a third and final review of the
4 redaction. Once the proposal passed the final redaction checklist review, the proposal was
5 saved in a secure data folder on an internal network drive that was accessible to the
6 Portfolio Strategy and Analysis Team. This process was repeated for every bid received.

7 Q. CAN YOU DESCRIBE THE SECURE DATA FOLDERS IN MORE DETAIL?

8 A. Yes, secure data folders were set up at ACES on our internal network drive for the Process
9 Control Team, the PPA Evaluation Team, and the Portfolio and Strategy Analysis Team,
10 each individually. The Process Control Team has access to its folder and the other two
11 folders (PPA Evaluation Team and Portfolio and Strategy Analysis Team) since this team
12 is required to save the applicable proposal information in each of the other team's folders.
13 The PPA Evaluation Team only has access to its folder. The Portfolio and Strategy
14 Analysis Team also only has access to its folder. Only appropriately redacted bids were
15 saved in the PPA Evaluation Team and the Portfolio and Strategy Analysis Team folders.

16 Q. PLEASE DESCRIBE THE PROCESS CONTROL TEAM'S RESPONSIBILITIES.

17 A. The Process Control Team served as the primary communication point between Bidders
18 and the RFP Administrator, ACES, throughout the RFP process. This single point of
19 communication was based in an Outlook Mailbox, 1803ltrfp2019@acespower.com. The
20 Process Control Team was responsible for checking the 1803LTRFP2019 Outlook mailbox
21 at least once every business day, and typically multiple times a day during the Bidder
22 Comment and Question and Answer period, Bidder Registration, and Open Proposal

1 Submission periods. When questions or requests for clarifying information were received,
2 the Process Control Team coordinated responses while ensuring confidentiality, and
3 responded to the Bidder from the email account.

4 Q. PLEASE DESCRIBE THE COMMUNICATION PROCESS AFTER PHASE 1 B OF
5 THE RFP.

6 A. Pursuant to Section 4.14 of the RFP, the Process Control Team Notified all Bidders of the
7 status of their proposal(s) on September 9, 2020. The formal notification was provided
8 from the 1803ltrfp2019@acespower.com email account. ACES notified 30 Bidders of the
9 Phase 1 results, specifically 11 Bidders were notified that the entirety of their proposal(s)
10 were not selected for advancement to Phase 2 based on an economic comparison of
11 levelized cost among similar products and 19 Bidders were notified that one or more of their
12 proposals had been selected for advancement to Phase 2. Some of the 19 Bidders were also
13 notified that one of more of their proposal(s) were not selected for advancement to Phase
14 2 based on an economic comparison of levelized cost among similar products.

15 Q. PLEASE DESCRIBE THE ADVANCEMENT FROM PHASE 1 TO PHASE 2 AS IT
16 RELATES TO THE BIDDERS.

17 A. Pursuant to Section 4.13.5 of the RFP, "At the end of Phase 1, bidders selected for Phase
18 2 will be allowed to make their best and final offer that will be used for the Phase 2
19 analysis"; thus, each Bidder has the option to update their bid. Of the 19 Bidders that
20 advanced to Phase 2, four (4) Bidders did not submit updated bids and voluntarily withdrew
21 from the RFP process. The remaining 15 Bidders submitted approximately 32 revised bids.

22 Q. WHAT DID THE PROCESS CONTROL TEAM DO WITH THOSE 32 REVISED BIDS?

1 A. The Process Control Team followed the redaction process discussed above pursuant to
2 Section 4.10 of the RFP to ensure the Phase 2 bids were provided in appropriately redacted
3 form to the appropriate teams.

4 Q. PLEASE DESCRIBE THE NOTIFICATION PROCESS AT THE COMPLETION OF
5 PHASE 2.

6 A. 1803 selected five (5) Bidders for a total of six (6) bids. On March, 12, 2021, the Process
7 Control Team notified ten (10) Bidders that their bids were not selected and notified five
8 (5) Bidders that they were selected pending this LPSC's approval.

