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SOAH DOCKET NO. 473-25-05084
PUC DOCKET NO. 57149

APPLICATION OF EL PASO ELECTRIC COMPANY FOR AUTHORITY TO RECONCILE FUEL COSTS	§ § § § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

EL PASO ELECTRIC COMPANY'S RESPONSE TO TEXAS INDUSTRIAL ENERGY CONSUMERS SECOND REQUESTS FOR INFORMATION QUESTION NOS. TIEC 2-1 THROUGH TIEC 2-4

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FEBRUARY 17, 2025

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EL PASO ELECTRIC COMPANY'S RESPONSE TO
TEXAS INDUSTRIAL ENERGY CONSUMERS
SECOND REQUESTS FOR INFORMATION
QUESTION NOS. TIEC 2-1 THROUGH TIEC 2-4

TIEC 2-1:

Referring to EPE's Response to TIEC 1-6, please provide a CDR table showing EPE's resources, broken out individually, for calendar years 2023 and 2024.

RESPONSE:

Please refer to TIEC 2-1 Attachment 1.

Preparer: Ronda R. Griffin Title: Principal Analyst - Market Development and Resource Strategy

Sponsor: Victor Martinez Title: Director – Energy Resources

System Resources		2023	2024
Generation Resources	L&R Summary		
Rio Grande 6	1.1 RIO GRANDE		
Rio Grande 7	1.1 RIO GRANDE		
Rio Grande 8	1.1 RIO GRANDE	124	124
Rio Grande 9	1.1 RIO GRANDE	78	78
Newman 1	1.2 NEWMAN		
Newman 2	1.2 NEWMAN	52	52
Newman 3	1.2 NEWMAN	84	84
Newman 4	1.2 NEWMAN	191	191
Newman 5	1.2 NEWMAN	207	207
Newman 6	1.2 NEWMAN	210	210
Copper	1.3 COPPER	59	59
Montana 1	1.4 MONTANA	83	83
Montana 2	1.4 MONTANA	83	83
Montana 3	1.4 MONTANA	83	83
Montana 4	1.4 MONTANA	83	83
Palo Verde 1	1.5 PALO VERDE	195	195
Palo Verde 2	1.5 PALO VERDE	196	196
Palo Verde 3	1.5 PALO VERDE	151	151
Holloman - Solar	1.6 RENEWABLE SOLAR (EPE OWNED)	2	2
Texas Community Solar	1.6 RENEWABLE SOLAR (EPE OWNED)	1	1
NMSU Solar	1.6 RENEWABLE SOLAR (EPE OWNED)	1	1
NMSU Battery	1.7 BATTERY (EPE OWNED)	1	1
Other			
Smart Thermostats	1.8 DEMAND RESPONSE AND SMART THERMOSTATS	54	54
Resource Purchases			
Hatch - Solar (5 MW)	2.1 RENEWABLE PPAs - EXISTING	2	2
SunE1 Chaparral - Solar (10 MW)	2.1 RENEWABLE PPAs - EXISTING	4	4
SunE2 Airport - Solar (12 MW)	2.1 RENEWABLE PPAs - EXISTING	5	5
Roadrunner - Solar (20 MW)	2.1 RENEWABLE PPAs - EXISTING	9	9
Macho Springs - Solar (50 MW)	2.1 RENEWABLE PPAs - EXISTING	21	21
Newman - Solar (10 MW)	2.1 RENEWABLE PPAs - EXISTING	4	4
BV1 Sol - Solar/Battery (100/50 MW) 2023	2.1 RENEWABLE PPAs - EXISTING	43	43
BV1 Batt - Battery (50 MW) 2023	2.2 BATTERY PPAs - EXISTING	50	50
BV2 Sol - Solar (20 MW) 2023	2.1 RENEWABLE PPAs - EXISTING	9	9
TOTAL RESOURCES		**2,083**	**2,083**

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TIEC 2-2:

Referring to the Direct Testimony of Julissa I. Reza, Exhibit JIR-07, please provide workpapers showing EPE's calculation of the monthly imputed capacity values for:

a. The Newman Solar PPA (shown in cells C12-C35 of tab "Pg 2 Imputed Capacity").

b. The Macho Springs Solar PPA (shown in cells D12-D35 of tab "Pg 2 Imputed Capacity").

c. The Buena Vista Solar PPA (shown in cells E27-E35 of tab "Pg 2 Imputed Capacity").

RESPONSE:

a. For the Newman Solar PPA, there is no workpaper that specifically shows that calculation. However, the calculation is done by multiplying the dollar per kilowatt month agreed to and adopted by the Commission in Docket 46831 ($2.33/kW-Month) by capacity of the solar facility (10 MW).

b. For the Macho Springs Solar PPA, there is no workpaper that specifically shows that calculation. However, the calculation is done by multiplying the dollar per kilowatt month agreed to and adopted by the Commission in Docket 46831 ($2.35/kW-Month) by capacity of the solar facility (50 MW).

c. See TIEC 2-2 Attachment 1.

Preparer:	Alejandra Guevara	Title:	Supervisor – Energy Accounting
Sponsor:	Julissa I. Reza Victor Martinez	Title:	Manager – Regulatory Accounting Director – Energy Resources

EL PASO ELECTRIC COMPANY
IMPUTED CAPACITY COST-BUENA VISTA 1
2023

SOAH Docket No. 473-25-05084
PUC Docket No. 57149
TIEC's 2nd, Q. No. TIEC 2-2
Attachment 1

Imputed Capacity Calculation

EPE's Buena Vista 1 Solar annual expected effective load carrying capability (ELCC) is **54%**
WSPP max contract demand charge rate (Section A-3.7, B-3.6, C-3.6) **$7.320** /KW-Month
GE report - intermittent resource require ancillary services and should be deducted from imputed capacity
EPE's OATT

Sched 3 (Regulation)	$3.10	0.87%	of rated capacity
Sched 5 (Operating Reserves)		3.50%	
Sched 6 (Supple Reserves)		3.50%	
EPE Ancillary Services	$3.10	7.87%	**$0.244** /KW-Month

WSPP MINUS EPE ANCILLARY --- NET **$7.076** /KW-Month at 100% CF

54% Est Annual ELCC for Solar

3.820 /KW-Month

Total Company 100%

Buena Vista 1, KW 100,000

Estimate
Buena Vista 1 Demand Charge, $/Month **$382,000**

Annual charge **$4,584,000**

Imputed Capacity Calculation

EPE's Buena Vista 1 Solar annual expected effective load carrying capability (ELCC) is **49%**
WSPP max contract demand charge rate (Section A-3.7, B-3.6, C-3.6) **$7.320** /KW-Month
GE report - intermittent resource require ancillary services and should be deducted from imputed capacity
EPE's OATT

Sched 3 (Regulation)	$3.10	0.87%	of rated capacity
Sched 5 (Operating Reserves)		3.50%	
Sched 6 (Supple Reserves)		3.50%	
EPE Ancillary Services	$3.10	7.87%	**$0.244** /KW-Month

WSPP MINUS EPE ANCILLARY --- NET **$7.076** /KW-Month at 100% CF

49% Est Annual ELCC for Solar

3.470 /KW-Month

Total Company 100%

Buena Vista 1, KW 100,000

Estimate
Buena Vista 1 Demand Charge, $/Month **$347,000**

Annual charge **$4,164,000**

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TIEC 2-3:

Please provide EPE's economic evaluation of the 2017 All-Source RFP, including supporting workpapers and any related presentations.

RESPONSE:

Please refer to TIEC 2-3 Attachments 1 through 32 HSPM.

Preparer: Ronda R. Griffin Title: Principal Analyst - Market Development and Resource Strategy

Sponsor: Victor Martinez Title: Director – Energy Resources

PUBLIC

TIEC 2-3 Attachments 1 through 32 are CONFIDENTIAL and/or HIGHLY SENSITIVE PROTECTED MATERIALS attachment.

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TIEC 2-4:

Please provide the Independent Monitor's report for the 2017 All-Source RFP.

RESPONSE:

Please see TIEC 2-4 Attachment 1.

Preparer:	Ronda Richards Griffin	Title:	Principal Analyst–Market Development and Resource Strategy
Sponsor:	Victor Martinez	Title:	Director–Energy Resources

El Paso Electric Company

2017 All Source Request for Proposals for Electric Power Supply And Load Management Resources

Final Report of the Independent Evaluator

November 1, 2019

Prepared by
Merrimack Energy Group, Inc.

Table of Contents

I. Introduction

El Paso Electric Company (or "EPE") retained Merrimack Energy Group, Inc. ("Merrimack Energy") to serve as the Independent Evaluator ("IE") for El Paso Electric's 2017 All Source Request for Proposals for Electric Power Supply and Load Management Resources ("2017 All Source RFP", "All Source RFP" or "RFP"). Merrimack Energy's role as Independent Evaluator began at the time of development of the RFP and continued through the selection of the preferred resource(s).

El Paso Electric Company issued its All Source RFP for Electric Power Supply and Load Management Resources on June 30, 2017, with the objective of selecting additional long-term, cost effective and reliable electric resources that would commence operations by EPE's 2022 – 2023 summer peak season. Through its initial resource planning studies, EPE determined that it required approximately 50 MW by 2022 and 320 MW by 2023, for a total of 370 MW of additional resources to serve summer peak (May – September, 1:00 PM – 6:00 PM MST) to (1) meet increasing load requirements on the EPE system, and (2) replace loss of capacity due to local unit retirements.

EPE indicated it would consider proposals from entities ("Bidders") that would include Power Purchase Agreements ("PPA") for the sale of capacity and/or energy; proposals for EPE purchase of or equity participation in the Bidder's new or existing generation facility; and load management programs implemented by the Bidder, including distributed generation ("DG"). EPE stated that it would also submit self-build options in response to the RFP.

EPE's preference through the All Source RFP was for firm resources which could provide high availability, guaranteed generation output during peak hours in the months of May through September as well as guarantee a minimum annual generation output. EPE would consider acquiring a single resource or a combination of supply-side and/or demand-side resources.

EPE proposed to use a two-stage pricing process to evaluate proposals as described in the RFP. EPE would evaluate the initial proposals received in response to the RFP, select a shortlist, and then request and evaluate Best and Final offers from the shortlisted Bidders.

The Statement of Work of Merrimack Energy as the Independent Evaluator was contained in the Consulting Services Agreement entered into between EPE and Merrimack Energy. The Statement of Work was consistent with other competitive bidding assignments Merrimack Energy had undertaken in which Merrimack Energy had served as the IE. The Statement of Work and requirements of the IE were not mandated in any formal bidding rules in Texas or New Mexico.

The overriding responsibility of the IE was to ensure that the competitive bidding process was fair, transparent and unbiased with the objective of providing the best deal or outcome for EPE's customers. In addition, since there was expected to be a self-build option, one of the roles of the IE was to ensure that the self-build options did not have

any undue preferential treatment. The Statement of Work identified the following high-level requirements for the Independent Evaluator. More specific and detailed information on the activities of the IE is contained in Section III of this report.

- Review and track the utility's implementation of the competitive bidding process from design of the RFP through contract negotiations[1];
- Maintain a review and oversight function over the RFP process, including RFP draft review, proposal review, evaluation of proposals and communications with Bidders;
- Report any problems or concerns with the bidding process to the Company for purposes of resolving any issues;
- Reviewed and commented on the Company's procedures and policies to ensure that the self-build or affiliate option did not have or appear to have any undue or preferential treatment and to ensure the process was fair and transparent;
- Submit a final report which includes any recommendations for improving the process.

This final Report meets the requirements listed above and addresses the activities associated with the solicitation process from the development of the RFP to selection of the winning bid(s).

II. El Paso Electric's Competitive Bidding Process

Background

EPE issued its 2017 All Source Request for Proposal for Electric Power Supply and Load Management Resources on June 30, 2017. As noted, the purpose of the RFP was to obtain additional long-term, cost effective and reliable electric resources that would commence operations by EPE's 2022-2023 summer peak season. EPE has previously used a competitive procurement process based on a Request For Proposals for soliciting and selecting resources since 2003.[2]

[1] Merrimack Energy has not participated in the contract negotiation process for any of the El Paso Electric solicitations on which Merrimack Energy has served as IE. Merrimack Energy's role as IE involved actively tracking the solicitation process from RFP design through final project selection. A description of Merrimack Energy's role and involvement in the solicitation process is described in this report.
[2] EPE issued RFPs in 2003, 2006, 2008 and 2011 for electric power supply and load management resources.

Summary of the Components of the All Source RFP

The All Source RFP clearly identifies the requirements of El Paso Electric regarding the types of products requested, the term of the proposal for each resource option, the amount of power (MW) requested, the timing of need, price and non-price factors, a description of El Paso Electric's existing system including existing generation resources and demand/supply balance, a description of the role of transmission costs and access, and information which bidders need to incorporate into their proposals. As background, a brief summary of the key components and provisions of the RFP is included in Table 1.

Table 1: Summary of RFP Requirements

RFP Characteristics	All Source RFP
Resource Requirements	EPE requires approximately 50 MW by 2022 and 320 MW by 2023 for a total of 370 MW of additional resources for summer peak (May – September, 1:00 PM – 6:00 PM MST) to (i) meet increasing load requirements on the EPE system, and (ii) replace loss of capacity due to local unit retirements. EPE's preference is firm resources which can provide high availability, guaranteed generation output during peak hours in the months of May through September as well as guarantee a minimum annual generation output. EPE would consider proposals under 370 MW in combination with other viable proposals submitted which would aggregate to the 370 MW capacity need and provide the optimal resource mix. EPE makes no representation regarding the level of dispatch and energy requirements from supply-side and demand-side resources proposed in response to the RFP.
Objectives of RFP	Proposals received from Bidders in response to this RFP would be used to aid EPE in its efforts to provide continued reliable and adequate electric service to customers at the lowest reasonable cost and in an environmentally acceptable manner. EPE will determine the alternatives that best meet its objectives, and may initiate contract negotiations with Bidders as appropriate.
Resource Timing – On-line date	Pursuant to the RFP, EPE solicited proposals with commercial operation dates ("COD") no earlier than May 1, 2022, but no later than May 1, 2023. EPE may negotiate a COD of any awarded project to be at specified dates within that range dependent on the size of the project versus 2022 and 2023 resource needs. However, if Bidder's projects are viable with shorter

	timelines for COD prior to May 1, 2022, EPE is interested in Bidders submitting secondary alternative proposals for earlier COD dates with respective timelines and pricing proposal. EPE, at its sole discretion, will determine if it will act upon any proposals with a COD prior to May 1, 2022.
Eligibility	The following eligibility requirements are listed in the RFP: • All Bidders must complete and return Attachment 9.2. Failure to complete and return all required forms and attachments may result in disqualification of the Bidder's proposal; • EPE required bidders to have and provide evidence to EPE of a feasible site selected and at a minimum have a Letter of Intent for site control with land owners and other stakeholders. For sites on federal land such as Bureau of Land Management, alternate documentation may be considered; • All capacity and energy that EPE may purchase pursuant to this RFP must be delivered to the EPE transmission system to ultimately serve EPE's load center. Future generation resources in the general vicinity of EPE's Balancing Authority Area were preferred; • The Bidder must clearly define dispatch capabilities for the power resource proposed; • All supply-side resources would be required to establish real-time communications with EPE's Energy Management System in order to provide status information and also be able to receive control signals; • Proposals for power purchase agreements must be for a term of at least 20 years; • EPE shall have first dispatch rights to the energy. AGC for EPE control of dispatch levels is desired if an existing or proposed generation resource is the source of capacity and energy supply; • The RFP also identified specific requirements for each resource type. Bidders must hold their proposal open and valid for a period of 360 days following submittal; • Additionally, a short-listed Bidder must hold its Best and Final proposal open for a period of 360 days following the submittal of its Best and

	Final Proposal to allow for contract negotiations and initial filings for regulatory approval; • For Combustion Turbine ("CT") proposals, EPE would accept proposals for single CTs with approximate capacities between 80 to 200 MW or a combination of CTs up to the 370 MW amount. The conventional generation facility must have the ability for daily on-off cycling. Generators must be dual fuel ready; • For intermittent renewable resources, projects should be a minimum of 5 MW. If proposals are for facilities with a nameplate capacity greater than 50 MW, Bidders should provide proposals in 50 MW increments; • For non-intermittent renewable resources, the proposal should identify and quantify fuel resource availability and ability to secure fuel resources for the life of the project. Any dispatchability or output limitations should be clearly described; • For energy storage options, energy storage proposals submitted for the purposes of serving during peak load or for load shifting should provide a minimum of 15 MW for 4 hours of output and capable of daily discharge and charge cycles. If the proposal is also capable of providing regulating and system support, Bidders should provide operating capabilities and specifications; • For load management resources, the proposals should be for a minimum of 10 MW with in-service date no later than May 2023. The preferred minimum contract term is five years. The Bidder shall also provide a complete description of the program proposed.
Requirements Specific to Resource Types	The following requirements are listed in Section 5.0 of the RFP and are applicable to specific resource types: • For all conventional generation, EPE is interested in intermediate generation with the ability for daily on-off cycling. A gas one-on-one combined cycle (or "CC") or large simple CT are conducive to the requirement. Reciprocating engines may also be considered. EPE places value on proposals with a technology (i.e. the specific turbine being

	proposed) that has attained 10,000 hours of operation in the industry and is no longer deemed prototype technology. All conventional units should be dispatchable and capable of direct monitoring and AGC control by EPE's Energy Management System; • For CT proposals, EPE requires the project to have an automatic by-pass damper system to allow for the operating flexibility of running a unit in simple-cycle mode. The automatic by-pass damper system is a mandatory requirement. The proposed CC configuration and design should be such that emissions and environmental permitting be attainable in both simple cycle and combined cycle mode to offer dispatch flexibility. EPE is requesting proposals for CC units to provide an alternative proposal with the combustion turbine and steam generator commissioned with a two-year lag, with a CT COD target of 2023 and the steam generator in 2025. EPE may opt to award solely the first phase of the CT. • For Combustion Turbine proposals, EPC would accept proposals for single CTs with approximate capacities between 80 to 200 MW or a combination of CTs up to the 370 MW amount. The conventional generation facility must have the ability for daily on-off cycling. Generators must be dual fuel ready; • For all renewable resources, EPE prefers the ability to dispatch/curtail the renewable energy power on an hourly basis. The bidder shall provide a predictable, specific methodology for capacity and/or energy pricing on an annual basis. Intermittent renewable resources may only propose capacity pricing if it includes energy storage or some other method to firm output. All RECs associated with renewable energy proposals must transfer to EPE at no additional cost; • For non-intermittent renewable resource proposals such a geothermal, biogas, or biomass, bidders should identify and quantify fuel resource availability and ability to secure fuel resources for the life of the project. Any dispatchability or output limitations should be

	clearly described, including yearly total output expectations and commitments; • For intermittent renewable resources, projects should be a minimum of 5 MW. If proposals are for facilities with a nameplate capacity greater than 50 MW, Bidders should provide proposals in 50 MW increments; • For non-intermittent renewable resources, the proposal should identify and quantify fuel resource availability and ability to secure fuel resources for the life of the project. Any dispatchability or output limitations should be clearly described; • For energy storage options, energy storage proposals submitted for the purposes of serving during peak load or for load shifting should provide a minimum of 15 MW for 4 hours of output and capable of daily discharge and charge cycles. If the proposal is also capable of providing regulating and system support, Bidders should provide operating capabilities and specifications; • For load management resources, the proposals should be for a minimum of 10 MW with in-service date no later than May 2023. The preferred minimum contract term is five years. The Bidder shall also provide a complete description of the program proposed.
Resource Alternatives/Product Requirements/Commercial Transactions	Proposals considered from entities responding to this RFP may include: (1) power purchase agreements ("PPA") for sale of capacity and/or energy; (2) Build-Transfer Agreement for EPE to purchase proposed generation resources for solar, energy storage, and conventional generation options; (3) Tolling power purchase agreement for conventional gas-fired thermal generation; (4) proposals for EPE purchase or equity participation in the Bidder's new or existing generating facility; and (5) agreements for load management programs to supply energy efficiency or demand response programs, including distributed generation ("DG").
Bidding Process	EPE proposes a multi-stage bidding process that included the following steps: • Threshold evaluation

	• Economic evaluation • Non-Economic evaluation • Environmental evaluation • Selection of Proposals and Discussions with Bidders – short list and best and final proposal • Contract negotiations EPE will evaluate proposals to determine which, if any, have the potential to provide the most economical, reliable, and viable alternatives for EPE's customers.
Utility Self-Build Options	EPE stated in the RFP that it would also submit a self-bid option in response to the RFP.
Threshold Evaluation	EPE initially reviews each proposal to determine whether it satisfies the threshold criteria of: (1) responsiveness, (2) technical viability, and (3) Bidder financial ability and capability. The responsiveness review would ensure that the proposal is complete, follows the guidelines set forth in the RFP, and includes all information required for a more thorough review. The technical viability review would determine whether the proposal meets EPE's requirements in a reliable manner and within the timeframe stated in the RFP. The Bidder financial ability and capability review would judge whether the bidder has adequate financial capability and adequate competence, resources, and skills to perform its proposal.
Price Evaluation Process	EPE proposed to use a two-stage pricing process to evaluate those proposals that have satisfied the threshold evaluation of responsiveness and viability. The two-stage pricing process consisted of the evaluation of (1) initial bids that have met the requirements of the responsiveness and viability reviews which would be evaluated based on a levelized cost analysis and would be grouped according to resource type. Once groups were established, EPE may select the top-ranking bids from each group to shortlist; (2) the shortlisted bids selected based on the results of the levelized cost analysis would be required to submit their Best and Final offers. The best and final offers from the shortlisted bidders would be modeled in EPE's optimization models to determine the winning bids.
Economic/Pricing Requirements	The economic analysis will incorporate the following characteristics of the proposed resource as applicable to the specific resource:

	• Net capacity offer or purchase offer and capacity costs • Energy costs, including fuel costs • Fixed and variable O&M costs • Unit Start-up costs as applicable • Variable costs impacting production cost • Transmission and/or distribution system costs • Other costs and system impacts • Potential federal regulation or carbon emission costs • Taxes and tax credits
Non-Economic Evaluation	EPE indicated it may also consider non-economic criteria not incorporated into the economic analyses in evaluating each proposal such as: • Development feasibility and completion risk • Financial and operational viability • Operating characteristics • Other factors • EPE financial impact EPE also identified a number of criteria within each of the high-level non-price categories identified above. These criteria are listed in the RFP.
Resource Selection	The RFP states that EPE reserved the right to enter into an agreement at any time with a Bidder who, in the opinion of EPE, would provide the greatest value to EPE and its customers. EPE also reserved the right to pursue contracts with other than the lowest price Bidder or with other than the Bidder evidencing the greatest technical ability, if EPE, in its sole discretion, determined that to do so would result in the greatest value to EPE and its customers. EPE reserved the right to enter into discussions with multiple bidders at any time in order to determine and pursue what EPE believes is in the best interest of EPE and its customers.
Transmission Requirements	All capacity and energy that EPE may purchase pursuant to this RFP must be delivered to the EPE transmission system to ultimately serve EPE's load center. Given the amount of planned retirements at EPE's Newman Power Station, future generation resources in the general vicinity of EPE's Balancing Authority Area are preferred. However, EPE is open to all proposals which demonstrate the ability to deliver energy to EPE's load area, whether the proposal contemplates a long-term PPA or a facility build/transfer of ownership structure. If the Bidder's

	project will not be directly interconnected to the EPE transmission system, the proposal must be accompanied by a demonstration that the Bidder has [or will] secure firm transmission capacity on third-party systems, from the location of the resource to the EPE transmission system. The Bidder should identify in its proposal the total cost to have its resource delivered to the boundary of EPE's transmission system and include interconnection costs. If the Facility will be interconnected outside the EPE transmission system, Bidders should provide details about proposed options for delivering the power to the EPE system and the status of any arrangements. The discussion should include information regarding electrical interconnection, transmission, electrical losses, scheduling arrangements, and associated payments, required to deliver the power and energy to EPE's transmission system. After EPE identified the shortlist, comprised of the most economic and reliable resource from each resource type group, based upon each resource's total cost delivered to the boundary of EPE's transmission system, EPE would then evaluate the resources on the shortlist and estimate any necessary network upgrade costs to have the resource delivered to EPE's native and network load customers and estimate the proposals total cost inclusive of network upgrades. EPE will re-assess the shortlist and notify identified shortlisted proposals for continuation in the process. Awarded projects will be required to secure Network Resource Interconnection Service as identified in the EPE Large Generator Interconnection Procedures and sign a Generator Interconnection Agreement as specified in EPE's OATT.
Schedule	EPE included a schedule for the solicitation in the RFP that spans approximately 12 months. The schedule calls for RFP issuance on June 30, 2017, Notice of Intent to Bid on August 4, 2017, receipt of proposals on October 4, 2017, short list notification on March 7, 2018, Best and Final proposals due on April 4, 2018 and a tentative date for execution of any contracts by July, 2018.
Bid Fees	A $2,500 non-refundable filing fee must be submitted with each proposal. The filing fee will apply to a

	Bidder's proposal with up to four alternative options. Any additional options from the Bidder will incur an additional fee of $500 per option.
Information Required of Bidders	The RFP contains in Attachment 9.2 a list of all the information required from bidders with regard to submission of their proposals. Section 6 of the RFP also identifies the outline of the proposal by topic area to ensure the format is consistent for all proposals.

Bidding Documents

The RFP contained a number of Attachments which bidders were required to complete and submit with their proposals, as applicable to each proposal type. These included the following:

1. Attachment 9.1 – Notice of Intent to Bid;
2. Attachment 9.2 – Data Required For All Projects;
3. Attachment 9.3 – Additional Data for Purchased Power Agreements;
4. Attachment 9.4 – Additional Data for Equity Purchase (Full or Partial);
5. Attachment 9.5 – Additional Data for Renewable Energy or Any Intermittent Non-Dispatchable Resources;
6. Load Management Required Data;
7. Additional Data for Purchase or Equity Participation in the Bidder's New or Existing Conventional Generation Facility (e.g. Turnkey Projects).

Additionally, El Paso Electric provided Excel files on the website for the RFP which Bidders were also required to complete and submit with their proposals. These files included project specific information and pricing information which EPE could utilize to populate its evaluation models for undertaking the levelized cost of energy (or "LCOE") assessment for purposes of ranking proposals and selecting a shortlist. The Excel Files included on the website were:

- 10.1 – Conventional and Dispatchable Resources;
- 10.1.1 – Tables for Conventional and Dispatchable Resources;
- 10.2 – Renewable and Intermittent Resources;
- 10.2.1 – Tables for Renewable and Intermittent Resources;
- 10.3.1 – Load Management Resources;
- 10.4 – Energy Storage Resources.

III. Role of the Independent Evaluator

The role of the Independent Evaluator was agreed to by Merrimack Energy and EPE and was included in the Consulting Services Agreement between the parties. The general roles of the IE are defined in Section I (i.e. Introduction) of this Report. Provided below are the more specific roles and activities which the IE was involved in throughout this competitive bidding process.

Activities of the IE

1. RFP Development and Implementation

- Reviewed and commented on the draft RFP documents and supporting documentation - Merrimack Energy reviewed drafts of the RFP documents with the goal of ensuring that the process and procedures would lead to a fair and equitable solicitation, the process was reasonably transparent, the documents prepared for bidders were clear and concise, and the RFP provided adequate information on which bidders could base their proposals and did not contain any undue biases favoring one resource over another;

- Assisted EPE with the development of the evaluation process and methodology, evaluation criteria, and proposal ranking and selection process based on the IE's experience in a number of other similar competitive procurement solicitation processes;

- Participated in the Pre-Bid Meeting with prospective Bidders on July 19, 2017;

- Reviewed and commented on the Company responses to bidders' questions provided through the Company's website. Merrimack Energy also made suggestions to EPE regarding the responses to questions that should be provided to all bidders. The IE also monitored all communications with Bidders throughout the solicitation process;

- Merrimack Energy also reviewed and coordinated with EPE on the implementation of procedures for ensuring that the self-build or affiliate options do not receive any undue preferential treatment, that all proposals were evaluated consistently and fairly and to ensure the process overall was fair and transparent for all bidders;

- Merrimack Energy maintained an Advisory function in the solicitation process by identifying industry best practices to ensure the process was consistent with industry standards. This role occurred on several occasions regarding bid evaluation methodology and industry practices associated with the evaluation of energy storage options, combined assessment of renewable and storage options, capacity value for renewables among a number of issues addressed between the IE and the EPE team. The IE's role in this area was also to identify and resolve any issues as they arose that could affect the fairness and integrity of the competitive bidding process;

2. Receipt of Bids

The IE performed the following functions associated with this activity:

a. Attended the receipt, opening, logging in, and summary of proposals at EPE's offices upon submission of proposals;
b. Reviewed all the proposals received by EPE and prepared a summary of the proposals received. The IE provided its summary to EPE to ensure both parties had the same list of proposals;
c. Prepared follow-up and clarification questions for specific proposals and the self-build option and provided the questions to EPE for incorporation into a larger list of questions compiled by the EPE project team;
d. Reviewed response of bidders to follow-up questions about their proposals;
e. Participated in several conference calls with EPE staff ("project team") to discuss the interpretation of the proposals;
f. Reviewed and summarized best and final offers submitted by short-listed bidders.

3. <u>Bid Evaluation and Selection Process</u>

The IE performed the following activities during the bid evaluation phase of the process:

a. Reviewed the model inputs and outputs compiled by EPE for the bid evaluation process. Prepared questions on the evaluation methodologies and inputs and participated in several calls with EPE to discuss the evaluation methodology and evaluation results;
b. Reviewed the revenue requirements model and spreadsheet models developed by EPE to conduct the first cut price evaluation of the bids based on the levelized cost of energy ("LCOE") for purposes of selecting a short list;
c. Identified industry "best practices" or strategies used by others to address similar issues regarding bid evaluation methodologies;
d. Reviewed and discussed EPE's decision to reject or accept any bids during each step of the process;
e. Participated in several calls and meetings with EPE to discuss the evaluation results and decisions to select the short-listed resources and the preferred resources;
f. Reviewed and commented on the bid evaluation pricing results for both initial bids to select a short list and best and final offers submitted by short listed bidders;
g. Participated in reviewing information to be provided to internal management on short list selection and recommendations for final resource selection;
h. Reviewed the studies prepared by EPE and its consultant, Energy + Environmental Economics ("E3"), to assess the types of resources required by the EPE system.

IV. Description of the Competitive Bidding Process and Evaluation of Proposals

Overview

EPE's 2017 All Source Solicitation process was comprised of several phases, with a number of major activities within each phase. This section of the report will discuss each of the RFP phases and the major activities, issues and decisions which occurred in each Phase. The primary phases of most power procurement solicitation processes include the following:

1. **RFP Development Phase** - includes activities associated with the development of the RFP documents, bid evaluation process, methodology and evaluation criteria, outreach activities to inform bidders of the issuance of the RFP, and coordination of project team members. In addition, at the beginning of this phase, the self-bid team and RFP management and evaluation team are separated with regard to their functions in the process before the RFP document preparation begins. The EPE project team[3] and IE held several discussions during this phase to identify issues and tasks that needed to be addressed with regard to the implementation of the solicitation process and the timing for completing such tasks.

2. **Bid Preparation Phase** - once the RFP was issued the second phase of the solicitation process generally involves activities associated with proposal development on the part of the bidders and preparation for receipt of proposals by the utility. Activities in this phase include implementation of a Bidders Conference to describe the solicitation process and seek questions from Bidders, an extended Q&A process after the Bidders Conference to allow bidders to seek responses to questions which aid in the development of their proposals, completion and lock-down of the bid evaluation methodology and evaluation criteria, and preparation and lock-down of input assumptions that will be used to ensure a consistent evaluation of proposals.

3. **Receipt and Evaluation of Proposals** the third phase of the solicitation process begins with the receipt of proposals, and includes evaluation of proposals, selection of an initial shortlist, submission and evaluation of best and final offers and culminates with final proposal(s) selection after a thorough review of the price and other aspects of the proposals. EPE implemented a solicitation process which incorporated a two-step pricing process which includes selection of a shortlist in step 1 followed by a best and final offer process for shortlisted bidders and a final system analysis for evaluation of remaining shortlisted proposals, resulting in the selection of those proposals which provide the lowest reasonable cost resources which meet system reliability objectives.

[3] EPE's project team for the RFP was largely comprised of members of the Resource Planning Department at EPE which were responsible for managing the solicitation process and conducting the evaluation of proposals.

4. Contract Negotiations -- once the final selection list has been identified, the utility will begin negotiation of contracts with the selected entities with the objective of executing a final contract with third-party bidders.

5. Regulatory Filing – the final stage in the process is the resource approval stage in which the utility makes the required filings to the regulatory commissions seeking regulatory approval for the resources selected. This may also include the preparation of a CCN filing if a utility self-build option is selected.

As noted, Merrimack Energy was primarily involved in the initial three phases of the solicitation process. Subsequent sections of the report address the activities and decisions in each of these phases.

Phase 1 RFP Development Phase

As noted, El Paso Electric retained Merrimack Energy to serve as Independent Evaluator for its 2017 All Source RFP in mid-May, 2017, before development of the final RFP and associated documents. Merrimack Energy had the opportunity to comment on several drafts of the RFP and also worked closely with EPE to develop the bid evaluation methodology and evaluation criteria. As a result, the IE was involved in the solicitation process from development of the RFP and development of the evaluation methodology and processes through the final selection of the preferred resources.