VI. CONCLUSION

9 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

10 A. Yes, it does.

BEFORE THE
LOUISIANA PUBLIC SERVICE COMMISSION

APPLICATION OF 1803 ELECTRIC)
COOPERATIVE, INC. FOR APPROVAL)
OF POWER PURCHASE AGREEMENTS) DOCKET NO. _____
AND FOR COST RECOVERY)

AFFIDAVIT OF WITNESS

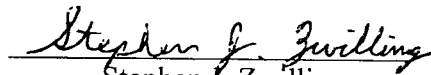
I, Stephen J. Zwilling, being duly sworn, depose

that the Direct Testimony in the

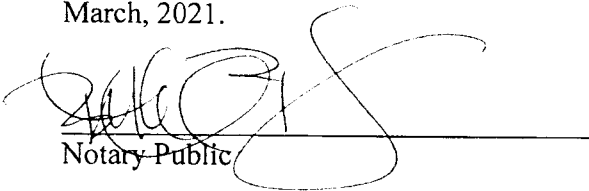
above referenced matter on behalf of

1803 Electric Cooperative, Inc.

are true and correct to the best of my knowledge, information and belief.

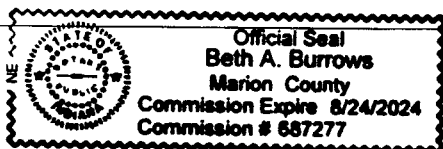

Stephen J. Zwilling

Subscribed and sworn before
me this 15th day of
March, 2021.



Notary Public

Name of Notary and Notary/Bar Roll No.:



RECEIVED

MAR 17 2021

LA Public Service Commission

**BEFORE THE
LOUISIANA PUBLIC SERVICE COMMISSION**

**IN RE: APPLICATION OF 1803 ELECTRIC) DOCKET NO. U-_____
COOPERATIVE, INC. FOR APPROVAL)
OF POWER PURCHASE AGREEMENTS)
AND FOR COST RECOVERY)**

**DIRECT TESTIMONY
OF
PATRICK J. MAGUIRE
ON BEHALF OF
1803 ELECTRIC COOPERATIVE, INC.**

PUBLIC VERSION

MARCH 17, 2021

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I. INTRODUCTION AND BACKGROUND

1 Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION.

2 A. My name is Patrick J. Maguire and my business address is 4140 West 99th, Carmel, IN
3 46032. My current position is Executive Director of Resource Planning, Alliance for
4 Cooperative Energy Services Power Marketing LLC ("ACES").

5 Q. HOW LONG HAVE YOU HELD THE POSITION OF EXECUTIVE DIRECTOR OF
6 RESOURCE PLANNING AT ACES?

7 A. I have held my current position since April 2020.

8 Q. WHAT ARE YOUR RESPONSIBILITIES AND DUTIES AS EXECUTIVE DIRECTOR
9 RESOURCE PLANNING AT ACES?

10 A. My areas of responsibilities and duties include but are not limited to responsibilities for
11 long-term power supply studies, integrated resource planning and request for proposal
12 ("RFP") bid evaluation for clients.

13 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

14 A. I received a Bachelor of Arts degree in Economics in 2008 from Wabash College and a
15 Masters of Business Administration degree in 2018 from the Kelley School of Business at
16 Indiana University.

17 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY PUBLIC UTILITY
18 REGULATORY COMMISSIONS?

19 A. Yes, on behalf of Indianapolis Power & Light Company ("IPL") I have offered testimony
20 before the Indiana Utility Regulatory Commission in Cause No. 44795 related to Capacity
21 and Off-System Sales.

22 Q. PLEASE DESCRIBE YOUR BUSINESS EXPERIENCE.

1 A. I have been in the energy industry for over 12 years in a variety of power market roles in
2 modeling, congestion risk management, trading, resource planning, rate design, and
3 stakeholder engagement.

4 I worked at ACES from 2008 to 2016 in various roles in Midcontinent Independent
5 System Operator, Inc. ("MISO"), PJM Interconnection, California Independent System
6 Operator, Electric Reliability Council of Texas and Southwest Power Pool Regional
7 Transmission Organization ("RTO") and Independent System Operator ("ISO") markets.
8 I began my career at ACES as a Term Trader, where I managed day-ahead trading, short-
9 term optimization, and position management for a 3,400 MW utility in Texas and several
10 utilities operating in the Southwest Power Pool ("SPP"). I managed energy and ancillary
11 offer strategies for over 4,000 MW of generation, which included coal plants, gas-fired
12 steam turbines, combined cycle facilities, combustion turbines, reciprocating engines, wind
13 farms, solar farms, and hydro.