A. Development of the 2017 All Source RFP

Shortly after Merrimack Energy was retained as IE, EPE provided a draft of the RFP to Merrimack Energy for review and comment. The IE submitted approximately 40 comments on the draft of the RFP, with a focus on clarifying provisions of the RFP and providing input based on experiences with other All Source RFPs.[4] The IE reviewed and commented on two drafts of the RFP and in each case after submission of comments the IE and EPE's RFP team leads met via conference call to discuss the IEs comments and reach agreement on the incorporation of the comments into the RFP.

B. Bid Evaluation Methodology and Evaluation Inputs and Criteria

One of the initial areas of discussion between the IE team and the EPE RFP team focused on the development of the appropriate evaluation methodology and process along with the evaluation criteria that would be used to evaluate and select proposals submitted in response to the RFP. The teams discussed both price evaluation methodologies for shortlisting and final selection as well as non-price criteria that would also be considered

[4] Merrimack Energy served as IE on several other All Source RFPs and recognized the complexities of evaluating proposals in an equitable manner for such an RFP, especially associated with the multiple combinations of resources being bid into such RFPs including conventional generation, renewable resources, renewables with storage, stand-alone storage, demand response or load management resources, and distributed resources.

in ranking and selecting proposals. The IE provided information on industry practices in both areas and the lessons learned by utilities in implementing such approaches. The objective of EPE was to develop the framework and components of the evaluation process prior to issuance of the RFP, with the ability to finalize specific criteria, forecasts of inputs, and other factors (if applicable) prior to receipt of proposals. For example, the qualitative criteria and methodologies used by other utilities were discussed and an initial framework was established; however, the specific qualitative criteria were finalized prior to receipt of proposals but after issuance of the RFP. The IE felt this was a reasonable and consistent approach which was typical of industry practices. From a fairness and consistency perspective, the IE's view was that the overall methodology constructs and input assumptions should be prepared prior to receipt of proposals.

Given the nature of the RFP as an All Source solicitation with essentially all resource options eligible to bid, the ability of the evaluation methodology to account for differences in resource characteristics and operational parameters was essential for ensuring a fair and equitable process. Given these issues, it was determined that the fairest and most consistent approach would be to group proposals received into "like" categories (i.e. renewable only, storage, demand-side options, renewable plus storage, conventional peaking resources, conventional baseload or intermediate resources), conduct a first cut pricing analysis based on the Levelized Cost of Energy ("LCOE") using consistent inputs and assumptions for each resource category, and select a shortlist within each category for final evaluation. This would ensure that if there was a large response to the RFP as expected, only the best projects within each category would be selected for the shortlist and in addition all resource types would have the opportunity to compete for a contract based on an overall portfolio of resources selected through a system-based production cost or generation expansion model (or both), which would incorporate the unique operational characteristics of each resource type in conjunction with the operations of the EPE system. Also, the shortlists for each resource type would be based on the "best bids" within each resource category. This same methodology was used by EPE for the 2011 RFP[5] and by other utilities implementing an All Source solicitation.

A list of other key issues which were discussed between the EPE team and the IE included the following:

- The expected capacity value for intermittent renewable energy resources on the EPE system;[6]

[5] For the 2011 RFP, EPE also encouraged proposals from a range of resource types and decided to select shortlisted proposals within each resource category for final evaluation and selection.

[6] EPE indicated that historically EPE had determined that at its system peak, its existing solar resources could be counted on to produce energy equivalent to approximately 70% of its nameplate rating to meet that peak. The parties agreed that a key question to address was what should the appropriate solar capacity credit be going forward and how should it be calculated. The IE described the approaches used by other utilities and in other states for calculating the capacity value of solar PV projects as part of the proposal evaluation process. EPE informed the IE that it was working with the National Renewable Energy Laboratory ("NREL") to assess the value of capacity for solar PV projects in EPE's service area. Analysis conducted by both EPE and NREL concluded that a 25% solar capacity credit is appropriate to assign to EPE's new solar resources in order to maintain system reliability.

- Status of economic model development for bid evaluation
  - Levelized Cost of Energy spreadsheet models for solar, wind and conventional resources
  - Modeling approach for assessing combined renewable and energy storage options[7]
  - Revenue requirements model for evaluating utility ownership options such as the self-build options, Build, Own, Transfer ("BOT") options that EPE would own, and ownership or equity investment options
  - Production cost or generation planning models to consider final portfolio value[8]
- Safeguards implemented associated with the potential development and submission of a self-build proposal
- Preparation of input assumptions for consistent evaluations
- Methodology for development of the natural gas price forecast[9]
- Nature and timing of transmission assessments for proposals submitted
- The use of resource generation profiles submitted by Bidders
- Threshold and non-price criteria and application in the evaluation process[10]
- Determination regarding the amount of intermittent renewable resources the EPE system could reasonably accept
- Role of NREL in the evaluation process[11]
- Operating parameters for storage resources consistent with EPE system needs

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[7] Adjustments to the LCOE model were necessary to evaluate the renewable plus storage options as well as stand-alone storage options.

[8] EPE informed the IE that it was still using the Strategist model for generation planning and resource portfolio assessment (as it had for previous RFPs) but was also considering using the Aurora model for production cost assessment for combined renewable and storage options since the Aurora model provided for more resolution regarding the operational characteristics of these resource options.

[9] EPE uses a 15-day average from the forward months settled on the NYMEX for Henry Hub plus the basis differential for EPE's gas supplies at San Juan, Permian, and Waha hubs plus pipeline transportation costs. Once the forecasted delivered price is determined for 2020, it was then escalated based on the Global Insight IFERC First of the Month settled price for Permian and Waha derived escalation for the years 2021-2029. Beginning in year 2030 through 2037 the escalation used is based on Global Insights projection of GDP. The IE was informed by EPE that the gas price forecast methodology used for the RFP is EPE's consistent methodology for natural gas forecasting used for system modeling purposes as required for Fuel and Purchased Power Budgeting, Resource Management (marketing), Integrated Resource Planning (IRP) and for running sensitivities. The gas price forecasting approach is consistent with EPE's previous regulatory filings. The IE also notes that the gas price forecast is driven by an industry standard forecast prepared by Global Insights which incorporates an independent forecast into the derivation of the long-term gas price forecast for EPE. This is consistent with industry practices and eliminates bias in the calculation of fuel price forecasts.

[10] Merrimack Energy provided a list of the non-price evaluation criteria typically included as part of the evaluation criteria in other industry RFPs as an example.

[11] During the initial call between the EPE RFP team and the Merrimack Energy in early May 2017, EPE's RFP project manager indicated that one of the major concerns of EPE was to determine how much intermittent renewable energy the EPE system could reasonably absorb. The project manager noted that NREL was retained to conduct studies on the amount of intermittent renewables EPE could accept. NREL was tasked with evaluating the amount of additional reserves that would be required based on different levels of intermittent renewable resources absorbed into the EPE system for up to 300 MW of solar and wind resources.

C. Safeguards

Since EPE identified the expectation that a self-build resource would be bid into the solicitation by the Company's generation group, one of the issues raised by the IE was the safeguards that were adopted to ensure that the self-build proposal would have no undue advantage over other bidders and that all bidders would be treated equally. EPE's RFP team and the IE held discussions about the safeguards that were in place to ensure that all bidders would be treated equitably. The IE was notified by EPE at the beginning of the IE's engagement that several safeguards were already in place before the RFP was launched. These included the following:

- The team that would submit the self-build proposal and the team responsible for management and implementation of the RFP were separate from both a physical and operational perspective. The "walls" between the self-build team and the RFP team were established before the development of the RFP commenced;
- EPE retained the services of Merrimack Energy as Independent Evaluator early in the development of the solicitation process. Merrimack Energy has served as Independent Evaluator or similar function on nearly 100 competitive bidding processes in 20 states and 3 Canadian Provinces;
- The RFP team implemented a secure filing and database system that would only be accessible to All Source RFP evaluation team members. Files associated with confidential information regarding the RFP were stored in a document management system ("Live-Link") with restricted access on to select members of the All Source RFP evaluation team. Live-Link is a password protected database that would be used to share information about the RFP, proposals received, and evaluation results among only the evaluation team members responsible for implementing the RFP process;
- In addition, EPE established a shared network drive accessible only by the Resource Planning Department, who was responsible for the management of the RFP process;
- EPE has detailed Standards of Conduct and a Code of Ethics in place to which all employees must adhere and agree to be bound;
- While the self-build team submitted its proposal on the same date as all other proposals, Merrimack Energy staff would be on-site at EPE's offices for proposal "opening" and review to ensure all proposals were treated equitably;
- The self-build proposal was required to provide all the same information for their proposal(s) as all other proposals to ensure all proposals were evaluated based on the same general information.

In addition, the IE informed EPE's project manager that it would closely scrutinize the cost information provided by the self-build team to ensure the cost information was reasonable and included all costs associated with the project. The IE also indicated that it may request a meeting or conference call with the self-build team to verify the cost and other relevant information provided in the proposal.

D. Issuance of the 2017 All Source RFP

El Paso Electric issued its 2017 All Source RFP on June 30, 2017 and posted the RFP to its website the same day. EPE sent notification to its list of potential bidders on June 30, 2017. EPE stated in the notification that the 2017 RFP was designed to help EPE determine how to best obtain additional low-cost and reliable electric resources to meet its customer demand by 2023. EPE indicated it was seeking supply-side and/or demand-side resources to meet its capacity need of approximately 50 MW in 2022 and an additional capacity of 320 MW in 2023, for a total of approximately 370 MW by the summer peak of 2023. The RFP posting indicated that a Notice of Intent to Bid should also be submitted by August 4, 2017. The notification also listed the schedule for the All Source RFP, which is included in Table 2 below. The schedule was originally developed as an approximately 10-month process from receipt of proposals until execution of contracts, but as will be discussed in this report, lasted much longer than expected. The schedule listed below provides the original as well as a revised schedule for the RFP. The revised schedule was also posted to the EPE website page for the 2017 All Source RFP.

Table 2: Original RFP Schedule and Revised Dates

Activity	Original Dates	Revised Dates
RFP Issuance	June 30, 2017	Same
Pre-Bid Meeting	July 19, 2017	Same
Notice of Intent to Bid	August 4, 2017	Same
Final Submission of Questions	August 25, 2017	Same
Response to Questions	September 13, 2017	Same
Proposals and Proposal Fees Due	October 4, 2017	Same
Shortlist Notification	March 7, 2018	Same
Best and Final Proposals Due	April 4, 2018	May 14, 2018
Tentative Individual Meetings with Shortlisted Bidders (if required)	March 19-23, 2018	Revised to August-December 2018
Tentative Date for Execution of Contracts	July 2018	Revised to December 2018

The notification also provided information on the Pre-Bid meeting scheduled for July 19, 2017. The notification provided information for those that wished to attend in-person as well as those who wished to call into the conference.

E. Outreach Activities

In addition to the issuance of a press release that notified prospective bidders and interested parties of the availability of the RFP, the products and amount of capacity required, timing for securing and providing resources, and the website address for

accessing the RFP, the press release was also sent to major energy publications and newswires who typically publish information about power procurement activities.[12]

With regard to outreach activities, EPE also sent out formal invitations to approximately 650 contacts, in addition to issuing the press release. The list of potential bidders included the original list of over 400 contacts from past RFPs, a list from the Company's renewable energy group, and a list from the Demand Response group.[13]

Phase 2 – Proposal Development Phase

A. Pre-Bid Conference

A Pre-Bid Meeting was held on July 19, 2017 as scheduled. EPE's project team manager introduced the RFP Project team, EPE staff and the IE, along with identifying the role of the IE. EPE's project team manager also provided an overview of the EPE system with a map of its service territory. He also provided an overview of the RFP, including the timing of capacity need, operational requirements, mandatory requirements, RFP milestones and schedule, proposal submittal options and eligible resources, proposal submittal requirements, proposal submittal instructions, and an overview of the proposal evaluation criteria and evaluation process. In addition, the project team manager also discussed the Question and Answer process should bidders wish to submit questions about the RFP. EPE estimated that 50 individuals participated in the Pre-Bid conference either on site at EPE's offices or on the phone.

B. Questions and Answers

EPE received and responded to 139 questions from prospective bidders. All the questions and responses were posted to the RFP website by September 20, 2017. The IE reviewed all the responses to the questions by EPE and provided comments to EPE prior to posting the final responses to the website. One of the areas of focus of the IE in reviewing the responses was to identify which Q&As may be specific to a bidder, in which case, only the bidder would receive a response, versus which responses should be provided to all bidders. The responses posted on the website were applicable to all bidders. The IE also found that EPE was very efficient in preparing responses to bidders and posted the responses in a timely manner.

C. Notice of Intent to Bid

EPE received 91 Notices of Intent to bid forms from a range of demand-side and supply-side options, including renewable resources, energy storage and conventional supply-side options. The majority of the NOIs were for solar projects or solar with storage options. Other resources included wind projects, wind with storage, stand-alone storage,

[12] The IE did see mention of issuance of the EPE All Source RFP in several trade publications, including Energy Central.
[13] EPE issued RFPs for power resources in 2003, 2006, 2008 and 2011.

conventional generation (mostly combustion turbines and other peaking units), geothermal, landfill gas and demand-side options.

D. Overview of the Bid Evaluation Methodology

As noted above, Merrimack Energy coordinated closely with EPE in the development of the bid evaluation methodology and process due to the complexity of the resource options expected to be proposed and to ensure all the different type of resource options as reflected in the Notices of Intent are properly and fairly evaluated.

EPE essentially proposed to use a multi-phased evaluation process for review and assessment of the proposals received which included the following phases:

1. "Checklist" review of the proposals received to ensure the proposals met threshold requirements and conformed to the requirements of the RFP. In this first phase of the process, EPE initially reviewed each proposal to determine whether it satisfied the threshold criteria of responsiveness, technical viability, and Bidder financial ability and capability. The responsiveness review ensured that the proposal was complete, followed the guidelines set forth in the RFP, and included all information required for a more thorough review;

2. Proposals that passed the threshold evaluation would be analyzed via a two-stage process. Initial proposals were evaluated on a levelized cost of energy basis and would be grouped by resource type (i.e. conventional/dispatchable, intermittent renewable, renewable plus storage, load management, and energy storage) and type of proposal being offered (i.e. PPA, EPE purchase, or EPE equity participation in a Bidder's facility). Proposals in each group would be compared to similar proposals within the same resource type group from an economic standpoint to determine the proposed resource's relative cost effectiveness in meeting EPE's requirements. EPE used a consistent set of assumptions, including the same capacity factor for such projects as gas-fired combined cycles or peaking units. Once grouped, EPE may select the top-ranking proposals from each group to shortlist. In this way, the evaluation would be applied consistently across similar proposals resulting in a consistent ranking based on cost.

   As noted, EPE used three spreadsheet models to calculate the Levelized Cost of Energy ("LCOE") as part of conducting the initial evaluation of the proposals received: (1) a spreadsheet model for PPA and tolling offers including solar, wind, and other renewable only bids as well as conventional generation PPAs or tolling agreements and load management resources; (2) a revenue requirements model for cases where EPE would own the project and include the project in rate base; and (3) an extension of the PPA spreadsheet model for evaluating the combination of renewable resources and energy storage options by calculating the levelized cost of renewable energy plus separate or bundled storage costs given the round-trip efficiencies proposed for charging and discharging the battery or

storage facility. This model was also used to evaluate the economics of storage only proposals;

The use of spreadsheet models as a first cut to evaluate the LCOE values for various resource types and contract options was based on either the expected energy generation, as provided by the bidder, energy savings from the demand-side resource offer, or on an estimated capacity factor for applicable resources. For example, for gas-fired peaking projects, EPE used a consistent capacity factor for evaluation purposes, while for renewable resources EPE used the estimated generation or generation profile provided by the bidder;

3. EPE also conducted an initial assessment of non-price factors in conjunction with the economic analysis for informing shortlist decisions. The shortlisted bidders selected would then be allowed to submit their best and final offers;

4. The best and final offers from the shortlisted bidders would be modeled in EPE's optimization model(s) to determine the preferred resources. The development of preferred portfolios of projects using both the Strategist and Aurora models[14] to develop a least cost optimized portfolio of projects was based on proposals drawn from the bids selected for the short list.

As noted above, for this RFP, EPE used three spreadsheet models for conducting the initial evaluation of the bids received. These spreadsheet models were designed to calculate the levelized cost of energy for each proposal, whether the proposal is a cost of service-based utility ownership option (self-build proposal, Build, Own, Transfer[15] options, or purchase of equity or equity participation in a Bidder's existing generation facility) or the pricing mechanism associated with the cost components submitted for each proposal are bid as either a Power Purchase Agreement (PPA) or Tolling option[16].