14 In ACES Transmission department, I developed and implemented congestion risk
15 management strategies for clients, conducted long-term Locational Marginal Pricing
16 ("LMP") forecasting studies, and executed FTR and ARR trading strategies in MISO, PJM,
17 California Independent System Operator, Electric Reliability Council of Texas and SPP
18 markets.

19 For four (4) years prior to re-joining ACES in 2020, I led long-term resource
20 planning and load forecasting at AES affiliates IPL and Dayton Power & Light, two (2)
21 utilities with peak loads around 3,000 MW.

22 Specifically, I led IPL's 2019 Integrated Resource Plan ("IRP") process, the 20-
23 year strategic vision for IPL's future demand and generation resources, leading a cross-

functional organizational effort to create the plan. At IPL, I developed and led public presentations, robust modeling and analysis, scenario design, strategic pathways, internal and external stakeholder management, and report writing. At IPL, I led efforts in utility load forecasting and analytics, integration of energy efficiency and demand side management into the power supply process, a community solar stakeholder process, and other long-term power supply studies.

II. PURPOSE & SUMMARY OF DIRECT TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying before the Louisiana Public Service Commission (“Commission” or “LPSC”) on behalf of 1803 Electric Cooperative, Inc. (“1803”), a member-owned electric cooperative consisting of five (5) member electric cooperatives (“Member Cooperatives”):

1. Beauregard Electric Cooperative, Inc.
2. Claiborne Electric Cooperative, Inc.
3. Northeast Louisiana Power Cooperative, Inc.
4. South Louisiana Electric Cooperative Association
5. Washington-St. Tammany Electric Cooperative, Inc.

The Member Cooperatives have formed 1803 to combine their power needs and to seek power supply opportunities to fulfill the power needs for the Member Cooperatives upon completion of the current full-requirements wholesale power supply contracts in 2025.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. In its Application, 1803 requests that the Commission issue a decision, supported by the evidence, that 1803’s RFP, and resultant power supply plan in accordance with established Commission processes is compliant with applicable Commission Orders and established RFP processes, and is prudent and in the public interest.

1 ACES assisted 1803 in administering its RFP and power supply portfolio selection.
2 The Direct Testimonies of Jason M. Painter, Kevin P. Suhanic, Derek D. Waite, Eric P.
3 Lavery, Ryan M. Evans, Stephen J. Zwilling on behalf of 1803 address, in greater detail,
4 ACES' assistance to 1803 with regard to the establishment of a power supply plan, pending
5 Commission approval, for when 1803's Member Cooperatives' current full-requirements
6 wholesale power supply contracts expire in 2025.

7 My Direct Testimony addresses ACES support to 1803's Application to the
8 Commission. Specifically, in section III, as part of an overall assessment of power supply
9 resource offers, attributes, and other criteria defined by 1803's Board of Directors in 1803's
10 RFP, I discuss how ACES addressed Step 2A of the bid evaluation process, which included
11 capacity expansion modeling and portfolio development.

12 **III. REVIEW OF BID EVALUATION PROCESS**

13
14 Q. PLEASE DESCRIBE THE BID EVALUATION PROCESS.

15 A. The Direct Testimony of Kevin P. Suhanic describes in detail the bid evaluation process.
16 Step 2A of the bid evaluation involved model-driven capacity expansion project selection.
17 Projects shortlisted in Phase I of the RFP process were entered in the model to be
18 considered as a resource selection.

19 Q. PLEASE DESCRIBE THE SOFTWARE USED IN STEP 2A.

20 A. The modeling in Step 2A was conducted in EnCompass, a long-term planning and capacity
21 expansion software developed and maintained by Anchor Power Solutions, LLC.

EnCompass is used by utilities across the country for IRP and long-term power supply studies, including Duke Energy¹, Xcel Energy², and DTE³ in MISO.