The models were designed to calculate the levelized cost of each bid based on the pricing proposal submitted by each bidder subject to the input assumptions developed by EPE prior to receipt of bids. EPE calculated two metrics using the spreadsheet models: (1) the models calculated the net present value of the total cost stream for each proposal over the contract term or economic life of the project divided by the net present value of generation stream over the same term and (2) the models calculated the net present value of the cost steam, calculated an annual annuity of the stream and divided by the annual average generation. For utility-owned projects, the cost stream included the capital cost

[14] While EPE intended to use the Strategist model as the primary tool to develop the optimal portfolio of resources, EPE did engage both NREL and subsequently E3 Consulting to assist the company to appropriately value the attributes of the resources being considered as a separate check on the Strategist analysis.
[15] EPE indicated it would accept Build Transfer options for solar, energy storage and conventional generation options.
[16] The primary difference associated with a PPA or tolling option is that EPE secures the gas supply for a tolling arrangement. For modeling purposes, EPE uses the same gas price assumptions under the assumption that EPE and the bidder would secure gas in the market based on the same commodity cost index gas and pipeline transportation costs for projects located in the same area.

associated with constructing the project as well as the cost of operating the project.[17] Annual costs ("Revenue Requirements") were discounted based on the utility's discount rate. The present value of revenue requirements was calculated as the sum of the discounted annual revenue requirements. The Levelized Cost of Energy or LCOE was then calculated as the present value of revenue requirements over the term of the contract divided by the present value of the annual Mega-watt hours (MWh) generated by the project. An LCOE value was calculated by EPE for all offers in 2018 dollars and 2022 or 2023 dollars. These spreadsheet models are best used to assess the costs of similar projects and select the best proposals or a short list of proposals from a group of similar projects.

Also, prior to receipt of bids Merrimack Energy reviewed and commented on EPE's spreadsheet models designed to calculate the LCOE values for each resource option including the PPA options, combination of renewable resources and energy storage and a revenue requirements model designed to evaluate utility ownership options, which could include a self-build resource, purchase of an existing generation asset, or a turnkey/EPC option built by a third-party on a bidder owned site. Merrimack Energy and EPE staff also conducted several discussions about the revenue requirements model to ensure the model contained consistent assumptions and methodologies to reflect the valuation of a cost of service resource option.[18]

In addition to the economic evaluation, EPE also considered several non-economic factors in its evaluation, including factors associated with viability of the project including, but not limited to financial risk, technology risk and project execution risk. EPE also considered projected network upgrade costs as determined by EPE's internal transmission group, and other pertinent factors.

[DC1]
Once the final group of proposals was selected for each short list, the shortlisted proposals were evaluated using the Aurora and Strategist Models.[19]

The Aurora Model is a production cost model and is used by a number of utilities and others to simulate the hourly operations and dispatch of units in a defined market. Aurora can be used to assess the change in system operations and associated costs resulting from the inclusion of different resources or portfolios of resources on system energy costs. While the Aurora model has been used in capacity expansion modeling cases as well as

[17] For a project owned by the utility, the cost of service is based on utility annual revenue requirements associated with the project. For a PPA or tolling service agreement, the model assessment is based on the capacity charge, fixed O&M charge, variable O&M charge and fuel costs included in the bidders pricing proposal.

[18] Merrimack Energy has served as Independent Evaluator for three large-scale EPE RFP processes and is very familiar with the bid evaluation process and methodologies used by EPE for bid evaluation purposes.

[19] The Strategist Model enables EPE to study a wide variety of long timeframe expansion planning options including alternative technologies, unit conversions, unit capacity sizes, load management options, fuel costs and reliability limits in order to develop a coordinated integrated plan which would be best suited for the EPE system. For use in applications associated with RFPs for resource options, Strategist can be used to study a wide range of RFP resource options and their costs along with reliability limits to develop a portfolio of resources best suited for the EPE system in the most cost-effective manner, as EPE has done for this and other RFPs.

Integrated Resource Planning studies, the Aurora model provides for greater resolution for assessing the operations of a specific project or unit given the hourly dispatch capability of the model.

The Strategist Model is a standard utility resource expansion planning model used by a number of electric utilities for resource evaluation, utility operations assessments and to develop Integrated Resource Plans and evaluate bids received in response to RFPs. Strategist determines the optimal (i.e. least cost) integrated supply and demand resource plan for a utility system under a prescribed set of operational or other constraints and model input assumptions. Strategist is also designed to assess the impacts of various scenarios and sensitivities on total system resource portfolio costs.

Strategist incorporates project information provided by bidders including costs, capacity, operational parameters, operating characteristics, etc. associated with their project to simulate the operation of a utility system with the proposed project(s) essentially replacing generic resources included in the resource plan and assess the total system cost impact associated with each resource option or portfolio of options. Strategist can evaluate all types of supply and demand-side resource alternatives using multiple application modules. Based on utility system unit operations information, load forecast, and other input forecasts (such as fuel costs and inflation), Strategist will optimally select and rank alternative resource plans by minimizing total utility system costs. Strategist estimates the total system cost for each portfolio over a specific timeframe and calculates the Net Present Value ("NPV") of costs for each portfolio mix option. The resulting portfolios are ranked from the most economic (i.e. lowest NPV system cost) to the least economic. Resource alternatives are evaluated while also considering purchases from and sales to a spot energy market. Different scenarios are considered during the evaluation. Merrimack Energy has served as IE on several competitive procurement processes where the Strategist Model has been used by utilities to evaluate the proposals received.

E. Transmission System Impact Assessment

One of EPE's RFP project team concerns was the implication of transmission constraints on project evaluation and selection. As EPE noted, the company system is constrained by transmission import limits given its physical location as a terminal point in the WECC.

Firm import transmission capacity is currently limited to two specific paths: Path 47 and the Eddy County HVDC Tie. Due to the limits for transfer capability on these paths, EPE's view is that future supply side resources may be more optimally sited within EPE's service territory. Any resources sited outside EPE's service territory would likely require transmission upgrade investments to ensure firm transmission import capacity. As a result, EPE's RFP clearly required bidders with projects outside of EPE's system to describe its ability to deliver energy into EPE's system.

In addition, the EPE RFP project team worked with other departments within EPE during the evaluation process to ensure all projects that were expected to be shortlisted projects were evaluated to consider the impact of each potential shortlisted proposal on import

capability, transmission line loading, voltage and frequency support. This input would be used to determine any system upgrades that would be essential to maintain a reliable grid. EPE assessed if any additional transmission upgrades were required to import the power into its local, underlying transmission system or to distribute the power within its underlying transmission system. Estimated costs for transmission upgrades were included in the analysis for all applicable proposals.

As EPE described in the RFP, after EPE identifies a proposed bidder shortlist, comprised of the most economic and reliable resources from each resource type group, based upon each resource's total cost delivered to the boundary of EPE's transmission system, EPE will then evaluate the resources on the shortlist and estimate any necessary network upgrade costs to have the resource delivered to EPE's native and network load customers and estimate the proposals total cost inclusive of network upgrades. EPE will re-assess the shortlist and notify identified shortlisted proposals for continuation in the process.

Phase 3 – Receipt and Evaluation of Proposals

Receipt of Proposals

Proposals were received at EPE's offices on October 4, 2017 as requested. Merrimack Energy staff included on the project team were present at EPE's offices for proposal opening and initial review. EPE provided Merrimack Energy a copy of each of the proposals received for review and to ensure the IE had access to all information used in the evaluation. Merrimack Energy also prepared a list of the proposals and alternatives submitted and provided the list to EPE for review and confirmation to ensure the Company and IE had accounted for all proposals and options received. EPE received a total of 59 proposals[20] from 37 Bidders who submitted 508 alternative proposal options. The proposals submitted represented a diverse range of technologies (see Table 3 below) and contract structures, including Power Purchase Agreements, Tolling options, Build, Own, Transfer options, and equity participation offers for EPE. In addition, Bidders submitted a number of alternatives or proposal options which included different project sizes, in-service dates, solar and storage project structures, contract term and pricing options (fixed vs escalating prices). Table 3 below lists the proposals by product type.

Table 3: Summary of the Proposals Received By Type of Project

Product/Technology	Number of Proposals/Projects
Solar PV	28[21]

[20] Proposals are defined as individual projects which include specific unique sites and project configurations. For example, the Clean Line projects are treated as three separate proposals/projects given the unique configuration. Likewise, the Scout Energy proposals are treated as two separate proposals given the very different project structures.

[21] A number of bidders submitted proposals which included both stand-alone Solar PV projects as well as options which included Solar PV plus Energy Storage as a combined proposal. There were 10 proposals that offered only Solar PV options, while another 18 proposals included both Solar PV and Solar plus

Solar PV and Storage	6
Energy Storage Only	8
Wind	4
Wind plus Storage	2
Geothermal	1
Demand Response	1
Conventional Peaking Units	6[22]
Conventional Combined Cycles	4
Other	2[23]

Table 4 provides a summary of the proposals received based on the Bidder and Project names along with the type of resource proposed. The focus of Table 4 is on the name of the project and Bidder. This table provides an overall list of projects by resource types submitted. For example, it was common for bidders who submitted a solar PV option to also offer a combined solar + storage option in which the solar project is the source of charging energy for the storage component.

Table 4: List of Bidders by Project Name and Resource Submitted

Bidder	Project Name	Resources Proposed
8minutenergy	El Paso Solar	Solar PV only
174 Power Global	Delphi Solar	Solar PV only
174 Power Global	Iris Solar	Solar PV only
AEIF Battery Storage	Newman	Energy Storage
AES Distributed Energy	City of Denning	Solar PV plus Storage
Clean Line	Mesa Canyon Wind	Wind
Clean Line	Mesa Canyon Wind and Solar	Wind and Solar
Clean Line	Mesa Canyon Wind, Solar and Storage	Wind, Solar, Storage
Clenera Renewable Energy	Silver Spike Solar	Solar PV, and Solar + Storage
Community Energy	Santa Teresa Solar Peaker	Solar PV, and Solar + Storage
Convergent	El Paso Energy Storage	Energy Storage
Coronal	Luna Solar Center	Solar PV, and Solar + Storage
Coronal	Sunnyside Solar Center	Solar PV, and Solar + Storage
Coronal	Canutillo Storage Center	Energy Storage
Eagle Solar	El Paso Shines	Solar PV only
EDF	Oso Grande Wind	Wind, and Wind + Storage
EDF	Rio Grande Solar	Solar PV, and Solar + Storage
EDPR	College Ranch Solar 1	Solar PV plus Storage
Enel	Anthony Energy Storage	Energy Storage
Enel	Copper Energy Storage	Energy Storage
Enel	Diablo	Energy Storage

Energy Storage options. Six proposals did not include a stand-alone Solar PV option but only included Solar PV plus Energy Storage.

[22] This includes 4 combustion turbine projects and 2 reciprocating engine projects.

[23] Other includes one proposal for a combination of wind and solar and the second is a combination of wind, solar and storage

Enel	Rio Grande	Energy Storage
El Paso Electric	Copper 2	Combustion Turbine
El Paso Electric	Newman 6	Combustion Turbine and Combined Cycle
First Solar	Santa Teresa	Solar PV, and Solar + Storage
Hecate	Fabans	Solar PV only
Hecate	Santa Teresa	Solar PV only
Hecate	Van Horn	Solar PV only
Innovative Solar	Innovative Solar Systems	Solar PV only
Isolux Corsan	Luna Solar	Solar PV only
Juwi	Messila Solar	Solar PV plus Storage
Juwi	San Felipe Solar	Solar PV plus Storage
Light Source	96 Ranch Solar	Solar PV, and Solar + Storage
Monkey Industrial	Chaparral	Solar PV, and Solar + Storage
Monkey Industrial	Mesilla Valley	Solar PV, and Solar + Storage
Monkey Industrial	Hatch	Solar PV, and Solar + Storage
NextEra	Coyote Solar	Solar PV, and Solar + Storage
NextEra	Otero	Solar PV, and Solar + Storage
Ormat	Rincon	Geothermal
Pattern Development	Corona Wind	Wind
Quintessence Renewables	High Valley Solar	Solar PV, and Solar + Storage
Saturn Power	Santa Teresa Solar	Solar PV only
Scout Clean Energy	Great Divide Wind	Wind, and Wind + Storage
Scout Clean Energy	Great Divide Wind	Reciprocating Engines
Solaire Direct	Arrowhead Solar	Solar PV, and Solar + Storage
Solaire Direct	San Felipe Solar	Solar PV, and Solar + Storage
Southern Power	No Name	Combined Cycle
Southern Power	No Name	Combustion Turbine
Southern Power	No Name	Solar + Storage
Southwest Power Group	Bowie Power Station	Combustion Turbine
Southwest Power Group	Bowie Power Station	Combined Cycle
Sovereign Energy	Las Cruces	Solar + Storage
Spower	Franklin Solar	Solar PV, and Solar + Storage
Turning Point Energy	Luna Grande Solar	Solar PV, and Solar + Storage
NRG	McCombs Station	Combustion Turbine
NRG	McCombs Station	Combined Cycle
X-Elio	Santa Teresa Solar	Solar PV, and Solar + Storage
Stem	Demand Response	Demand Response
VIZN Energy Systems	No Name	Energy Storage

Initial Proposal Review

The first step following receipt of bids was for the bid evaluation team to review the proposals, determine if the bids were conforming to or in compliance with the eligibility and threshold requirements[24] of the RFP, and that the bidders provided the appropriate bid fees.[25] The team also agreed to prepare follow-up questions to bidders to clarify

[24] The Eligibility and Threshold requirements are listed in Table 1.
[25] EPE did determine that every proposal submitted a bid fee.

information about the bidder's proposals. Two bidders did not initially provide the required Excel spreadsheets which contained specific project information necessary for EPE to conduct the initial evaluation. One bidder with one proposal was classified as non-conforming. In addition, this bidder proposed a zinc/iron flow battery which is a new technology.

Another issue discussed by the EPE team and IE was the most reasonable approach for conducting the first stage evaluation results given the large number of proposal alternatives submitted. For example, to conduct an LCOE analysis on all 508 proposal alternatives would take a substantial amount of time and could substantially delay shortlist selection. EPE and the IE discussed alternative approaches for conducting a consistent evaluation to reflect those option configurations likely to be of most value to EPE. As a result, EPE established certain criteria that would define the options which would be selected for the initial price and non-price evaluation.[26] EPE defined its "base" proposal option as a 20-year term option, with a firm fixed price, at 50 MW for solar PV projects.[27] This was consistent with the provisions of the RFP in which EPE stated that if a Bidder for an intermittent renewable resource has a facility with a nameplate capacity greater than 50 MW, Bidders should provide proposals in 50 MW increments. For combination solar PV and battery energy storage options, EPE stated that energy storage proposals submitted for the purposes of serving during peak load or for load shifting should provide a minimum of 15 MW for 4 hours of output and be capable of daily discharge and charge cycles.

EPE did issue a number of emails to bidders requesting follow-up information or clarifying information submitted by the Bidders and copied the IE on all communications with Bidders.

Initial Proposal Review and Evaluation

The diversity of resource options and proposal alternatives submitted and the complex options offered by the bidders created a challenge for this phase of the evaluation process designed to select a short list.[28] To ensure proposals would be fairly considered in the

[26] A high-level criterion established was that if a Bidder offered a proposal size less than 50 MW, EPE would evaluate the highest MW option proposed. If the proposal was for more than 50 MW, EPE would model the 50 MW option as the primary option considered.

[27] EPE also established the criteria that if a proposal offered a range of options beyond 50 MW, EPE would evaluate the 50 MW option and possibly the 100 MW option. If the proposals were less than 50 MW, EPE would evaluate the largest size option proposed.

[28] For example, the cost of service model and the third-party PPA proposal spreadsheet model would not necessarily generate consistent results across project types given the different cost structures for a cost of service versus PPA option. Also, the use of a consistent capacity factor for gas-fired peaking projects may be reasonable for similar technologies but would not be applicable to renewable resources or demand response options. Also, since the demand response or load management options generally are designed to reduce peak demand only, the use of levelized cost analysis for these options illustrated a very high cost on a dollar per megawatt hour basis. As a result, if bids were ranked from lowest to highest on a levelized $/MWh basis, some resource options would not be selected. As a result, it made economic sense to select a short list comprised of all types of resource options and let the Strategist model select the preferred portfolios based on the unique characteristics of each proposal within the EPE system.

Step 1 evaluation (i.e. use of the levelized cost analysis methodology), EPE and Merrimack Energy discussed an approach for short list selection based on a selection of resources from all types of resource options proposed. In essence, the objective was to select the best resources within each resource category for short list selection. As IE, Merrimack Energy felt that this methodology reasonably applied by EPE across different resource options, would lead to a reasonable and consistent process for short list selection, particularly if a larger number of projects are selected for the short list, which proved to be the case. In addition, this approach was consistent with the approach generally used by other utilities undertaking all source solicitations or solicitations with diverse resource types. By selecting a shortlist comprised of the "best" offers from each resource/technology/contract/or project structure, this would ensure that the final evaluation using sophisticated system generation planning or production cost analysis would allow all resource options to compete for a spot on the final portfolio where resources with different characteristics may provide the best overall value portfolio for a unique utility system.

EPE's bid evaluation process can be classified as primarily a price-driven process with the analysis associated with the evaluation process focusing on the price of the proposals. In addition to price, EPE also assesses operational factors, non-economic criteria, and other risk factors for each project but does not rely on a specific scoring or ranking process for assessing the non-economic factors or risk factors associated within each of the proposals.[29] EPE does weigh project location coupled with transmission access and cost as important criteria when considering shortlist selection. EPE's overall rationale is that if there are multiple low-cost proposals in a general location with a delivery constraint of X MW that would all deliver power to the same area of the system, at some point as more projects are stacked up in that area then the constraint would be affected and costs would increase since the system would need to be expanded. Also, EPE did not include a copy of any proforma contracts or term sheets with the RFP to provide a perspective to bidders of the contractual provisions required by the EPE.

Follow-up questions were submitted to each eligible bidder and the self-build team beginning in late October, 2017. The questions generally solicited additional information about the proposal or clarifying information requested by the evaluation team. Responses were received from the bidders generally within five days of receipt of the questions as required.

All eligible proposals were evaluated and ranked in Step one based on the levelized cost of energy for each proposal. EPE's evaluation team modeled each proposal based on the bid price formula submitted by the bidder under a consistent set of input assumptions (i.e. fuel costs, inflation rates, etc.). Merrimack Energy reviewed the model evaluation results for each proposal evaluated and raised questions or comments about the evaluation of specific proposals. The EPE and Merrimack Energy teams had regular calls to discuss the evaluation results and issues which EPE was addressing regarding the overall assessment of various resource types. EPE was also working with NREL to assess how much

[29] EPE did conduct a non-economic assessment of each project but used the assessment as a means of identifying the viability of a project to inform selection.

intermittent resources could be optimally integrated into its system along with estimates of the capacity contribution provided by the different types of resources such as wind and solar.[30] EPE briefed the IE on the results of this assessment at several steps in the process. EPE was particularly focused on assessing the magnitude of the intermittent renewable energy generation its system could absorb while maintaining system reliability.

Shortlist Selection

EPE initially established a six-month schedule for the evaluation of proposals leading up to shortlist selection. EPE indicated to the IE that its objective was to develop a shortlist of proposals by the end of November 2017 and then provide the proposed list to System Planning to evaluate system upgrade costs for each proposal for purposes of including system upgrade costs in the shortlist evaluation. System Planning's analysis would be designed to assess specific projects for transmission impacts as well as assessing transmission system implications associated with portfolios of projects in the same general location.

EPE's approach was designed to complete the initial part of the levelized cost of energy analysis by early November 2017 and then focus on the non-price analysis for the proposed shortlisted proposals before selecting an initial shortlist and turning the shortlist over to System Planning for the transmission assessment. EPE provided the IE with its LCOE model results for all resource options evaluated. Merrimack Energy reviewed the results of the evaluation in conjunction with the input assumptions and identified any questions regarding the results. Merrimack Energy and EPE had several discussions and exchanges of emails to address evaluation results or potential issues. The parties also held several calls during this time to discuss the status of the evaluation and selection process. EPE informed the IE that it was also conducting modeling of the proposals in Strategist and Aurora to assess potential portfolios by proposal types (i.e. solar, solar plus storage, stand-alone storage, etc.). For example, EPE indicated it would start to run Strategist with the best priced projects for different types of resources (i.e. Solar PV) at various output levels (i.e. 50 MW, 100 MW, 150 MW, 200 MW, 250 MW, 300 MW) to assess the potential costs and constraints at each level to focus in on an optimal portfolio size for the particular types of resources.

On a call with EPE in mid-December 2017, EPE informed the IE that it had made the changes to the analysis discussed between the EPE team and IE in late November, 2017 and had provided the shortlist to System Planning to begin the transmission assessments. EPE also informed the IE of a point raised in discussions with System Planning. As indicated, there were projects located outside of EPE's 115 kV system. These projects could likely be eliminated due to their higher LCOE ranking and consideration of transmission network upgrade costs. EPE noted that there were 5 geographical areas on EPE's transmission system where projects were clustered. System Planning would also be looking at system upgrade costs for each proposal.

[30] The capacity contribution of intermittent resources such as wind and solar is generally dependent on the evaluation methodology used to calculate capacity value, the amount of such intermittent resources included in the utility resource mix, and the load profile.

In a call between EPE and the IE on December 19, 2017, EPE provided some preliminary results from the Aurora analysis. EPE noted that Aurora was selecting quite a bit of solar and wind as part of the resource selection along with conventional generation. EPE's project manager indicated that Aurora was selecting 100 – 140 MW of solar. However, EPE concluded that if more solar was selected the system would be short of capacity at the evening peak. The analysis was based on solar accounting for 25% of its nameplate capacity for peak capacity contribution. EPE's project manager indicated that NREL estimated a lower value for capacity from solar at 22-23%.

EPE and Merrimack Energy held several conference calls during the period of mid-March, 2018 to early April, 2018 to discuss the analysis results regarding evaluation results and findings which influenced shortlist selection. The IE met with EPE's team in late March, 2018 to review the potential shortlist as well as discuss interconnection and transmission issues associated with the locations of the various proposals. The agenda for the meeting consisted of the following items:

1. Overview of EPE's transmission system and expected system upgrades;
2. Review system upgrade revenue requirements analysis;[31]
3. Review LCOE rankings;[32]
4. System modeling discussion
    a. Overview of modeling assumptions
    b. Discuss selection of increasing solar and battery storage based on peak credit
    c. Preliminary expansion results
5. Discuss proposal considerations with regard to impact of loss of largest single hazard;
6. NREL intermittent resources impact to EPE system;
7. Other operational considerations
    a. Economic impact of generation unit life extension versus retirement decisions

EPE indicated that members of its internal transmission group had conducted system planning studies for the EPE system to determine which areas of the system could most cost effectively support new generation projects and which areas would be constrained. At the in-person meeting in El Paso, the EPE team provided the IE with a map of the EPE system which identified the preferred and constrained areas of its system, identified how many MWs could be connected in a specific area of the system without new transmission upgrades or additional facilities and which projects were in specific constrained areas.

Also, based on the large number of proposal options submitted and the closeness of the pricing analysis based on the LCOE's for solar and solar plus storage resources, EPE

[31] EPE noted that the revenue requirements analysis for transmission costs was conducted over the life of the generation project rather than over the life of the transmission asset since EPE's intent was to assess the total costs of each proposal over the term of the contract.
[32] The LCOE rankings were based on calculations including the proposal pricing as well as transmission upgrade cost estimates.

decided to establish LCOE cost ranges which served as the basis for shortlist selection. For example, EPE proposed to select all solar projects in the 50 MW range, if possible, that had an LCOE cost of less than $28.50/MWh. EPE attempted to create cost targets for solar plus storage as well. However, the LCOE values can vary significantly based on the size of the storage component relative to the solar capacity. A smaller battery storage project relative to a larger solar component will generally have a lower LCOE than a project with storage capacity that is larger relative to the size of the solar project based on the fixed cost nature of the storage component. This factor had to be included in the shortlist decision process as well.

EPE also indicated to the IE that based on its analysis and NREL's analysis, wind projects would receive very little or no capacity contribution credit since EPE could not plan on firm wind power for peak requirements in the summer. However, given the prices submitted, EPE did determine that wind should be evaluated for fuel savings only. If wind is used for fuel savings only there would be no need for the resource to be a network resource and no system upgrades would be required since the resource is not firm.

EPE informed the IE that the NREL studies confirmed that the capacity credit for solar on the EPE system should be about 25% of the nameplate capacity. EPE noted that NREL's analysis showed that for the EPE system, the top 25% of the hours in terms of load generated about 20% of the capacity. Also, the NREL analysis concluded that there should not be more than 100 MW of solar at any one site.[33] There is a trade-off to be considered between cost versus operational issues based on project size.

EPE also informed the IE that it was planning to move back the date for shortlist notification by about four weeks to mid-April because the NREL studies were not complete, the transmission assessment was still being developed, and other supporting studies would not be completed on time.

EPE did select the proposed shortlist in early April, 2018 after meeting with the IE in late March. Table 5 below presents the shortlisted proposals selected by EPE in April 2018 by type of resource selected. As noted, some proposals that offered both solar only and solar plus storage were selected in both categories while others were selected only in one shortlist category. Also note that there were several creative proposals that offered a combination of solar, wind, and storage or the addition of a conventional generation unit in addition to renewable and storage options. As a result, EPE selected a robust shortlist comprised of 24 counterparties and a large number of projects. These included 13 solar PV projects, 8 solar plus storage options, 5 stand-alone battery storage projects, 1 geothermal, 1 demand response, 1 wind only, 2 wind plus storage, 6 peaking units, 2 combined cycles, and 1 proposal which included a combination of wind and reciprocating engines.

[33] The NREL analysis considered solar projects at a single site up to 300 MW of capacity but concluded that a large 300 MW single-sited resource would reduce the contribution to peak and increase the need for regulating reserves. As a result, EPE decided to limit solar options to no greater than 100 MW per site to mitigate reliability issues and operational impacts to a reasonable level.

Table 5: Shortlisted Proposals Selected

Bidder	Project Name	Shortlist for Which Project Was Selected
174 Power Global	Iris Solar	Solar Only
Community Energy Solar	Santa Teresa Solar Peaking Project	Solar Only; Solar plus Storage
Eagle Solar Group	El Paso Shines	Solar Only
Lightsource Renewable Energy	96 Ranch Solar	Solar Only; Solar plus Storage
Solaire Direct	Arrowhead Solar	Solar Only; Solar plus Storage
Solaire Direct	San Felipe	Solar Only; Solar plus Storage
Spower	Franklin Solar Project	Solar Only; Solar plus Storage
Hecate Energy	Fabens	Solar Only
Hecate Energy	Santa Teresa	Solar Only
Hecate Energy	Van Horn	Solar Only
Turning Point Energy	Luna Grande	Solar Only; Solar plus Storage
Juwi Inc.	Mesilla	Solar plus Storage
8minutenergy Renewables	Newman Solar	Solar plus Storage
Sovereign Energy Storage	Las Cruces Energy	Solar plus Storage
NextEra Energy Resources	Coyote	Solar Only; Solar plus Storage
Monkey Industrial Supply	Chaparral	Solar plus Storage
Clenera Renewable Energy	Silver Spike Solar	Solar plus Storage
Enel Green Power, NA	Copper	Stand-alone Storage
Enel Green Power, NA	Rio Grande	Stand-alone Storage
Enel Green Power, NA	Anthony	Stand-alone Storage
Enel Green Power, NA	Diablo	Stand-alone Storage
Coronal Energy	Canutillo Energy Storage Ctr	Stand-alone Storage
Ormat	Rincon Geothermal Energy	Geothermal
Stem Inc. and Forefront Power	Stem	Demand Response
Clean Line Energy Partners	Mesa Canyons	Wind-Solar-Storage
EDF Renewable Development	Rio Grande Solar	Solar plus Storage
EDF Renewable Development	Oso Grande	Wind Only
EDF Renewable Development	Oso Grande	Wind plus Storage
Scout Clean Energy	Great Divide Wind Farm	Wind with Gas Reciprocating Engines
Scout Clean Energy	Great Divide Wind Farm	Reciprocating Engines
Southern Power	No Name	Combined Cycle
Southern Power	No Name	Two Unit Combustion Turbine
NRG	McCombs St.	Simple Cycle
El Paso Electric	Newman 6	Combined Cycle
El Paso Electric	Newman 6 Phase 1	Combustion Turbine Only
El Paso Electric	Copper 2	Simple Cycle Gas Turbine
El Paso Electric	Copper 2 Block	Gas Turbine

EPE notified Bidders of the status of their proposals on April 13, 2018. For those bidders who had submitted multiple projects, EPE informed the bidders of the project(s) selected for the shortlist and those that were not accepted for the shortlist. In the letter sent to

bidders selected for the shortlist, EPE requested that bidders submit a best and final offer as well as responses to clarifying questions submitted as an attachment to the notification letter. Both were due by May 14, 2018. With regard to the best and final offers EPE identified the specific sizes for the base resource (i.e. solar only) as well as the solar plus storage capacities requested.[34] EPE was generally consistent with the sizes required for similar proposals, if possible, based on the project sizes offered in the original proposal.

As noted, the overall shortlist of projects in all categories was a very robust shortlist with a large number of projects and even a greater number of options. EPE's rationale in selecting such a robust shortlist was its concern that prices were close and the best and final prices could swing the rankings considerably. EPE also wanted to ensure that there was an adequate amount in each major shortlist category to allow specific resources to meet the entire amount of capacity required if warranted. The IE felt that the shortlist was too expansive and could result in a lengthy evaluation process but did understand the reasonableness of the rationale used by EPE to select such a shortlist based on the above factors.

Best and Final Offers

Short listed bidders were required to submit their best and final offers by May 14, 2018. The majority of the shortlisted bidders submitted best and final offers on schedule and the vast majority of the bidders reduced their pricing from the original price submitted.[35] Several of the shortlisted bidders indicated in their best and final proposal that pricing was dependent on their ability to qualify for the ITC benefits.

As noted in Table 5 above, EPE originally shortlisted the NextEra Coyote project but did not shortlist the NextEra Otero project. On April 26, 2018, NextEra sent an email to EPE notifying EPE that the Otero project had received an updated Facilities Study which had significantly reduced network upgrade costs as compared to the SIS Report provided with the initial proposal submittal. The interconnection costs and Network Upgrades were expected to decrease from $34.7 million to $15.1 million based on the Facilities Study which was attached to the email by NextEra.[36] As a result of this revision, EPE conducted an analysis of the costs of the Otero proposal and proposed to add this project to the

[34] As an example, for one shortlisted bidder, EPE requested that the bidder include solar capacity offerings for 25 MW, 50 MW, and 100 MW only and to also include solar plus storage capacities for 50 MW Solar plus 25 MW storage and 100 MW solar plus 50 MW storage.
[35] One of the challenges associated with the direction of pricing for best and final offers versus the original offers was that some bidders offered different project sizes, COD dates, contract terms or fixed and/or escalating prices in their original proposals than in their best and final offers because EPE asked the bidders to offer consistent project sizes for their best and final offers to facilitate resource selection. For those proposals with the same proposal size, a comparison is straightforward. Solar only projects generally submitted similar proposal structures for their original and best and final proposals that allowed for a consistent comparison. However, most solar plus storage bidders submitted best and final proposals that varied from their original offers to conform to EPE's requirements.
[36] EPE had also included $40 million for a new transmission line to connect the Otero project given its location. However, upon further review EPE recognized that this line was not applicable to the Otero project but would be applicable to projects located north of the Otero project.

shortlist based on the revised LCOE results. The IE agreed with this decision given the vastly improved economic results and the updated study results provided by EPE Transmission. On May 2, 2018, EPE sent a follow-up letter to NextEra indicating that both the Coyote and Otero projects were shortlisted and asked the projects to submit best and final offers by May 14, 2018.

E3 Analysis

Shortly after submission of the best and final proposals from the shortlisted bidders, EPE informed the IE that it was retaining E3 to assess EPE's evaluation of the shortlisted proposals selected through the RFP. E3's role was to conduct portfolio optimization and resource planning analysis for EPE to assess EPE's evaluation of current bids in response to the 2017 All Source RFP. EPE informed the IE that E3 intended to use its Resolve Model, E3's optimal capacity expansion model, to develop optimal portfolios of resources proposed including renewable, conventional and energy storage resources that minimize EPE's total generation investment, fuel, and operating costs over time while also meeting EPE's energy and capacity requirements.[37] The portfolio optimization was designed to help inform EPE's procurement decisions on recent bids solicited for new generation resources, as well as supplementing ongoing work of EPE staff on the integrated resource plan.

EPE indicted to the IE that it expected E3's analysis to be completed in the October, 2018 timeframe which would allow EPE to complete its assessment by December, 2018. The decision to engage E3 was for E3 to conduct an independent review of the selection due to EPE's concerns about the complexities associated with the integration of renewables and storage. EPE wanted to determine if the amount of solar and storage selected based on preliminary Strategist runs was feasible based on the intermittent nature of the resource and to also determine if the E3 analysis would select a comparable mix of resources.

Delay in Award Date

At the end of July, 2018, after discussions with the IE, EPE sent an email to shortlisted bidders indicating that the award date scheduled for August 2018 would be delayed until the end of the year 2018. EPE noted that it would be conducting a further review of EPE's preliminary findings to ensure the selected resources mix was in the best interest of EPE's rate payers while maintaining the integrity of a reliable electric system. This is as a result of the operational considerations of renewable intermittent resources that have added complexities in the review process.

Refreshed Best and Final Offers

[37] E3's Resolve Model has been designed by E3 for specific application to electricity systems considering the impact of integrating high penetrations of variable renewable energy, and its methodology enables a more robust comparison of tradeoffs of different conventional and renewable resource options within a system that already has significant renewables.

On September 22, 2018, EPE sent an email to shortlisted bidders extending an opportunity for shortlisted bidders to refresh their previously submitted Best and Final offer in May, 2018. EPE indicated that the refreshed bid would be used for final evaluation and resource selection. EPE stated that the refreshed Best and Final Offers should be submitted by September 28, 2018. Submission of a Best and Final Offer at this time was not mandatory. If a bidder elected to not submit a refreshed bid, EPE notified the Bidder that it would continue to use the previously submitted offer in its review. EPE also noted that it continues on schedule for resource selection to initiate contract negotiations by December 2018. Approximately nine bidders submitted updated revised pricing for their eligible proposals.

Portfolio Evaluation – Strategist Assessment

Once the best and final offers and responses to questions were received, the LCOE levelized costs were recalculated using the parameters from the best and final offers. Also, the best of the remaining shortlisted proposals were then modeled in Strategist. The objective of this evaluation, as previously described, was to analyze the economics of various resource portfolios with the objective of selecting the least cost portfolio of resources based on the cost structure of the bid, economic assumptions, operational characteristics proposed by the bidder, and other costs based on the type of project evaluated (e.g. Allowance for Funds Used During Construction for resources which EPE would own and include in rate base, etc.). The objective of EPE was to identify the proposals or construct the most cost-effective combination of supply and demand-side resources that would meet EPE's capacity needs for the 2022-2023 summer peaks. Strategist's resource optimization module, PROVIEW, was utilized in full optimization mode in undertaking this analysis. PROVIEW creates multiple portfolios that are feasible under the requirements defined to address the resource deficiency identified by EPE for the 2022-2023 timeframe.[38] Each proposal and portfolio were ranked based on economics. The ranking metric used was the Present Value of Utility Costs (PVUC), which includes system fuel costs, operation and maintenance costs, and incremental capital expenditures associated with new generation plant including the proposals received and all existing generation.[39] The PVUC for each portfolio was generated over the 20-year study horizon 2018-2037, with the goal of minimizing the PVUC for total system cost for each generation expansion plan. Evaluation of a portfolio of resources taking into account total system costs for each resource plan is a common methodology used in the procurement process for resource evaluation.

[38] For the Strategist analysis, EPE allowed the resource options proposed to come into service in either 2022 or 2023.

[39] Generic future units consisting of gas-fired combined cycle units and combustion turbine peaking units as well as renewable, storage, and combination of renewable and storage resources were used as options to fulfill capacity requirements beyond the timeframe of this RFP (i.e. beyond 2023). The cost of these options was based on the 2017 IRP, which also incorporated information gleaned about project costs from this RFP.

EPE also evaluated all highly ranked shortlisted proposals taking into consideration the overall economics, reliability, availability, and dispatch flexibility of the various resource options proposed.[40]

However, there was mutual exclusivity issues associated with a few proposals. For example, the self-build proposal offered multiple technology options as well as different project structures. Only one of these options could be selected, although all options could be evaluated within Strategist. The same goes for several solar PV and solar plus storage projects for the same site.

EPE initially modeled the bids using the Strategist Model under base case scenario assumptions as well as based on three sensitivity cases. In addition, EPE provided the IE the Strategist model files including all input files, detailed cost and operating information for each resource on the system, the output files which include the PVUC cost for each portfolio, and the components of the resource plan for each portfolio.[41]

EPE generated Strategist results under six different cases, which included combinations of resource plans with the opportunity for market sales as well as combinations without

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[40] EPE modeled all conventional generation options in the initial Strategist runs at the request of the IE since these resources were competing primarily against the self-build options. This would ensure that if a conventional option was selected, at least all options were evaluated against the self-build, with no opportunity for second-guessing as to whether a larger or different type of conventional technology could offer lower system cost when evaluated with other non-conventional options. The Strategist analysis results for the conventional generation options did select the self-build options in most cases. Once the shortlist was selected, EPE evaluated only the eligible shortlisted resources for the final Strategist evaluation. At this stage, two combined cycle projects proposing GE 7HA technology were deemed to not meet the eligibility requirements outlined in the RFP. EPE also conducted limited Strategist runs comparing the costs of the NRG CT (referred to as CT1) to the EPE GT6 proposal because the Strategist model did not select the CT1 option in any of the cases. The Strategist results indicated that the CT1 option was higher cost than the GT6 option by more than $25 million. EPE did limit the amount of solar and solar plus storage options due to the operational limits identified in the NREL analysis. NREL and EPE concluded that EPE could integrate up to 300 MW of solar plus 150 MW of wind. Thus, only the lowest LCOE cost options were considered up to the limits specified.

[41] The application of Strategist requires significant data inputs including projected load data, detailed financial and operating data for EPE's existing generation resources such as capacity, heat rates, operation and maintenance expenses, forced outage rates, run status and maintenance schedules, forecasts of fuel prices, cost and availability of economy energy, costs and contract information associated with power purchase contracts, company financial data such as interest rates, capital structure, property taxes, tax and book depreciation, economic data such as inflation forecasts, and operating constraints associated with EPE's existing generation and transmission capabilities. The primary data inputs in Strategist include:

1. Demand and energy forecasts for the study period;
2. Power market price forecasts for the study period;
3. Fuel forecasts for all fuels in the EPE system, including gas, nuclear and oil;
4. Zonal ("hub and spoke") transmission information;
5. Operating characteristics of potential proposals, generic expansion units and existing generating resources including capital costs, capacity states, heat rates, fixed and variable O&M costs, maintenance schedules, emission rates, and other operating constraints; and
6. System requirements such as minimum reserve margin, spinning reserve requirements, and unit commitment requirements.

market sales.[42] The Market Sales/No Market Sales cases were evaluated based on three Sensitivities: (1) Balanced Solar and Storage options considered; (2) Heavy Stand-alone solar options considered; and (3) Heavy Storage options considered. Based on the NREL analysis, no more than a total of 400 MW of solar could contribute to peak. Table 6 lists the portfolios selected and costs for the Market Sales sensitivities while Table 7 lists the portfolios and costs for the No Market Sales sensitivities.

Table 6: Market Sales Opportunities with Sensitivities

Year	Portfolio 1 (Sensitivity 2)	Portfolio 2 (Sensitivity 1)	Portfolio 3 (Sensitivity 3)
2022	Hecate Solar Fabens (50 MW); Hecate Solar Van Horn (50 MW); Hecate Solar Santa Theresa (100 MW); Coronal Storage (50 MW);	Hecate Solar Santa Theresa (100 MW); NextEra Otero (100 MW solar and 50 MW storage)	NextEra Otero (100 MW solar and 50 MW storage); Community Solar (100 MW Solar and 50 MW storage)
2023	GT6 Self-Build (226 MW); NextEra Otero (100 MW solar and 50 MW storage)	Coronal Storage (50 MW); GT6 Self-build (226 MW)	Hecate (50 MW); Stem DSM (30 MW solar and 19 MW battery); Copper CT Self-build (49 MW); Coronal Storage (50 MW); Enel Storage (50 MW)
Cost (thousand $)	$3,101,932	$3,107,265	$3,117,945

The Strategist model selected the Community Energy Solar plus Storage project for both sensitivities 1 and 2. However, EPE substituted the NextEra Otero Solar plus storage project (same size) for Community Solar for a few reasons:

1. The NextEra Otero project was now the lowest cost solar plus storage option due to the updated transmission interconnection costs for this project;
2. The Hecate Santa Theresa was the lowest cost solar PV project and it was located in the same transmission system location as the Community Energy project. This would require additional upgrades to deliver an additional 100 MW project in the same general location. The interdependencies between projects were not specifically incorporated into the Strategist analysis;
3. The addition of transmission interconnection costs to the Community Energy project would increase the LCOE cost benefit enjoyed by the Otero project.

The above issue does not affect Sensitivity 3 since this portfolio is selecting a different Hecate proposal (50 MW) in another location which would allow EPE to select both the NextEra Otero and Community Energy Solar plus Storage project.

[42] For each of the six cases or portfolios identified above, Strategist generated 4,000 different plans ranked from 1 to 4,000. EPE provided the results of all the output from the six cases to the IE for review and assessment.

Table 7: Without Market Sales Opportunities with Sensitivities

Year	Portfolio 1 (Sensitivity 3)	Portfolio 2 (Sensitivity 1)	Portfolio 3 (Sensitivity 2)
2022	Stem DSM (30 MW solar and 19 MW battery); Community Solar (100 MW Solar and 50 MW storage)	Hecate Solar Santa Theresa (100 MW); NextEra Otero (100 MW solar and 50 MW storage)	Hecate Solar Fabens (50 MW); Hecate Solar Van Horn (50 MW); Hecate Solar Santa Theresa (100 MW); Coronal Storage (50 MW);
2023	NextEra Otero (100 MW solar and 50 MW storage); Clenera (50 MW solar and 25 MW storage); Copper CT Self-build (49 MW); Coronal Storage (50 MW); Enel Storage (50 MW)	Coronal Storage (50 MW); GT6 Self-build (226 MW)	GT6 Self-Build (226 MW); NextEra Otero (100 MW solar and 50 MW storage)
Cost (thousand $)	$3,338,546	$3,340,643	$3,340,710

EPE informed Merrimack Energy that it was focused on portfolios with no sales since EPE's focus was to meet peak needs and not to sell excess energy in the market. Based on EPE's analysis, the difference between the sales and no sales cases would be the exclusion of 100 MW of solar from Hecate (i.e. select 100 MW of solar from Hecate as opposed to 200 MW). EPE also informed the IE that the EPE system now has a second peak around hour 20 and that the Strategist model does not recognize the second peak. However, the selected portfolio offers the most reliable resource adequacy relative to the 15% reserve margin, even during a poor solar production day.

EPE provided its analysis and supporting documentation to Merrimack Energy and the parties held multiple calls to discuss the results and the basis for selection. For example, the IE asked EPE why EPE did not select Portfolio 1 (Sensitivity 3) with additional storage capacity. EPE's rationale was that this portfolio, while lower cost, did not provide adequate resources to meet load plus a fifteen percent (15%) reserve margin for reliability purposes. Furthermore, this portfolio contained a significant amount of storage capacity and would have resulted in storage meeting over 10% of generating capacity, which is more than any other utility. Also, the expected decline curve in storage costs and likely improvement in storage technology argue for waiting until future solicitations to add more storage. The IE views the rationale identified above for selecting Portfolio 2 as a reasonable conclusion since the other portfolios do not provide adequate resources to meet reserve requirements and it is uncertain how storage costs and technology[43] are likely to change over time and not strictly rely on the costs proposed in this solicitation as an indicator of future costs.

[43] Merrimack Energy is aware that energy storage project costs have declined considerably over the past 5 years and expectations are for a continued decline along with more technology choices.

There are several observations related to the portfolio results presented above:

1. The GT6 combustion turbine self-build gas project was selected in 4 of the 6 portfolios;
2. The heavy solar sensitivity case is the lowest cost option for portfolios with sales due to the expected ability of EPE to sell excess solar energy into the market given the low price of the solar energy;
3. EPE determined that Portfolio 3 for the Market Sale case and Portfolio 1 for the Without Market Sales case had operational reliability issues. EPE determined that the portfolios do not provide adequate resources for load and 15 percent reserve margin for the early evening hours after sunset;
4. EPE noted that the inflection point where the model selects solar plus storage over solar only proposals is after the Hecate proposals are selected.

As a result, EPE selected Portfolio 2 from the analysis Without Market sales as the optimal portfolio to fill the 2022 and 2012 capacity need. The recommended portfolio includes the following resources:

- Hecate Santa Theresa project (100 MW solar);
- NextEra Otero (100 MW solar plus 50 MW battery storage);
- Coronal (50 MW battery storage);
- GT6 Self-build (226 MW gas-fired combustion turbine)

The recommended portfolio provides 376 MW of capacity, and includes 200 MW of solar and 100 MW of new battery storage projects.[44]

Self-Build Proposal

One of the primary concerns of an IE in cases where a utility self-build option ranks highly in the evaluation process is to ensure all costs are appropriately reflected in the utility proposal and are accurately accounted for in the evaluation process. One of the IE's primary concerns is that the cost of the utility resource is proposed to be lower than it reasonably should be and this results in the project being selected over other viable and low-cost projects.

Although the IE reviewed and assessed the evaluation results throughout the solicitation process, once it became obvious through the evaluation results that a self-build option was likely to be included in the final portfolio, Merrimack Energy informed EPE's RFP project manager that it wished to set up a conference call with the self-build team to confirm the cost information for the self-build resources. The conference call took place on December 17, 2018. Merrimack Energy asked questions regarding verification of the capital costs, contingency levels, O&M costs, sales tax, property taxes, pipeline charges, capital expenditures, and Allowance for Funds Used During Construction ("AFUDC"). Based on the information provided during the call, it appeared to the IE that the self-build costs were appropriately included in the self-build proposals and properly incorporated in the evaluation by the RFP team.

[44] GT6 is 226 MW plus 100 MW battery storage + 50 MW of capacity credit for the solar PV projects.

E3 Final Analysis

EPE briefed the IE at several points in the process regarding the status of the E3 analysis and provided the IE with a slide deck prepared by E3 that summarized the results of E3's assessment of the RFP proposals. As noted, E3 used its RESOLVE and RECAP models to derive an optimal portfolio of resources that minimized system cost while also ensuring resource adequacy. The E3 analysis differed from the Strategist analysis in that the E3 analysis identifies and selects the resources based on an optimal portfolio that offers the lowest cost irrespective of the proposal sizes submitted by the bidders. In other words, E3's analysis does not have bounds with regard to resource size but instead selects sizes for proposals that minimize portfolio costs. E3's analysis, therefore, selects a theoretical or hypothetical portfolio of resources and then identifies the potential proposals that could meet the portfolio. The portfolios were evaluated assuming no exports of excess power from the EPE system via the Palo Verde line (i.e. no opportunity sales). EPE provided several scenarios for the RESOLVE model to assess that essentially forced in the conventional options that were the most economic, including (1) Newman 6 CT (GT6 – 226 MW); (2) Newman life extension[45] + Copper 2 CT + reciprocating engines (176 MW); (3) Newman life extension + Copper 2 CT (125 MW); (4) NRG PPA (324 MW). The analysis is conducted over the period 2023 to 2038, with results generated for 2023, 2028, and 2038. The RESOLVE model selected the following hypothetical resource options to meet a 2023 requirement:

- 160 MW Gas-fired CT
- 54 MW Battery Storage
- 200 MW Solar paired with 100 MW Battery storage
- 103 MW Solar only
- 150 MW wind

It should be noted that there were no 160 MW CTs proposed through the RFP. Thus, EPE would be limited to a project similar to the smaller Copper CT combined potentially with a life extension of the Newman project or select a larger CT option such as the GT6 CT. Based on the E3 analysis, EPE reached several conclusions regarding its selection based on the Strategist model cases:

1. The portfolio selected by E3 and by Strategist is very consistent particularly when project sizes are taken into consideration. The E3 analysis selected more solar and storage in total and less gas but the magnitude and relationships between the resource mix in either cases (i.e. Resolve and Strategist) are generally consistent. Both models selected a combination of gas-fired CTs, standalone storage, stand-alone solar and combination of solar plus storage. The Resolve model also selected wind for system energy purposes.[46]

[45] EPE commissioned Burns and McDonnell to conduct a study of the costs associated with a life extension of Rio Grande Unit 7. The results of the study are used for this analysis.

[46] Based on the RESOLVE and NREL analysis, EPE did initiate negotiations with a wind proposal that offered low cost energy but was not able to reach resolution during negotiations. EPE attempted to negotiate the same price offered for a lower amount of MWs but the bidder proposed to increase its price for a smaller project which was not economic for EPE's customers.

2. EPE concluded that its selection of the amount of renewable and storage resources was a reasonable and viable decision based on the E3 results;
3. EPE also concluded that if the portfolio were to select no gas, it would introduce operational constraints since after a certain amount of solar capacity is added, solar resources without storage would no longer be able to help to meet a new evening peak. To meet this peak would require significantly greater additions of renewable resources with storage capacity which would allow for the shifting of output to serve load. However, the analysis indicates that the economics are not sufficient to shift to a portfolio with no gas included. Instead, the portfolio selected is a diverse and balanced portfolio at this point;
4. E3's analysis results for 2028 and 2038 show significant increases in stand-alone storage, solar and gas-fired generation additions to meet resource needs.

Announcement of the Results of Competitive Bidding for New Generation

On December 26, 2018, EPE issued a news release regarding the results of the competitive bidding process for new generation. The news release announced that the winning bids included the expected purchase of 200 MW of utility scale solar resources, 100 MW of battery storage, and the construction of a 226 MW natural gas combustion turbine generating unit at the company's Newman Power Station with an anticipated operational date of 2023 at an expected cost of approximately $143 million.[47] In addition, the Company expected to pursue the purchase of 50 to 150 MW of wind and solar generated power to provide for fuel diversity and energy cost savings.[48]

V. Assessment of EPE's All Source Solicitation Process

This section of the Report provides Merrimack Energy's overall assessment of El Paso Electric's 2017 All Source RFP solicitation process with respect to the consistency of the process with the overall objectives for an effective competitive procurement process, including the reasonableness of the approach of El Paso Electric in dealing with key issues. In particular, issues associated with the fairness and transparency of the solicitation process are addressed in this section.

A. Criteria for an Effective and Compliant Procurement Process

In assessing whether a competitive procurement process is likely to lead to a positive outcome which benefits customers, meets the objectives and criteria established, and is

[47] ~~The capital cost of the project reported in the press release was consistent with the capital cost included in the best and final proposal submitted by the self build generation team.~~

[48] As noted, EPE was not able to reach agreement with a wind project developer for fuel savings benefits. EPE also considered two additional solar projects from the same developer selected for a 100 MW solar PPA with the objective of achieving economics of scale benefits for more generation. However, EPE was not able to negotiate for fuel savings benefits that it was hoping to attain.

consistent with regulations and statutes (if applicable), Merrimack Energy considers the following questions:

- Is the process being conducted in a manner consistent with pertinent statutory and regulatory requirements and objectives?
- Is the process fair, equitable, unbiased, and comprehensive?
- Is the process reasonably transparent to bidders?
- Will the process likely lead to positive benefits to utility customers?
- Is the process adequately designed to encourage broad participation from eligible bidders?
- Do the RFP documents adequately define the products solicited, the objectives of the process, bidding guidelines, the bidding requirements to guide bidders in preparing their bids, the bid evaluation and selection criteria of importance, and the risk factors important to the utility issuing the RFP?
- Are the contracts designed to provide a reasonable balance of risk relative to the objectives of the counterparties, seeking to minimize risk to utility customers while ensuring that projects can reasonably be financed and constructed?
- Does the evaluation methodology identify how qualitative and quantitative measures are considered and are consistent with the defined metrics for evaluation and selection?
- Are there differences in the evaluation methods for different technologies that cannot be explained in a technology neutral manner?
- Does the quantitative evaluation methodology allow for consistent evaluation of bids of different sizes, technologies, products and in-service dates?
- Was the evaluation methodology appropriately applied to the bids submitted?
- Were the bid evaluation and selection decisions reasonable and in accord with the evaluation framework?

The application of a fair and transparent competitive procurement process is important for creating competition for the overall benefit of customers. Fairness generally means that all bidders are treated similarly, have access to the same information at the same time, and have equal opportunity for effectively competing in the process. A reasonable level of transparency[49] is also another important element leading to a successful solicitation process. Transparency means that there is a reasonable amount of information to guide bidders in preparing a complete proposal to meet utility requirements. Reasonably transparent processes are those that provide information, guidance, and direction to bidders on the information required by the utility to evaluate their proposal, provide guidance on the bid evaluation criteria, and the bid evaluation and selection process. Fair and reasonably transparent processes should encourage competition among potential bidders who can adequately determine if they have the ability to effectively compete in the process and lead to more complete and comprehensive proposals. The

[49] Merrimack Energy always uses the term "a reasonable level of transparency" because a competitive procurement process is very rarely fully transparent. Bidders, for example, don't have access to the utility's models and data used to evaluate other proposals. Likewise, the utility generally doesn't provide the detailed back-up information for all the criteria used to evaluate bids from a qualitative perspective.

greater the level of competition for all products sought by the utility the greater the chance for competitive options and lower prices for consumers.

Along with fairness and transparency, another issue of importance is the possibility for bias in the procurement process. Bias can take several forms such as design of a competitive procurement process in which bidders feel that the process unduly favors one type of resource over another. Bias can also come into play with regard to the application of the quantitative and qualitative evaluation processes such as quantitative methodologies that favor projects of different terms, sizes or in-service dates or different transaction types. In this context, reasonable evaluation criteria reasonably applied do not raise concerns regarding bias. Bidders are also generally concerned with potential bias associated with preferential treatment of a self-build option relative to third-party projects.

Another consideration in assessing the integrity of the solicitation process is to assess whether the risk allocation associated with contracts for different transaction, resources or product types is reasonable and allows them to be reasonably compared. In this solicitation, El Paso Electric did not include pro forma contracts or term sheets with the RFP documents, but proposed instead to negotiate the contracts once the resources are selected for contract negotiations. Merrimack Energy has seen different approaches for addressing contract risk among utilities. While a number of utilities do include pro forma contracts, others do not, preferring instead to negotiate from a blank slate. Although both approaches can be effective, the IE believes that providing some measure of guidance to bidders regarding contract risk allocation can lead to more refined and consistent pricing as bidders incorporate the risk into their proposal price.

B. Framework and Principles for Evaluating El Paso Electric Company's Implementation of the Bid Evaluation and Selection Process

Merrimack Energy has developed a set of criteria that we generally use to evaluate the performance of the soliciting utility in implementing a competitive and effective solicitation process. In this section of the report, the performance of El Paso Electric relative to the criteria is assessed in more detail. This report addresses the RFP process from the issuance of the RFP through bid evaluation and selection. Based on Merrimack Energy's experience with competitive bidding processes and observations regarding such processes, the key areas of inquiry and the underlying principles used by Merrimack Energy to evaluate the bid evaluation and selection process undertaken by the host utility (i.e. EPE) include the following:

1. Were the solicitation procurement targets, products solicited, principles and objectives clearly defined in the RFP document and were consistent with the utility's stated objectives?

2. Did the solicitation process result in competitive benefits for customers from the process?

3. Was the solicitation process designed to encourage broad participation from potential bidders?

4. Did El Paso Electric implement adequate outreach initiatives to encourage a significant response from bidders?

5. Was the solicitation process conducted in a consistent, fair and equitable, comprehensive and unbiased manner for all bidders?

6. Were the bid evaluation and selection processes and criteria reasonably transparent such that bidders would have a reasonable indication as to how they would be evaluated and selected?

7. Do the bid documents clearly define the type and characteristics of products desired and the information the bidder should provide to ensure that the utility can effectively conduct its evaluation?

8. Did the evaluation methodology reasonably identify how quantitative and qualitative measures would be considered and applied?

9. Was the bid evaluation process based on the criteria specified in the bid documents?

10. Are there differences in the evaluation methodology for different technologies that cannot be explained in a technology neutral manner?

11. Does the price evaluation methodology allow for consistent evaluation of proposals of different sizes and in-service dates?

12. Did the Request for Proposal documents describe the bidding guidelines, the bidding requirements to guide bidders in preparing and submitting their proposals, and the bid evaluation and selection criteria?

13. Did the utility adequately document the results of the evaluation and selection process?

14. Did the solicitation process include thorough, consistent and accurate information on which to evaluate bids, a consistent and equitable evaluation process, documentation of decisions, and guidelines for undertaking the solicitation process?

15. Did the solicitation process incorporate the particular aspects of the utility system and the preferences and requirements of the utility and its customers?

The implementation of El Paso Electric's 2017 All Source Request for Proposals for Electric Power Supply and Load Management Resources process relative to the characteristics identified previously is described below. Merrimack Energy has had limited involvement in contract negotiations and is thus not in a position to discuss this objective.

1. Solicitation Products and Targets

One criterion regarding the quality of the solicitation process is whether the procurement targets, products solicited, evaluation methodology and criteria, information required of bidders, and principles and objectives of the process are clearly defined in the bidding documents. EPE's RFP documents clearly defined the amount of resources requested each year and over the two-year planning and procurement period, the timing and preferences of EPE for providing the capacity, the type of products and product characteristics requested, the proposed duration of the contract, threshold requirements, bidder eligibility, schedule for undertaking the process, the evaluation and selection criteria and process, and the context of the RFP and associated documents and the information required of bidders. El Paso Electric provided the necessary information to bidders in the RFP document in a clear and concise manner. The IEs opinion is that the solicitation targets and product requirements were well defined in the RFP documents. In addition, EPE provided guidance to bidders regarding proposal preferences and requirements, including EPE's preference for firm resources which can provide high availability, guaranteed generation output during peak hours in the months of May through September as well as guarantee a minimum annual generation output.

2. Competitive Benefits

Competitive benefits can result from a process that encourages a large number of suppliers in combination with reasonable bidding standards and requirements such that the process should lead to robust competition, lower prices for consumers, limited risk, and project reliability and viability.

EPE's solicitation process encouraged a very robust response from the market, with many large and significant project development firms participating in the process, offering a range of technologies, project structures and project sizes. The solicitation process led to a robust response from the market with approximately 508 alternative offers from 37 bidders and 59 individual projects, including several alternative technologies or project structures offered by bidders. The total capacity proposed was significantly greater than the amount of megawatts requested. In addition, the process led to a variety of resource options, including renewable resources, renewable resources with energy storage, stand-alone energy storage, conventional generation options, demand response option and unique combinations of different renewable and conventional generation options.

As noted, the RFP documents were reasonably transparent and allowed bidders to effectively reflect the requirements outlined in the RFP and related documents in

structuring their proposals. As a result, most bidders provided detailed proposal information which allowed EPE to generally undertake a consistent and thorough evaluation. Importantly, EPE's approach to the process was designed to maintain competitive options throughout the process, from submission of proposals through final evaluation and selection. The application of the two-stage bidding process – initial bid/best and final offer – led to a somewhat more competitive and effective process since bidders could reflect any market changes in their final bids. While the process ended up being essentially a three-stage process, with EPE asking bidders to offer best and final pricing on two occasions due to the lengthiness of the process, bidders continuously reduced prices. Furthermore, no shortlisted bidder withdrew from the process despite the long timeframe for evaluation and selection.

From a bottom-line perspective, the prices offered by suppliers, particularly the more competitive solar PV projects, were economically attractive and appeared to reflect the continued recent pricing declines we have seen in some other markets. This may have been due to later in-service dates required in this RFP, in the 2022 – 2023 timeframe. Some of the lower cost solar proposals submitted were among the lowest cost solar PV proposals we have seen in any renewable solicitation throughout the United States.

3. Broad Participation from Potential Bidders

As noted above, the process encouraged a very robust response from a range of different bidders which provided a variety of technologies and contract structures. EPE received proposals for all eligible resources (i.e. renewable resources, renewable and storage, stand-alone storage, demand response and gas-fired conventional generation options) and contract structures (i.e. Power Purchase Agreement, Build-Transfer for EPE to purchase proposed generation resources for solar, energy storage and conventional generation options, Asset Purchase of a proposed new or existing generating facility, and EPE equity participation in a bidders existing generating facility). Solar only projects as well as combined solar plus storage projects were the dominant resources offered. Many of the bidders proposed both options for consideration from the same project. With regard to conventional generation options, EPE received proposals for new combined cycle projects, combustion turbine peaking units, and reciprocating engines. Not only was the overall response the most robust for any power procurement solicitation on which Merrimack Energy has served as IE, but the diversity of resources for an all source solicitation was robust as well. Probably the biggest disappointment with respect to the proposals submitted was that only one demand-side proposal was submitted into the RFP.

4. Outreach Initiatives

EPE undertook reasonable efforts to inform the market of the issuance of the RFP and the Company's requirements through sending out formal invitations to approximately 650 contacts or potential bidders based on past market contacts. EPE also issued a press release that notified prospective bidders and interested parties of the availability of the RFP and the website address for accessing the RFP. The press release was picked up by several trade publications. EPE also established a website which included all the

information required by bidders to submit a proposal. The availability of documents, questions and answers, and notifications about the process allowed interested bidders or participants to remain continually informed about the RFP with no restrictions regarding access to information. EPE also held a bidders' conference for prospective bidders and for interested participants.

5. The solicitation process should be consistent, fair and equitable, unbiased, and comprehensive

The principal focus of our assessment of EPE's RFP process and the Company's performance in carrying out the process was on the bid evaluation and selection process. The key criteria (fair, equitable, consistent and unbiased) are applied to EPE's implementation of the evaluation and selection process as well as EPE's ability to adhere to the requirements outlined in the RFP document. Therefore, the critique will focus on the implementation of the process rather than specific issues regarding the process.

In our view, EPE's evaluation and selection process was generally consistent throughout and was generally reviewable and verifiable by the IE. Merrimack Energy's independent review of the evaluation confirms that the bids were consistently and fairly evaluated from a quantitative and qualitative perspective. The major deviation from the intended process was the time required to complete the evaluation and selection process, months later than originally expected. The IE was concerned that such delays may chill bidders' responses to the process and result in reduced competition. However, the results illustrate that the bidders were not deterred by the delays and continually reduced their prices to remain competitive.

In addition, the level of detail and support associated with the quantitative and qualitative evaluation components of the process was substantial and appeared to be consistently applied across all proposals. EPE provided the IE with all model runs for the spreadsheet models which served as the basis for short list selection for review and comment. As EPE had indicated in the RFP, shortlist selection would be dependent on the bid price, interconnection and transmission upgrade costs, and non-price factors which were applied for selecting a shortlist by product type.

To ensure the evaluation process would generate a consistent and informed result, EPE combined its own internal modeling capability associated with the Strategist and Aurora models along with retaining both NREL and E3 to assist with their own expert analysis. The combination of all these resources resulted in a detailed and thorough evaluation and selection assessment and checks and balances on the results. The use of the Strategist model and the E3 RESOLVE model combined with the detailed evaluation of bids from an LCOE perspective resulted in a very detailed assessment of all reasonable proposals. Furthermore, the detailed analysis was based on integration of the shortlisted proposals and portfolios with the EPE system, which allowed for a consistent and comprehensive least cost solution. This type of evaluation methodology has been used by a number of utilities in undertaking both resource planning initiatives and competitive bidding programs and is a tested methodology by a large number of industry participants. While

interpretation of complex bids could complicate the evaluation, EPE (along with the IE) spent time discussing the bids and the appropriate approach for conducting the evaluation. In our view, the methodology appeared to be fairly and consistently applied to all bidders. EPE also provided the IE the back-up files from the Strategist model for review and discussion prior to selecting the preferred portfolio.

EPE's RFP project team also identified and submitted follow-up questions to the bidders during the evaluation process to ensure the RFP project team and IE had a complete base of information for their evaluation process.

With regard to bias, the most obvious consideration is whether the process favors one type of bidder, technology or project structure over another. The use of a fully integrated system impact analysis using a modeling tool capable of evaluating supply-side and demand-side resources ensured that no biases should be present in the evaluation. While Merrimack Energy identified the potential for bias in the levelized cost analysis stage of the evaluation for selection of the short list, the approach undertaken by EPE to use the evaluation results to essentially evaluate and rank "like or similar resources" (i.e. demand response/load management, intermittent renewable, gas-fired peakers, etc.) was an effective approach for addressing potential equity and bias issues in the process and ensured that the best proposals in each category would be selected. Furthermore, the process adopted by EPE ensured that all resource types and options had the ability to compete for final portfolio selection.

6. Transparency of the Process

The RFP documents, offer templates and responses to questions led to a process whereby reasonably sophisticated bidders would be aware how to effectively compete. The threshold, quantitative, and qualitative evaluation factors, criteria and process were provided in the RFP as well as a description of the solicitation requirements. The information required of bidders was generally clear and thorough and was consistent with industry standards. Furthermore, the RFP document clearly identified the characteristics of the resources that were of importance to EPE as evidenced by the quality of the bids received. While EPE submitted several follow-up questions to bidders to clarify their proposals, for the most part the proposals were well structured, were creative, and met the requirements outlined by EPE. On the other hand, the RFP did not provide a clear identification how the information submitted would be used in the final evaluation process or how the qualitative criteria would be applied. EPE, however, did remain in constant communications with shortlisted bidders via email and informed shortlisted bidders of any changes in schedule and process. EPE followed the IEs suggestion to explain why the schedule and process was changing to allay concerns that the process could be canceled or that no third-party proposals would be accepted. As a result, EPE informed the shortlisted bidders that EPE was conducting additional detailed assessments of its system and its ability to integrate intermittent resources before making a final determination about resource selection. As indicated, none of the shortlisted bidders withdrew from the solicitation process.

7. Application of Quantitative and Qualitative Measures

As noted, EPE used a comprehensive and sophisticated bid evaluation methodology to undertake the final quantitative evaluation based on system modeling capability including the Strategist model, a standard industry resource planning model, as well as the Aurora production cost model. The model was used properly to evaluate the range of shortlisted resources selected. Furthermore, although there are shortcomings to use of a levelized cost model with the potential for many different resource types and project structures, EPE used the spreadsheet models effectively to select the best bids within a select type of bids for shortlist selection. EPE retained the services of NREL to assist in determining the amount of intermittent renewable resources it could reasonably absorb into the utility system to reliably meet load. This information was then applied to the Strategist analysis as well as informing the E3 analysis designed to verify the resource portfolios evaluated and selected by EPE. All in all, the IE felt that the quantitative evaluation process undertaken by EPE was the most detailed, thorough, and comprehensive analysis we have seen applied to resource selection based on an all source solicitation. EPE used the sophisticated modeling capability at its disposal along with the expertise of the consultants selected to thoroughly assess the movement to a diversified portfolio of resources with a range of renewable plus storage options integrated into its utility system. Such an analysis at this time should greatly aid EPE in meeting its future resource requirements including meeting RPS requirements in New Mexico.

EPE also conducted a detailed assessment of the proposals from an interconnection and transmission network upgrade cost perspective. From this perspective, projects were directly assigned costs based on the location of the project based on detailed analysis undertaken by EPE's Transmission Planning Group to assess the amount and cost of new generation which could be interconnected in various regions of the EPE system. The minor weakness associated with this process was that EPE had to subjectively determine if a proposal could reasonably be integrated into its system at a competitive cost relative to other proposals. For example, if EPE is able to integrate a 100 MW solar project into a specific location, but to integrate another 100 MW would cost $20 million in network upgrade costs, the Strategist model or E3 model could not determine if it was more economic to make the investment or select another resource. EPE was able to conduct an analysis outside the optimization model and subjectively assess its analysis in making a final resource decision.

One issue raised by Merrimack Energy as a result of the 2011 RFP was the recommendation that EPE include an evaluation of non-price or qualitative factors in its evaluation process. For this 2017 All Source RFP, EPE did conduct a risk analysis of key non-price factors related to project viability, operational factors and operational flexibility in its resource evaluation process. While EPE did not formally assign scores for non-price factors, EPE did rank proposals relative to the risk associated with the specific criteria and developed detailed documentation to support its assessment. This approach is consistent with the qualitative evaluation processes undertaken by other utilities and is a reasonable step forward to enhance EPE's evaluation methodology.

8. The RFP Documents should describe the process clearly and provide adequate information on which bidders could complete their proposals

This objective deals with the quality of the bidding documents. EPE's RFP provided considerable detail regarding the information required of bidders, the basis for evaluation and selection, the resource characteristics of importance, and a background to the EPE system. However, many RFPs contain a model power purchase agreement that bidders could reference in developing their pricing proposal, based on the risk profile of the utility. EPE did not provide a model contract or term sheet and instead preferred to negotiate with selected bidders after selection. One concern to the IE is that bidders may not adequately price their product if the penalty provisions and other meaningful provisions of the contract that could affect risk sharing are not identified prior to submission of their proposals. EPE has executed several contracts via this solicitation process that have been vetted internally. EPE may want to use these contract structures as a base for developing a pro forma contract for various resources (i.e. intermittent renewable PPA, stand-alone storage PPA, and combined solar plus storage PPA) and include the contract as part of the RFP documents in future solicitations.

9. Documentation of Results

The documentation of the evaluation results was very detailed and was based on the input and output files from Strategist model runs, E3 analysis as well as spreadsheet models for each bid. In addition, Merrimack Energy was provided with detailed spreadsheets and other consistent documentation such as the qualitative evaluations to support the evaluation of the bids and was able to review the results to ensure consistency in the evaluation. EPE provided all the Strategist results to the IE along with the results of the E3 analysis and the project teams own supporting analysis to the IE for review and comments. The EPE project team and IE held several meetings and conference calls to review evaluation results at different steps in the process. The IE found the EPE team to be forthcoming with information and supporting documentation and provide the basis for decisions in a reasoned fashion.

VI. Conclusions and Recommendations

A. Conclusions

The RFP procedures followed by EPE and the subsequent bid evaluation and selection processes and methodologies are, in substance, consistent with industry standards and represent a fair, consistent, and unbiased evaluation and selection process. The information included in the RFP, the evaluation process and evaluation criteria, and requirements are also consistent with industry standards. The following summarize some of the major considerations relative to the consistency of the RFP with industry standards.

In the opinion of Merrimack Energy, the bid evaluation and selection process was undertaken by EPE in a fair, consistent and comprehensive manner. In addition, in our

view, this process was a very thorough, rigorous, and comprehensive evaluation and selection process, with every eligible bid scrutinized in detail. The implementation of the solicitation process was effectively managed by EPE, and should lead to economic benefits for consumers. While the schedule proposed was not adhered to, and extended well beyond the proposed dates, none of the shortlisted bidders withdrew from the solicitation process and the pricing proposed continued to be reduced with each final offer submitted.

The bid evaluation and selection process was undertaken in a consistent and comprehensive manner with all bids treated fairly and equitably. A list of important aspects of the bid evaluation and selection process is provided below.

1. The solicitation process was a very robust and competitive process, with many more Megawatts submitted relative to the amount requested. Furthermore, with the exception of demand response/demand-side management options, there was a reasonable level of competition from all types of resource options, notably solar PV proposals, solar plus storage options, stand-alone storage, wind, and conventional gas-fired peaking and combined cycle units. In addition, bidders proposed creative options relying on new technologies and all project structures requested. Bidders offered a wide-range of resource options with different characteristics which led to the opportunity for EPE to assess portfolios of projects which could meet company requirements in a least cost manner combined with operating flexibility, and which provides environmental benefits.

2. The All Source RFP documents were reasonably detailed and transparent documents that clearly identified the nature of the solicitation process as an all source solicitation, the products requested, the amount of capacity required annually and during peak periods, eligible projects, characteristics of importance to EPE, the information required of the bidders' and the context of the solicitation within the El Paso Electric system.

3. The outreach process was broad reaching and was targeted to a large number of potential bidders based on past solicitations and bidder contacts. The outreach activities were designed to attract a wide audience of bidders. The types of outreach activities initiated included marketing of the All Source RFP via direct contacts with known bidders, issuance of a press release associated with release of the All Source RFP, and through industry trade publication options, bidder access to the EPE website for the All Source RFP, the inclusion of a Bidders Conference, and response to bidder questions. El Paso Electric has a detailed list of potential bidders from other solicitation processes and targeted those bidders through direct contact.

4. The nature of the All Source solicitation process implemented by EPE allowed the Company to consider a wide range of resource technologies, project structures, operational characteristics, and operating profiles to ensure the best resources were proposed and considered in detail. EPE's approach for shortlist selection that

was designed to allow "like resources" to compete against each other ensured that resource options would be ranked and selected within the technologies and project structures proposed. This led to an overall shortlist that was comprised of the best projects within resource "buckets" or categories (e.g. intermittent renewables, renewable plus storage, stand-alone storage, gas-fired conventional generation, and demand-side load management) that would be considered for final resource selection. Because EPE selected shortlists based on resource technology and project structure, all resource options were allowed to compete for the final portfolio on a level playing and without resource bias.

5. EPE recognized a number of issues that would need to be considered in evaluating potential proposals from an All Source solicitation and raised a number of these issues with the IE in the development of the solicitation process. Several of the issues of most importance included:
    a. The appropriate capacity value for each of the intermittent resources proposed;
    b. Potential limits on the amount of any specific type of resource within the overall portfolio;
    c. The implications of transmission availability and cost relative to the location of various proposals or combination of proposals;
    d. System integration considerations associated with the potential increase in intermittent resources, the type of resources to best facilitate this integration and the ability of the portfolio of resources to meet system reliability considerations.

    To assist EPE in addressing these issues, EPE worked closely with NREL to assess the amount of intermittent resources that were operationally practical to integrate into its system. In addition, EPE retained E3 to conduct an independent assessment of the shortlisted proposals to assess various portfolio options using E3's modeling capability and expertise in addressing such issues in other jurisdictions based on its experience in other regions and states. EPE completed its own internal modeling (i.e. Strategist and Aurora models) of resources and compared the resulting resource portfolio to the E3 resource mix determination as a basis for resource selection. This approach resulted in a very thorough and comprehensive evaluation and selection process and the use of the E3 assessment served to verify and validate the reasonableness of the portfolio of resources selected by EPE using the Strategist model to evaluate and rank various portfolios of resources to meet system reliability requirements.

6. EPE worked closely with NREL to assess both the appropriate capacity value for renewable projects and any limits on the overall amount of solar capacity that could reasonably be integrated into the EPE system in order to maintain system reliability. While the 25% capacity value attributed to solar photovoltaic ("PV") projects was lower than the capacity value previously used by EPE, the lower capacity value reflects the penetration of much more solar into the EPE system. Merrimack Energy's experience with capacity value assessments in other jurisdictions and utilities illustrates that capacity value is dependent on the

evaluation methodology used to calculate capacity value and is also heavily dependent on the percentage of solar in the resource mix, with a small, incremental increase in solar penetration having a significant impact on the capacity value of solar on the utility system. Based on our experience, the use of a 25% capacity value for the evaluation of up to 300 MW (from a current level of slightly over 100 MW of solar nameplate capacity) of additional nameplate solar capacity on the EPE system is reasonable and consistent with the practice of other utilities

7. As outlined in the RFP, EPE implemented a multi-stage evaluation process which resulted in the final selection. EPE's review included the following steps: eligibility and threshold requirements, initial economic evaluation of the proposals submitted, non-economic assessment, shortlist selection, assessment of best and final offers from the shortlisted suppliers, and system planning assessment using industry standard planning models. The result was, in substance, a reasonable process consistent with industry standards, particularly in situations where a mature competitive market has evolved. Merrimack Energy has served as IE for other similar solicitations and worked closely with EPE to develop an appropriate and consistent methodology for evaluating a wide range of resource options with different characteristics and attributes. In particular, the use of multiple system models (i.e. Strategist and Aurora) as well as retention of E3 and the application of E3's modeling capability and expertise allowed for a detailed and comprehensive system evaluation process with a consistent base of information, input assumptions and evaluation methodologies and processes that allowed for validation of results. Furthermore, the application of sensitivity analysis and different scenarios allowed for a robust evaluation of a range of resource options with different characteristics.

8. EPE took steps to ensure there were no inherent advantages afforded to the self-build options that were submitted by EPE's generation group. As noted, EPE retained an IE at the very beginning of the RFP development process to oversee the solicitation process and ensure the process was fair and equitable to all bidders. The self-build options were submitted at the same time as other proposals, with the IE present for "bid opening" and initial review and summary. In addition, the self-build team followed the protocols identified in the All Source RFP for all bidders and provided the same information as required of other bidders. EPE informed the IE that a separate self-build team was established to prepare the self-build options and that no member of the self-build team would be involved in bid evaluation. Also, all files associated with the proposals received, evaluation results, and other information that needed to be shared among the members of the RFP evaluation team were stored in a document management system ("Live-Link"), with restricted access only to select members of the All Source RFP evaluation team. In addition, EPE had a shared network drive accessible only by the Resource Planning Department.

9. The "checklist" process and backup information documentation was thorough and comprehensive.

10. The quantitative evaluation methodology used for evaluation and selection of shortlists of similar resources based on a levelized cost of energy LCOE methodology was effective in evaluating bids with similar or like characteristics. This process is consistent with industry practices for other All Source solicitations in which a range of different resources with varying characteristics and pricing structures are allowed to compete. EPE effectively utilized this methodology to evaluate and select the best bids in each resource category for short list selection and detailed evaluation using the Strategist and Aurora models and ultimately the E3 RESOLVE model. The shortlists selected were comprised of a range of resource options that allowed for the potential creation of portfolios containing diverse resources. Furthermore, EPE evaluated proposals for solar and solar plus storage that provided the ability to select up to the maximum 300 MW of additional solar identified by EPE with input from NREL. As a result, EPE evaluated a sufficient amount of renewable resources to essentially fill out the portfolio. The IE reviewed EPE's shortlist selection and generally agreed with the proposals selected for the shortlists in each category, although the IE felt that the shortlists in some categories (i.e. solar and solar plus storage proposals) were larger and more inclusive than is generally typical in the industry. Evaluation of the proposals based on the larger shortlist, while allowing for enhanced opportunities for lower prices via the best and final process, proved to be time consuming. All proposals that passed the threshold requirements stage were thoroughly and consistently evaluated and ranked based on the detailed quantitative evaluation assessment along with assessment of non-price characteristics. All model inputs from the LCOE assessment and evaluation results in all steps were thoroughly scrutinized by EPE and the Merrimack Energy.

11. The detailed quantitative evaluation methodology using the Strategist model, a standard industry generation planning model, was particularly effective in comparing and evaluating different types of resources with different characteristics, in-service dates, contract terms, operating characteristics and generation levels. I discussed with and reviewed EPE's grouping of resources for purposes of analyzing resources in the Strategist and Aurora models. The system evaluation methodology allows for a consistent evaluation of all proposals and portfolios to facilitate selection of the least cost or preferred resource plan.

12. Based on the analysis of bids received, particularly in the final evaluation stage using Strategist, it appears evident that a utility-owned resource is the lowest cost resource in all the lower cost portfolios. Solar and energy storage resources were also selected in all portfolios.

13. In the final analysis, E3's assessment of the resources available for final selection essentially validated EPE's evaluation and selection results in choosing its

portfolios of resource options. Based on the analysis of the proposals received, particularly for the final evaluation stage using the Strategist model as well as the E3 methodology and analysis for verification, it was evident that a utility-owned peaking resource option was among the lowest cost resources in many of the lower cost portfolios generated. I agree that EPE's selection of the preferred resources was reasonable and effective and resulted in the best options for customers in terms of resource costs as well as meeting the system reliability requirements and diversity in a resource portfolio sought by EPE. The portfolio selected was comprised of a diversity of resources including a utility self-build peaking generation unit and PPA options including a solar resource, a combined solar PV plus energy storage resource, and a stand-alone energy storage project. This portfolio is among the lowest cost portfolios evaluated and was the lowest cost portfolio that met all the reliability and operational requirements identified by EPE.

14. EPE conducted de-briefing sessions for those bidders who wished to participate in such a session via conference call. The IE attended most of the sessions.

15. The quantitative analysis completed by EPE to inform its decision-making regarding the selection of the preferred resources was a very detailed and comprehensive process with considerable analysis undertaken both in the front-end of the solicitation process and during the evaluation process. EPE also sought outside assistance from very reputable consultants in the industry, including NREL and E3. EPE also sought input and review by the IE regarding similar industry applications and lessons learned from other similar processes. I conclude that the evaluation and selection process implemented by EPE was one of the most thorough and comprehensive processes we have seen in any solicitation.

16. While the process was a very lengthy process and raised concern on the part of the IE regarding the risk that bidders would choose to withdraw from the solicitation process as a result of the timeframe for reaching final resolution on the final selection, none of the shortlisted bidders withdrew from the solicitation. Only one bidder withdrew one of several proposals included on the shortlist. In addition, shortlisted bidders actually lowered their prices on multiple occasions, verifying the competitive nature of the process.

In conclusion, it is our view that the solicitation process and assessment undertaken by EPE was fair, consistent, comprehensive and unbiased. EPE established procedures and rules that guided the evaluation and selection process. While EPE allowed flexibility to bidders to offer proposal variations in order to provide the most competitive and reliable options possible, EPE was consistent in its approach to all bidders. The resulting portfolio of resources selected by EPE includes some of the lowest cost resource options we have seen in industry solicitations. The low costs for the resources selected will result in benefits to customers over the longer term while also serving to diversify EPE's generation resource portfolio and meeting system reliability requirements.

B. Recommendations

1. While EPE intended to conduct face-to-face meetings with shortlisted bidders, these meetings were not arranged given the large number of shortlisted bidders and the behind-the-scenes analysis that was being undertaken at the time. As a result, the IE recommends that for future solicitations the number of shortlisted projects in each category should be limited to approximately 150% of the amount of generation sought through the RFP. EPE should consider establishing a process for meeting with short listed bidders face-to-face to review their proposals and assess any progress or issues with their proposals that may not be obvious upon review of the proposal. This meeting process is recommended to occur with shortlisted bidders only and would be scheduled prior to receipt of best and final offers.

2. The two-stage pricing process used by EPE in this RFP (i.e. initial bid and best and final offer) is an effective process, particularly in cases where new resources are being proposed. This process assists in addressing the pricing uncertainty and level of effort put forth by the bidders in their initial bid relative to their willingness to "sharpen their pencils" once selected for the short list. The IE has found that if a bidder is selected for the short list and has a reasonable chance of being awarded a contract it will be more willing to spend the funds needed to develop a thorough and detailed cost estimate for the initial proposal. As a result, the IE recommends that EPE formalize the two-stage process for similar All-Source RFPs and inform bidders of their requirement to provide a best and final offer if selected for the short list in the RFP document. However, there may be cases where a two-stage process may be too time consuming or not applicable for a specific solicitation. In such cases, EPE should clearly state in the RFP that bidders should provide their best price in their initial bid since EPE may determine not to pursue a two-step process if there are a large number of proposals.

3. Since EPE has now negotiated and executed several PPAs for solar PV, solar PV plus storage, and stand-alone storage options, the IE recommends that EPE develop pro forma contracts or detailed Term Sheets that could be included in similar future solicitations to allow bidders to price in the risks included in the pro forma agreements.

4. EPE values non-price factors such as project viability, operational factors, and operational flexibility in its resource selection process given the size and nature of its system. The IE believes that EPE should assess how the qualitative criteria should be applied in future solicitations based on the results of the All Source RFP. For example, should the shortlist selection process be more formalized to include a combined price and non-price score or combine price analysis with risk analysis as the basis for shortlist selection. Both approaches are consistent with industry standards.

5. Merrimack Energy has suggested that EPE may want to consider revising and enhancing its templates for collecting pricing and operational data for each proposal to allow for more consistent input files.

The following files are not convertible:

TIEC 02-02 Attachment 01.xlsx

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