Q. PLEASE DESCRIBE THE MOST SIGNIFICANT ASSUMPTIONS NEEDED FOR CAPACITY EXPANSION MODELING IN ENCOMPASS.

A. The key assumptions included in this Step of the modeling process were as follows:

- Load Forecast: Monthly Peak Load (MW), Monthly Energy (MWh), and Hourly Load Shape (MW)
- Existing Resource (SWPA hydro): Installed Capacity (MW), Firm Capacity Contribution, and Production Profile
- Reserve Margin Target (%)
- Forward Curves for Power, Gas, Capacity)
- Bid Details for Phase 2 Shortlisted Projects that included capacity:
 - Installed Capacity (MW)
 - Firm Capacity Contribution (%)
 - Fixed Cost (\$/kW-year)
 - Variable Cost (\$/MWh)
 - For Thermal Resources:
 - Heat Rate (Btu/kWh)
 - Emission Constraints
 - Fuel Delivery Costs
 - Fuel Delivery Point
 - For Renewable Resources:
 - Hourly production profile capacity factor

Q. WERE ALL BIDS ADVANCED TO PHASE 2 INCLUDED IN THE STEP 2A CAPACITY EXPANSION MODEL RUNS?

A. No. The full requirement bids were stand-alone portfolios and not included as those bids were evaluated directly in the ABB Planning & Risk model as part of Step 2B. Energy-

¹ <https://anchor-power.com/news/duke-energy-implemented-encompass-software/> (last accessed on 2/28/21).

² <https://anchor-power.com/news/minnesota-plans-for-its-energy-future-with-encompass/> (last accessed on 2/28/21).

³ <https://anchor-power.com/news/dte-electric-company-selects-encompass-software/> (last accessed on 2/28/21).

1 only bids were not included, as the goal of Step 2A was to establish resource planning
2 objectives and model portfolios that met firm capacity requirements through 2044.

3 Q. DID THE PHASE 2A MODELING IN ENCOMPASS CONTAIN THE FINAL
4 PORTFOLIO OF CONTRACTED PROJECTS AND PPA CONTRACTS?

5 No. Phase 2A, similar to an IRP process, is done at a point in time. While major changes
6 to project or bid availability and pricing were incorporated, the Phase 2A process was not
7 continuously updated throughout the process. The Phase 2A modeling was designed to
8 establish basic portfolio concepts, vetted in an industry-standard capacity expansion
9 software.

10 Q. WHAT WAS THE MODELED TARGET RESERVE MARGIN FOR THE
11 PORTFOLIOS IN ENCOMPASS?

12 A. The target reserve margin was based on the MISO 2020/2021 Loss of Load Expectation
13 Study Results, which was the best available information at the time of the Step 2A
14 modeling process. The Planning Reserve Margin ("PRM") Unforced Capacity ("UCAP")
15 parameter for the MISO 2020/2021 Planning Year was 8.9%.

16 Q. PLEASE DEFINE ICAP AND UCAP AND RELEVANCE TO THE STEP 2A PROCESS.

17 A. ICAP, or Installed Capacity, is related to the maximum capacity rating of the unit. UCAP,
18 or Unforced Capacity, is the dependable capacity that can contribute to a market
19 participant's firm capacity in MISO.

20 The ICAP values for each resource in the model determine the net MW sold to the
21 market as seen by MISO in the Day-Ahead and Real-Time market. The UCAP value in the
22 model, entered as a firm capacity percentage, determines what percent of the ICAP can be
23 counted toward the reserve margin target.

1 Q. WHAT ARE THE KEY DIFFERENCES BETWEEN THE ABB PLANNING & RISK
2 (PaR) MODEL AND ENCOMPASS IN THE CONTEXT OF THE RFP BID
3 EVALUATION PROCESS?

4 A. The primary difference is that model runs in EnCompass were performed deterministically,
5 meaning a single set of load, power prices, and natural gas prices were used. Both models
6 utilized the same base curves, including hourly load and power prices shapes.

7 The PaR model runs were conducted primarily in a stochastic function, meaning
8 that a Monte Carlo simulation process generated a range of power, gas, and load values
9 subject to constraints.

10 Q. PLEASE DESCRIBE THE REFERENCE CASE MODEL RESULTS.

11 A. The Reference Case scenario established a portfolio created with base case commodity
12 curves, load forecast, and the flexibility of the model to select any relevant project. The
13 Reference Case resource selection for 2025 is portrayed in Figure 1, as follows:

14 (Remainder of Page Intentionally Left Blank)

Figure 1: Reference Case resource selection for 2025

New Capacity Resources	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034

Q. PLEASE DESCRIBE THE ROLE OF CAPACITY MARKET PURCHASES IN THIS PORTFOLIO.

A. Capacity market purchases are a placeholder for the expected cost of bilateral market capacity. The market purchases are merely a placeholder, as 1803 would issue subsequent RFPs to fill that capacity need through time.

Q. PLEASE DESCRIBE ANY ALTERNATIVE PORTFOLIOS CREATED IN ADDITION TO THE REFERENCE CASE.

A. In addition to the Reference Case portfolio, ACES added three (3) additional portfolios where some resource decisions were prescribed or constrained:

(1) Combustion Turbine (“CT”) Portfolio: Since the combined cycle gas turbine (“CCGT”) was selected in the Reference Case, a portfolio was created that selected the gas CT instead of the CCGT.

(2) CCGT and CT Portfolio: This portfolio was created to model the impact of a decision to proceed with both gas projects and effectively cover most firm capacity needs through 2044 with just these two projects.

(3) No Gas Portfolio: In light of a growing push for decarbonization throughout the industry, ACES included a portfolio that does not allow either gas project to be selected, relying instead on solar, battery storage, and capacity market purchases to fill energy and capacity needs through 2044.

Q. WHAT METRICS WERE USED TO COMPARE THESE PORTFOLIOS?

A. A multi-criteria approach was used to compare the portfolios. Cost metrics include Present Value Revenue Requirement (PVRR), average rate (\$/MWh), and fixed cost concentration (%). Risk metrics include energy hedge percentage (%), capacity hedge percentage (%), natural gas cost exposure (%), and spot market energy exposure (%).

Environmental metrics include percent of renewable energy serving load (%) and carbon emissions (tons). Portfolios were ranked sequentially within each category, and a straight average across all metrics was included. Figure 2 below contains a summary of the key metrics for the four (4) portfolios.

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Figure 2: Environmental Metrics

Metric	Reference Case	Rank	CT Portfolio	Rank	CCGT and CT Portfolio	Rank	No Gas Portfolio	Rank

Q. WERE ANY OTHER RUNS CONDUCTED TO ACCOUNT FOR UNCERTAINTY IN YEARS BEYOND 2030 WHEN THE FIVE YEAR CONTRACTS EXPIRE?

A. Yes. Similar to an IRP process, ACES modeled a set of generic new resources that the model was able to select starting in 2030. Costs and operational parameters for generic new solar, battery storage, gas CT, and gas CCGT projects were added as selectable resource options in the model.

The resulting portfolio included the Reference Case projects with new resources in 2030 through 2044.

Q. HOW DID ACES CREATE ASSUMPTIONS FOR GENERIC NEW RESOURCES?

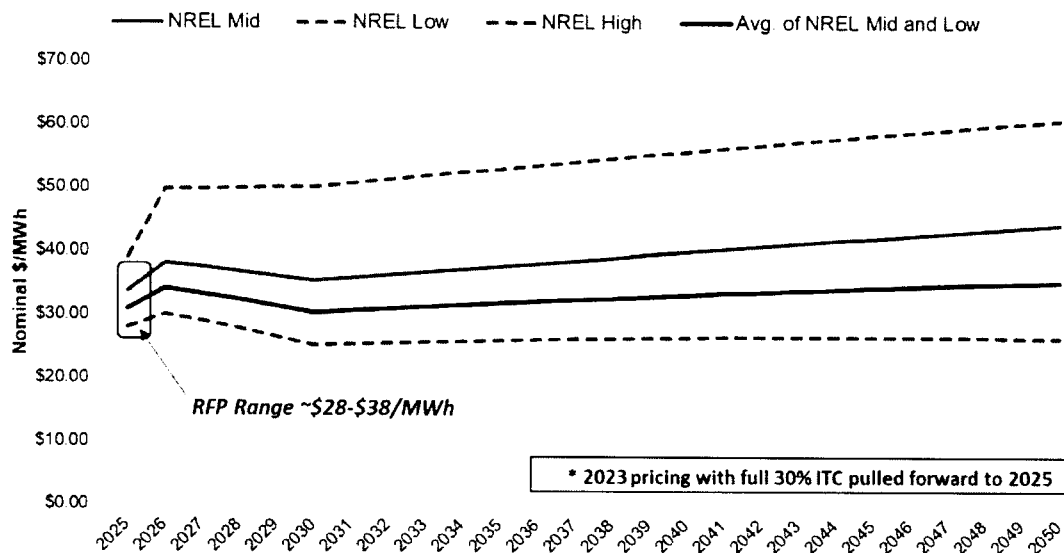
A. ACES used a set of long-term cost assumptions from the National Renewable Energy Laboratory ("NREL"). NREL publishes the Annual Technology Baseline ("ATB")⁴ annually, and this publicly available data set contains cost and operational parameters for generic new utility-scale, supply-side resources.

While some regional differentiation is provided as part of the ATB, the majority of costs are primarily a national average number. ACES benchmarked the start of the curves to bids received in the RFP to ensure that local and regional cost adjustments specific to Louisiana were considered in the costs.

For solar and storage, an average of the NREL Mid and Low cases was used as the base cost curve. Figures 3-6 illustrate the NREL ATB cost curves and indicative range of costs received in the RFP by resource type.

Figure 3: NREL ATB Solar LCOE

Solar LCOE* (Nominal \$/MWh)



⁴ <https://atb.nrel.gov/> (last accessed on 3/12/21).

Figure 4: NREL ATB 4-Hour Battery Storage Cost Curves

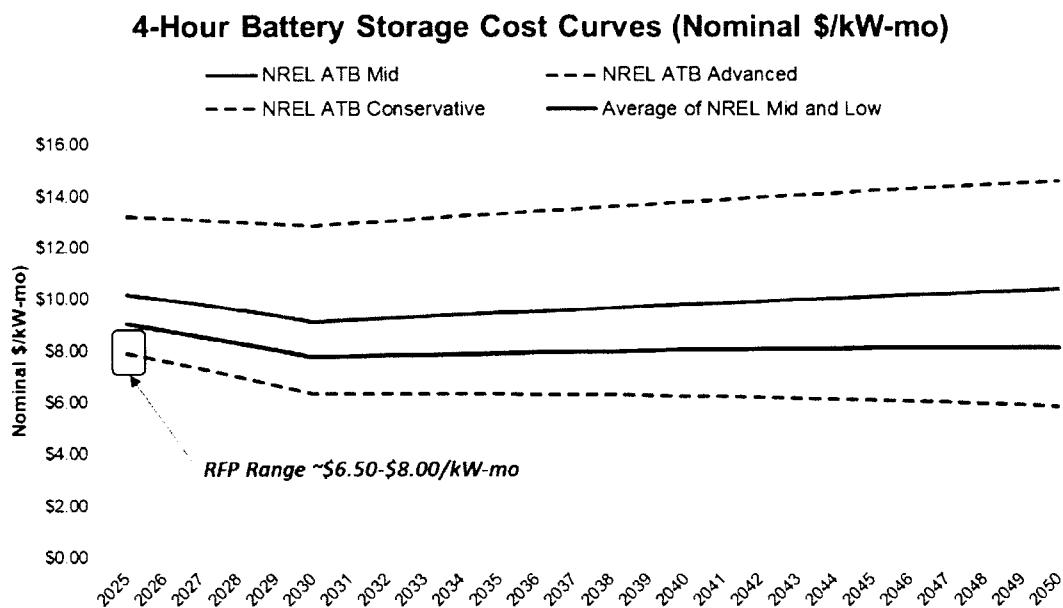
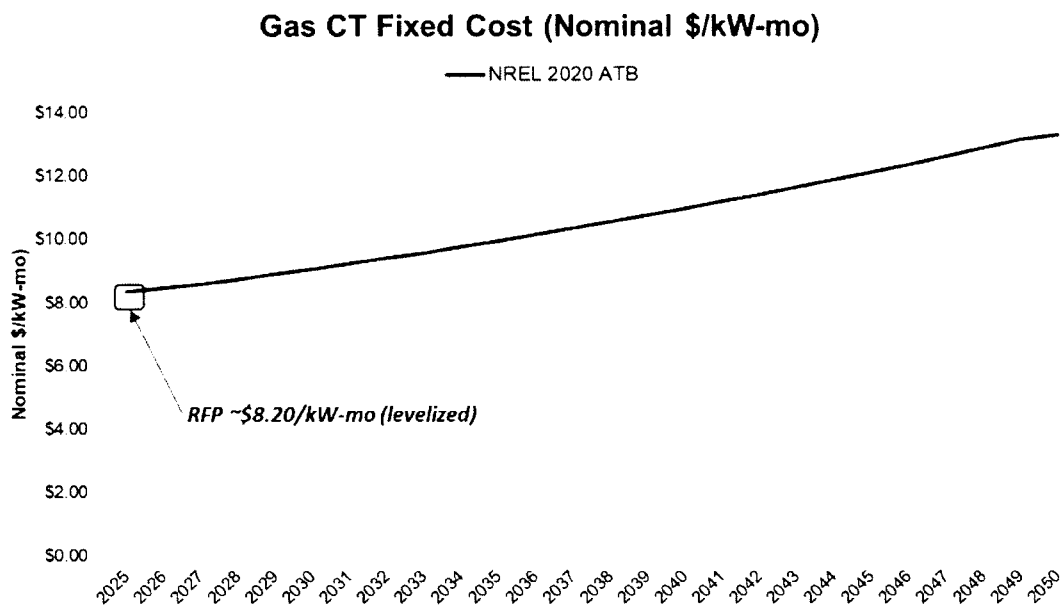
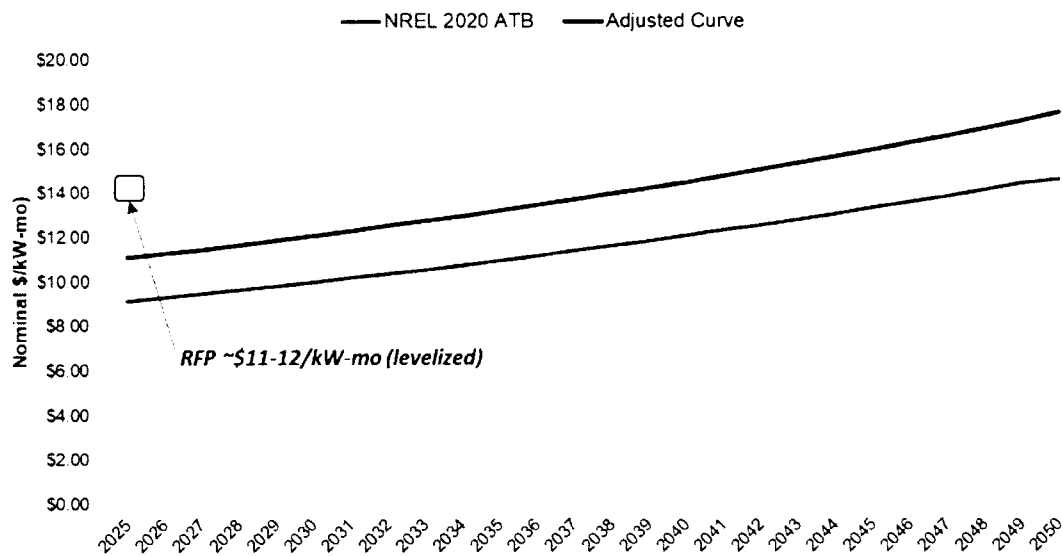


Figure 5: NREL ATB Gas CT Fixed Cost



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Figure 6: NREL ATB Gas CCGT Fixed Cost
Gas CCGT Fixed Cost (Nominal \$/kW-mo)



Q. HOW DOES THIS 2030 PORTFOLIO COMPARE TO THE REFERENCE CASE?

A. The PVRR of the portfolio with generic resource additions in 2030 is lower than the Reference Case.

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Figure 7: 1803 Portfolio PVRR

Metric	Reference Case	Reference With Generic Resources 2030+

Q. WILL 1803 HAVE FUTURE OPPORTUNITIES TO UPDATE GENERIC RESOURCE ADDITIONS?

A. Yes. 1803 intends to develop a full IRP and long-term power supply plan upon Commission approval per the Direct Testimony of Mr. Charles A. Hill, 1803's President. This future IRP will include an update of generic cost assumptions, changes to state and federal energy policy, market rule changes, and technology advancements.

IV. CONCLUSION

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

BEFORE THE
LOUISIANA PUBLIC SERVICE COMMISSION

APPLICATION OF 1803 ELECTRIC)
COOPERATIVE, INC. FOR APPROVAL)
OF POWER PURCHASE AGREEMENTS) DOCKET NO. _____
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AFFIDAVIT OF WITNESS

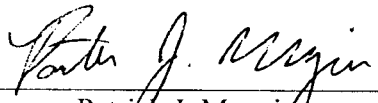
I, Patrick J. Maguire, being duly sworn, depose

that the Direct Testimony in the


above referenced matter on behalf of

1803 Electric Cooperative, Inc.

are true and correct to the best of my knowledge, information and belief.


Patrick J. Maguire

Subscribed and sworn before
me this 15th day of
March, 2021.



Notary Public

Name of Notary and Notary/Bar Roll No.:

