Montana Public Service Commission
Docket No. 2024.05.053
Electric and Natural Gas Rate Review

DIRECT TESTIMONY OF

SCOTT A. LEIGH

ON BEHALF OF NORTHWESTERN ENERGY

TABLE OF CONTENTS

Request for Proposals	Exhibit SAL-3
Bidder RFI Log	Exhibit SAL-4
Communications Protocols	Exhibit SAL-5
Scoring Matrix	Exhibit SAL-6
Scoring Matrix Rating Basis	Exhibit SAL-7
Portfolio Roster	Exhibit SAL-8
Portfolio Scores at Selection	Exhibit SAL-9
Portfolio Scores at Contract Execution	Exhibit SAL-10
Announcement, Prequalification, and Issue Report	Exhibit SAL-11
Proposal Evaluation Methodology Report	Exhibit SAL-12
Proposal Development Cycle Report	Exhibit SAL-13
Phase 1 Proposal Evaluation Summary	Exhibit SAL-14
Phase 2 Proposal Evaluation Summary	Exhibit SAL-15
Phase 3 Proposal Evaluation Summary	Exhibit SAL-16

Witness Information

Q. Please provide your name, employer, and title.

A. My name is Scott A. Leigh. I am a Principal for Aion Energy LLC ("Aion").

Q. Please provide a description of your relevant employment experience and other professional qualifications.

A. I have over 15 years of experience in the energy industry serving as an engineer and consultant. I have held positions at a regulated utility, an engineering firm, and a consulting firm prior to co-founding Aion in 2019. Prior to Aion, I was a Project Manager and a Strategic Consulting Practice Leader. My experience includes engineering and design, integrated resource planning, project development, procurements/requests for proposals, and contract negotiations. I have supported planning activities, developments, and projects utilizing renewable, storage, and thermal resources. I graduated from the University of Michigan with a Bachelor's degree in Mechanical Engineering. I am a registered Professional Engineer in the State of Illinois. My experience and education are more fully described in my resume provided as Exhibit SAL-1.

Q. On whose behalf are you testifying?

A. My testimony in this proceeding before the Montana Public Service Commission ("Commission") is on behalf of NorthWestern Corporation d/b/a NorthWestern Energy ("NorthWestern"). Aion served as the administrator ("RFP Administrator") for NorthWestern's January 2020 Request for Proposals for long-term capacity resources ("RFP"), which resulted in the selection of the Yellowstone County Generating Station ("YCGS") project along with other capacity resources.

Q. Has Aion assisted other utilities in conducting competitive solicitations?

A. Yes. A summary of RFPs that Aion has supported is included as Exhibit SAL-2. Additionally, Aion has assisted numerous utilities with various integrated resource planning activities.

Purpose of Testimony

Q. What is the purpose of your testimony in this docket?

A. My testimony focuses on explaining NorthWestern's competitive solicitation process that ultimately resulted in NorthWestern's selection of the YCGS project and other capacity resources. I describe both the process and the roles and responsibilities of the parties to the process. I also explain how Aion evaluated the proposals that bidders submitted in response to the RFP, including a comparison of YCGS to other proposals. Finally, I explain how Aion participated in contract negotiations.

My testimony focuses on the RFP process comprehensively. This is accomplished via the direct testimony herein, the attached exhibits, and supporting workpapers. Exhibits SAL-1 through SAL-10 are presented to support the focus of my testimony. Exhibits SAL-11 through SAL-16 are summary reports that were prepared contemporaneously by Aion during the RFP process. The supporting workpapers are described later in my testimony.

Request for Proposals Process

Q. Please provide an overview of the RFP process.

A. Aion structured NorthWestern's RFP process in accordance with the Commission's Default Electric Supplier Procurement Guidelines ("Procurement Guidelines")[1]. Prior to Aion issuing the RFP, NorthWestern, with input from Aion, established roles and responsibilities and communications protocols to establish a fair and impartial solicitation. Also prior to issuing the RFP, Aion announced the RFP through multiple platforms, prequalified bidders, and established a qualified bidders list. Aion, as the RFP Administrator, served as the bidders' primary point of contact until contract negotiations were initiated, at which point NorthWestern became the primary point of contact for the associated bidders. Given that proposals for projects developed by NorthWestern were submitted in response to the RFP, NorthWestern was not privy to bidder or proposal-specific information until the proposal shortlist was established unless otherwise required to obtain cost and schedule attributes associated with the implementation of a specific proposal within NorthWestern's system to advance the evaluation of proposals as further described later within this testimony.

[1] The Default Electric Supply Procurement Guidelines in Admin. R. Mont. Title 38, Chapter 5, Subchapter 82 were applicable to the 2020 RFP but were repealed in January 2023.

From the time the RFP was issued to when the proposals were received (the “Proposal Development Cycle”), bidders assembled their proposals and were able to ask related questions to Aion as the RFP Administrator. In parallel, Aion, with input from NorthWestern, established and finalized the methodology for evaluating proposals prior to the proposal due date.

Aion’s report of the activities leading up to the issuance of the RFP is provided as Exhibit SAL-11. Once Aion received the proposals, a phased evaluation began immediately including a screening and completeness review (“Phase 1”), the establishment of a bidder shortlist (“Phase 2”), and detailed evaluation, selection, and negotiations (“Phase 3”).

Q. Please describe the bidder prequalification process.

A. Upon receiving a response to the RFP announcement from an interested potential bidder, Aion sent bidder prequalification materials, including a prequalification questionnaire and a non-disclosure agreement, to that potential bidder.

Aion reviewed the responses to the prequalification materials submitted by the potential bidders, evaluating safety records and relevant industry experience. Only two potential bidders did not make the list of prequalified bidders. Those potential bidders did not meet the safety standard for prequalification. The safety prequalification requirement was based on

satisfying an average experience modification rate threshold of 1.0 over the previous three years.

Q. Please provide an overview of the contents of the RFP.

A. The RFP is provided as Exhibit SAL-3. The RFP was structured as an all-source solicitation to facilitate competitive responses to address the flexible capacity resource need identified in NorthWestern's 2019 Electricity Supply Resource Procurement Plan. The RFP included ten sections as well as appendices:

- Section 1 – Introduction – Overview of NorthWestern, its resource planning process, and its capacity deficit as well as an overview of the RFP process and associated roles and responsibilities.
- Section 2 – Capacity Resources of Interest – Resource attributes, technology types, and contracting approaches.
- Section 3 – Capacity Resource Characteristics – Resource requirements and preferences.
- Section 4 – Bidder Considerations – Bidder considerations including experience, creditworthiness, insurance coverage, and safety.
- Section 5 – RFP Schedule – Process schedule overview and potential schedule implications.

- Section 6 – Communications Protocols – Overview of communications protocols consistent with those established by NorthWestern for the entire RFP process.
- Section 7 – Proposal Development Cycle and Submittal – Process for developing and submitting proposals.
- Section 8 – Proposal Requirements – Minimum requirements associated with the content and structure of proposals including the proposal forms and supplemental, supporting information.
- Section 9 – Proposal Evaluation – Evaluation criteria and overview of the phased evaluation of proposals.
- Section 10 – Additional Provisions – RFP process provisions such as reservations of rights, regulatory considerations, confidentiality, and bid fees.
- Appendices including a NorthWestern system map, technical specifications, proposal forms, and agreement forms.

Q. Did NorthWestern make changes to the RFP after the initial issuance?

A. Yes. NorthWestern issued five RFP addenda during the Proposal Development Cycle, which are summarized below.

- March 4, 2020 – Addendum 1 – Updates to the fuel sourcing requirements for the engineer, procure, and construct ("EPC") project sites, associated updates to the EPC bid forms, and the

addition of reciprocating internal combustion engine ("RICE") equipment technical information for use by the EPC bidders in the preparation of their proposals.

- April 2, 2020 – Addendum 2 – Extension of the Proposal Development Cycle duration by nine weeks due to the COVID-19 pandemic, updates to the EPC project site characteristics (e.g. natural gas supply pressure available), and updated RICE equipment technical information for EPC bidders.
- May 11, 2020 – Addendum 3 – Change of the location of the EPC project site near Billings, Montana and updates to the RICE equipment information for EPC bidders.
- May 21, 2020 – Addendum 4 – Updates to the EPC project site near Billings, Montana including definition of utility interfaces and layout drawings.
- June 3, 2020 – Addendum 5 – Updates to reflect the requirement that bidders comply with the May 1, 2020 Executive Order on Securing the U.S. Bulk Power System and minor updates to EPC specifications (site and RICE equipment clarifications).

Q. Were bidders able to ask questions about the RFP during the Proposal Development Cycle?

A. Yes. Bidders directed questions to the RFP Administrator consistent with the communications protocols established for the RFP process, which are

discussed later in this testimony. Consistent with RFP Section 7.1, Aion shared all questions and answers with all bidders in a running question log, which is included as Exhibit SAL-4. Additionally, Aion held two virtual bidder conferences for all bidders and site visits for EPC bidders during the Proposal Development Cycle for the purpose of clarifying the RFP and addressing bidder questions. Aion's report of the activities during the Proposal Development Cycle is provided in Exhibit SAL-13.

RFP Roles, Responsibilities, and Communications Protocols

Q. Please provide an overview of the roles and responsibilities of those involved with the RFP process.

A. Aion served as the RFP Administrator. NorthWestern established an RFP sponsor to coordinate RFP activities and provide access to subject matter experts ("SMEs") to support the evaluation. The SMEs included internal NorthWestern staff as well as external consultants including HDR Engineering, Inc. ("HDR") and Energy + Environmental Economics Inc. ("E3"). The RFP roles and responsibilities were summarized in Section 1.3 of the RFP and are explained below. The roles and responsibilities were also memorialized in the Proposal Evaluation Methodology summary report included as Exhibit SAL-12.

Q. Please describe Aion's role as the RFP Administrator.

A. Aion's role as the RFP Administrator included the following:

- Drafting the main RFP document and bid forms;
- Reviewing and incorporating the technical specifications and form agreements into the RFP package;
- Drafting the evaluation methodology for review and approval by NorthWestern;
- Supporting NorthWestern with the establishment of process roles and responsibilities and communications protocols;
- Announcing the RFP process through the RFP email;
- Developing the prequalification process and the subsequent prequalification of bidders based on experience and safety;
- Issuing the RFP to bidders;
- Serving as the bidders' primary point of contact during the Proposal Development Cycle and proposal evaluation process;
- Receiving and archiving proposals;
- Screening proposals for completeness during Phase 1 of the evaluation and facilitating clarifications from bidders;
- Establishing a bidder shortlist during Phase 2 of the evaluation;
- Facilitating resource portfolio development and the evaluation and ranking of portfolios during Phase 3 of the evaluation; and
- Observing the contract negotiations following portfolio selection.

Throughout the process, Aion monitored adherence of those involved with the RFP process to the Commission's Procurement Guidelines, the RFP requirements, and established communications protocols.

Q. Please describe the NorthWestern staff and additional external consultants who supported the RFP process.

A. NorthWestern assigned its Director of Long-term Resources, Bleau J. LaFave, as the RFP sponsor to coordinate RFP activities. Additionally, NorthWestern SMEs from NorthWestern's Transmission and Supply functions supported the RFP process. Specifically, this included SMEs from:

- Transmission Planning for the evaluation of electric grid interconnection and network upgrade cost and schedule attributes during Phases 2 and 3 of the evaluation;
- Gas Transmission and Storage for the evaluation of natural gas interconnection and transportation cost and schedule attributes during Phases 2 and 3 of the evaluation;
- Supply Generation, Operations, and Environmental for input related to the evaluation of proposals including analysis of operations and maintenance requirements and permitting viability; and
- Markets and long-term planning for economic dispatch modeling for both individual proposals and portfolios of resources.

NorthWestern retained HDR and E3 to support the RFP process as external consultants. HDR provided technical support for the RFP, the Proposal Development Cycle, and the evaluation of proposals. E3 provided an effective load carrying capability ("ELCC") study, as further detailed in the Direct Testimony of Arne Olson. The flow of information to the external consultants was in accordance with the communications protocols discussed later in my testimony.

Q. For the established roles and responsibilities, describe the associated communications protocols.

A. In general, the RFP Administrator served as the bidders' primary point of contact from the initial announcement of the RFP through the issuance of the RFP, the receipt of proposals, the establishment of a bidder shortlist, and up to portfolio selection, at which point NorthWestern communicated directly with bidders during contract negotiations. Bidder and proposal specific information was not disclosed to NorthWestern prior to the establishment of a bidder shortlist unless required to obtain cost and schedule attributes associated with the implementation of a specific proposal within NorthWestern's system for the evaluation of proposals. To the extent that proposal specific information was disclosed to NorthWestern prior to the shortlist, the information that was shared was limited to information required for clarification with such information disclosed only to those specialized NorthWestern personnel required to

provide such clarification. The RFP communications protocols that all participants in the RFP process adhered to is provided as Exhibit SAL-5 and memorialized in Exhibit SAL-12. Additional bidder-specific communication protocols are summarized in Section 6 of the RFP.

Q. Why were RFP communications protocols established?

A. NorthWestern established the communications protocols in order to promote an un-biased process in accordance with the Commission's Procurement Guidelines. Aion provided feedback to NorthWestern as part of the establishment of the communications protocols in terms of industry-standard practices and RFP-specific considerations.

The communications protocols included direction for communications during the Proposal Development Cycle and during each phase of the evaluation in order to, among other objectives, limit the disclosure of competitive bidder information to NorthWestern until the proposal shortlist was established. The communications protocols were established in order to establish separation of competitive bid information amongst RFP bidders as well as from NorthWestern staff to facilitate a fair and impartial RFP process. It is standard throughout the industry to establish a robust, yet restricted, communications protocol for competitive solicitations.

Q. Please describe when bidder and proposal-specific information was disclosed to NorthWestern during the RFP process.

A. Aion did not disclose bidder and proposal-specific information to NorthWestern until the establishment of a bidder shortlist, unless necessary to obtain cost and schedule attributes associated with the implementation of a specific proposal within NorthWestern's system, which occurred in very limited circumstances. Examples of disclosure prior to the establishment of the shortlist included providing electric point of interconnect information to NorthWestern's Transmission Planning group or providing fuel sourcing information to NorthWestern's Gas Transmission and Storage group during Phase 2 of the evaluation in order for Aion, considering the feedback from NorthWestern, to assess the associated cost and schedule attributes of a given proposal, as applicable.

Evaluation Process

Q. Describe the general process utilized to evaluate proposals.

A. A phased approach was utilized to evaluate proposals, as follows:

- Phase 1 – Proposal screening and completeness review, including initial proposal clarification questions;
- Phase 2 – Detailed review of individual proposals with further proposal clarification questions to establish a proposal shortlist by technology type; and

- Phase 3 – Evaluation of portfolios of resources to fulfill NorthWestern's capacity need identified in the RFP and identify the most cost-effective and reliable proposals to benefit NorthWestern's Montana customers, including additional review and evaluation as well as final selection and negotiations.

The process employed to evaluate the RFP proposals is common for all-source solicitations for regulated utilities. Aion's report explaining the entire evaluation process, the tools used to support the evaluation, and the evaluation criteria is included as Exhibit SAL-12.

Q. Who developed the evaluation methodology and criteria?

A. Aion drafted the evaluation methodology and criteria, including a scoring matrix considering price and non-price criteria. Once Aion received feedback from NorthWestern's RFP sponsor and the Supply Planning group, Aion finalized the evaluation methodology prior to the receipt of the proposals. Receipt of feedback from NorthWestern regarding the evaluation methodology and criteria prior to the receipt of proposals is standard industry practice in order to facilitate a fair and impartial process while taking corporate safety, risk, and operational factors as well as customer objectives into consideration.

Q. What price and non-price criteria were considered in the evaluation?

A. The evaluation considered price and non-price criteria in a scoring matrix, included as Exhibit SAL-6. The criteria included (with associated scoring weighting):

- Evaluated Price (50%);
- Commercial (10%);
- Development/Schedule (30%); and
- Technical (10%).

Q. Please describe the evaluated price criterion.

A. The evaluated price considered the total evaluated delivered cost of capacity on a 20-year net present value ("NPV") basis, a proposal's dependence on market revenues (risk), and a proposal's potential to provide sub-hourly operating attributes (benefit). The total delivered cost of capacity included resource capital costs, operating costs, and costs and revenues associated with economic dispatch modeling. Market revenue risk is a weighted criterion in which resources with more market revenue (determined by economic dispatch modeling) were rated less favorably as compared to resources with less market revenue due to the lack of surety of offtake from these resources. Resources with increased sub-hourly credit potential (increased operational flexibility) were evaluated more favorably than resources with less sub-hourly credit potential due to their ability to respond to sub-hourly and transient system demands.

Q. Please describe the non-price criteria in the scoring matrix.

A. The non-price criteria consisted of:

- Commercial – Considering market competitive commercial conditions including, but not limited to, amenability to NorthWestern's form commercial terms, safety record, experience, and other commercial attributes (financing, project controls, creditworthiness, etc.);
- Development/Schedule – The status of project development and viability of satisfying the quoted project in-service date considering, but not limited to, as applicable, electrical transmission interconnection, fuel sourcing, permitting, acquisition of land rights, etc.; and
- Technical – Considering the technology proposed and compliance with RFP technical requirements including, as applicable, operating attributes, compliance with NorthWestern's technical specifications, reliability, and technology maturity.

Q. Please describe how the proposals were assessed based on the price and non-price criteria.

A. Aion used the Scoring Matrix as a guide in the evaluation. The Scoring Matrix is included as Exhibit SAL-6. Aion developed a basis for establishing ratings for the scoring matrix and this is included as Exhibit SAL-7. In general, proposals with more favorable attributes (e.g. lower

evaluated cost of delivered capacity or less development risk) were rated higher as compared to proposals with less favorable attributes (e.g. higher evaluated cost of delivered capacity or increased development risk).

Q. Describe Phase 1 of the evaluation.

A. In Phase 1 of the proposal evaluation, Aion conducted an initial proposal screening, a completeness review, and issued clarification questions to bidders. Aion provided all bidders the opportunity to remedy any shortfalls in proposal content. Following the completion of Phase 1, all proposals advanced to the subsequent evaluation phase. Aion's summary report of Phase 1 of the evaluation, including activities and findings, is provided as Exhibit SAL-14. Aion led and completed Phase 1 of the evaluation; NorthWestern was kept apprised by Aion of evaluation progress during Phase 1 (e.g. how many proposals were received) but did not have access to bid information and did not have a role in completing Phase 1 of the evaluation.

Q. Describe Phase 2 of the evaluation.

A. The primary purpose of the Phase 2 evaluation was to establish a shortlist of proposals. Aion established the shortlist of proposals by resource technology type to facilitate the development of varying portfolios of resources to evaluate the most suitable combinations of technologies and proposals to satisfy NorthWestern's capacity resource needs identified in

the RFP. Specifically, Aion established the shortlist by selecting the top proposals for each technology type (e.g. storage, thermal, hybrid, etc.) considering a primary proposal and alternatives, if available. The establishment of the proposal shortlist was primarily based on a proposal's evaluated cost of delivered capacity while also considering key development attributes and feasibility consistent with the categories of the scoring matrix. In the Phase 2 evaluation, Aion considered cost and schedule feedback from NorthWestern SMEs and functional groups as well as economic dispatch modeling of individual resources when added to NorthWestern's existing supply portfolio. At the completion of the Phase 2 evaluation, Aion established a shortlist of proposals, removing non-shortlisted bidders and their associated proposals from consideration. Aion's summary report of Phase 2 of the evaluation, including activities and findings, is included as Exhibit SAL-15.

Q. Describe Phase 3 of the evaluation.

A. For Phase 3, Aion used the shortlist of proposals to create and evaluate portfolios of resources. NorthWestern also provided input into the creation of portfolios of resources including, for example, guidance to consider portfolios of resources consistent with certain scenarios included in the 2019 Electricity Supply Resource Procurement Plan. Aion evaluated the price criteria of each portfolio based on economic dispatch modeling and associated portfolio cost attributes. For the non-price evaluation, Aion

considered individual resource attributes, as established by the population of the scoring matrix, and then weighted those attributes based on a given portfolio makeup. When incorporated into a portfolio of resources, a proposal's non-price score was incorporated on a pro-rated basis based on the associated resource capacity accreditation amount as a percentage of the total capacity accreditation amount of the portfolio. Aion's report of Phase 3 of the evaluation, including activities and findings, is detailed in Exhibit SAL-16.

Evaluation of Proposals

Q. How many proposals were received in response to the RFP?

A. Aion received 184 proposals from 21 bidders. Table 1 below summarizes the proposals received in response to the RFP. "ESS" stands for energy storage system, meaning projects like a battery energy storage system or a pumped hydroelectric energy storage system. As previously discussed in my testimony, all proposals advanced to Phase 2 of the evaluation.

Table 1

Technology	Contracting				Proposals	Generation Capacity (MW)	Storage Capacity (MWh)
	PPA	BT	EPC	Other	No.	*from each site considered*	
Wind	2	-	-	-	2	80	-
Solar	1	1	-	-	2	120	-
ESS	60	31	-	1	92	-	8,400

Hybrid	38	18	-	6	62	2,260	5,670
DSM	-	-	-	1	1	25	-
Thermal	6	4	8	3	21	1,771	-
Market	2	1	-	1	4	100	-
Total	**109**	**55**	**8**	**12**	**184**	**4,356**	**14,070**

Q. During the Phase 2 evaluation, how was the evaluated cost of delivered capacity determined?

A. Aion calculated the evaluated cost of delivered capacity for each proposal as a total NPV of the following costs and revenues, as applicable:

- Capital costs including project implementation costs, electrical interconnection and transmission system upgrade costs, fuel interconnection and transmission costs, and owner's costs;
- Fixed capacity payments/costs;
- Fixed operations and maintenance ("O&M") costs;
- Non-fuel variable O&M costs;
- Fuel/charging costs; and
- Market costs and revenues.

The non-fuel variable O&M costs, fuel/charging costs, and market costs and revenues were determined based on economic dispatch modeling performed by NorthWestern.

To normalize varying resource sizes, Aion calculated an NPV per megawatt ("MW") of accredited capacity considering the baseline NorthWestern system capacity of 837 MW and the incremental capacity addition of a given proposal. This resulted in a $/MW metric based on the total system accredited capacity after an individual resource was evaluated.

Q. Please explain how non-price factors were considered in the establishment of a bidder shortlist.

A. The evaluated cost of delivered capacity was the primary factor in determining the proposal shortlist. However, the development feasibility of each proposal was also evaluated based on the primary scoring matrix non-price criteria (commercial, development/schedule, and technical). Proposals with favorable non-price attributes were shortlisted over proposals with less favorable non-price attributes. For example, renewable proposals with no capacity-firming component were not advanced to the shortlist as this was a requirement of the RFP. Additionally, proposals in the early stages of the generation interconnection/load service process were considered to carry higher development risk as compared to proposals that, for instance, had initial generator interconnection agreement studies completed or underway.

Q. Please describe the proposals that were included on the shortlist.

A. Table 2 below summarizes the proposals included on the shortlist. As described later in my testimony, confidential workpaper P2_06 – Shortlist Workbook (Nov2020) provides the basis for developing the proposal shortlist.

Table 2

		Nameplate			Tier Capability		
Shortlist (by Technology)	**Quantity**	**Gen (MW)**	**ESS (MW)**	**ESS (MWh)**	**Tier 1 (20-hr) (MW)**	**Tier 2 (10-hr) (MW)**	**Tier 3 (5-hr) (MW)**
ESS	7	-	945	7,050	345	691	916
Hybrid	5	860	595	3,350	153	305	611
DSM	1	25	-	-	6	12	25
Thermal	5	751	-	-	703	703	703
Market	1	100	-	-	98	98	98
Total	**19**	**1,736**	**1,540**	**10,400**	**1,305**	**1,809**	**2,352**

Q. Were there adequate proposals on the shortlist to evaluate portfolios of resources in Phase 3 of the evaluation?

A. Yes. From Aion's perspective, there were sufficient proposals to develop portfolios of resources.

Evaluation of Portfolios and Portfolio Selection

Q. How many portfolios were considered in the Phase 3 evaluation?

A. Aion evaluated 36 portfolios in Phase 3. The portfolios were comprised of various combinations of resources, initially structured by Aion based on

the price and non-price factors utilized to establish the shortlist and then supplemented based on feedback from NorthWestern.

Q. How were the portfolios of resources determined?

A. Aion drafted an initial list of portfolios for NorthWestern based on filling NorthWestern's capacity need and the tiers of capacity duration needs as described further in the Direct Testimony of Bleau J. LaFave. Aion established the initial list of portfolios by first filling the 20-hour capacity duration tier (resources that primarily filled the 20-hour capacity duration tier were referred to as portfolio "anchor" resources), then the 10-hour capacity duration tier, and finally the 5-hour capacity duration tier. Aion selected the resources to fill each tier based on the selection of resources with the most cost-effective total evaluated delivered cost of capacity to establish the proposal shortlist. Based on the proposal shortlist, the initial anchor resources were a natural gas combined cycle project and YCGS.

Then, based on feedback from NorthWestern, Aion assembled additional portfolios considering alternate anchor resources and portfolio attributes, such as:

- A large pumped hydroelectric energy storage project as the anchor resource;
- Only energy storage resources;
- Only thermal resources;

- Resources that produced no carbon emissions with generation; and
- A diverse mix of proposed technologies.

A roster of the 36 portfolios is included as Exhibit SAL-8. As described later in my testimony, NorthWestern selected Portfolio V.2.

Q. Did you update the prices of the individual proposals in Phase 3?

A. Yes. For the reasons discussed below, Aion reviewed and updated the price attributes for each proposal prior to the economic dispatch modeling of portfolios and associated calculation of a total NPV of system costs. This included updates to resource variable operating costs, which are inputs to the economic dispatch modeling of portfolios. This also included updates to resource capital and fixed operating costs which, when combined with the outputs of the economic dispatch modeling, are inputs into the calculation of the total NPV of costs for a given portfolio.

Price attributes were updated throughout the evaluation of proposals based on:

- Multiple rounds of proposal clarification questions issued by Aion and responded to by the bidders;
- Additional refinement of evaluated costs based on cost updates from bidders and estimated costs developed by Aion and HDR

associated with conforming to the technical and commercial requirements of the RFP;

- Updated electric transmission interconnection and network upgrade cost estimates directly from the bidders or from NorthWestern Transmission Planning;
- Updated natural gas interconnection and network transportation costs from NorthWestern Gas Transmission and Storage; and
- Updates to proposal pricing as negotiations advanced with the selected bidders.

Q. Are price updates common during the evaluation and during negotiations?

A. Yes. Price updates normally occur as the evaluation becomes more granular. For example, this could include updated electric transmission system upgrade costs based on advancement of interconnection studies. Another example could be if a bidder originally provided an energy storage resource with annual storage degradation, and the bidder updates the proposal pricing to account for capacity augmentation to maintain storage capability (i.e., not have degradation).

Additionally, during negotiations, price updates occur as a result of commercial and technical scope conformance. For example, for commercial negotiations, this could include pricing associated with

providing a 24-month warranty for equipment and services versus providing a 12-month warranty for equipment and services, resulting in a cost increase. For technical scope conformance, this could include the removal of a water treatment plant from the scope of supply based on the water quality requirements of a given resource, resulting in a cost decrease.

These updates are common for any competitive solicitation and would be applicable, to some extent, to any resource or contract structure considered.

Q. Did these updates influence the outcome of previous evaluation phases?

A. No. As evaluated price updates occurred, Aion reviewed the updated costs and assessed the potential impact to the establishment of the proposal shortlist and the development of resource portfolios. The associated updates did not change the relative ranking of resources or the previous evaluation outcomes.

Q. Describe how the evaluated price score of a portfolio was determined.

A. Consistent with the scoring matrix, Aion determined the evaluated price score of a portfolio based on the total evaluated delivered cost of capacity,

the market revenue risk, and the sub-hourly energy benefit which were weighted at 80%, 10%, and 10%, respectively, of the evaluated price category.

For the total evaluated delivered cost of capacity, Aion calculated a 20-year NPV of system costs per MW of system accredited capacity by dividing the NPV of costs by the system accredited capacity. The 20-year NPV of costs included the outputs of the economic dispatch modeling of the base NorthWestern system and a given portfolio as well as the capital and fixed operating costs associated with each resource in the portfolio.

As described previously in this testimony, the market revenue risk rating is based on the dependence of a portfolio on market revenues. Specifically, the portfolio ratings were based on a linear scale (most market dependence rated the lowest and least market dependence rated the highest).

As described previously in this testimony, the sub-hourly energy benefit rating is determined based on dispatch modeling performed by NorthWestern. The sub-hourly credit rating for a portfolio is based on a weighted average of each portfolio resource considering the amount of accredited capacity of each resource.

Q. Describe how the non-price score of a portfolio was determined.

A. The non-price sections of the scoring matrix were populated during Phase 3 of the evaluation for each proposal based on their individual attributes. The non-price ratings were initially developed by Aion and reviewed by NorthWestern. The non-price ratings were established on a comparative basis considering all shortlisted proposals. When incorporated into a portfolio of resources, a proposal's non-price score was incorporated based on the associated resource capacity accreditation amount. For example, if a portfolio with 280 MW of accredited capacity included Resource A with 180 MW of accredited capacity and a non-price score of 35.0 and included Resource B with 100 MW of accredited capacity and a non-price score of 40.0, the total portfolio (Resources A and B combined) non-price rating would be:

$$\left(35.0 \times \frac{180\ MW}{280\ MW}\right) + \left(40.0 \times \frac{100\ MW}{280\ MW}\right) = 36.8$$

Q. Describe the portfolio scores at the time of selection.

A. The portfolio scores at the time of portfolio selection are summarized in Exhibit SAL-9. Considering price and non-price ratings in accordance with the scoring matrix, the ten most attractive portfolios ranged in scores from 78.0 to 81.6 out of a possible 100 point ranking. The total evaluated delivered cost of capacity for the top ten portfolios ranged from a maximum of $4.79 million per MW to a minimum of $4.67 million per MW (within approximately 2.5 percent across these portfolios). All of the top

ten portfolios at the time of portfolio selection included YCGS as the anchor resource. The balance of the 10-hour and 5-hour tiers then considered various types of resources including market capacity products, combined renewable and storage resources, standalone storage resources, and other simple cycle thermal resources.

YCGS Selected Proposal

Q. Please describe the proposal for YCGS that NorthWestern ultimately selected.

A. Burns & McDonnell provided a proposal for the engineering, procurement, and construction of YCGS. The proposal was thorough, responded to the data and information requests identified in the RFP proposal forms, complied with the requirements and objectives of the RFP, and was the least expensive proposal for this EPC project.

Q. What assumptions were included in your evaluation of the YCGS proposal?

A. As stated in RFP Section 3.4, proposals considering thermal resources were initially reviewed based on an operational profile of up to 5 starts per day and approximately 2,600 hours per year but were evaluated in the later stages of the evaluation considering operational profiles based on dispatch modeling. Additionally, assumptions associated with natural gas price forecasts, electricity price forecasts, staffing costs, consumables

costs, owner's costs, allowance for funds used during construction ("AFUDC") rates, and capacity accreditation utilized to evaluate the YCGS proposal were consistent with those considered in the evaluation of other proposals, as applicable. Natural gas and electricity price forecasts are included in the NorthWestern economic dispatch model and are consistent with those utilized in NorthWestern's Electricity Supply Resource Procurement Plan. Assumptions associated with O&M costs (staffing costs, consumables costs, etc.) are included in confidential workpaper P3_09 – Laurel O&M Cost Calc (Final). Assumptions associated with capital costs (AFUDC rate, owner's costs, etc.) are included in confidential workpaper P3_08 – EPC TPC (Final). Assumptions associated with resource capacity accreditation are included in confidential workpaper P3_13 – Scoring Matrix (Final) in the "05.ACCR" tab.

Q. For YCGS, please explain what was included in the evaluated cost of delivered capacity.

A. At the time of the Phase 2 evaluation, the total cost of delivered capacity for the Burns & McDonnell YCGS proposal was based on:

- RICE and EPC project costs of $171.0 million;
- Electric transmission interconnection and network upgrade costs of $25.4 million;
- Natural gas interconnection and system upgrade costs of $26.0 million;

- Owner's costs of $30.5 million;
- AFUDC of $21.8 million;
- First year fixed O&M costs of $1.20/kW-mo.;
- First year variable O&M costs of $2.47/MWh and $73.90 per individual engine running hour; and
- The results of economic dispatch modeling performed by NorthWestern.

This resulted in an NPV of system costs of approximately $5.14 billion and a delivered cost of capacity of approximately $5.12 million per MW of the full portfolio accredited capacity (837 MW base system + 165 MW[2] for YCGS = 1,002 MW of system accredited capacity).

Q. How did the evaluated cost of delivered capacity for YCGS compare to other proposals?

A. The evaluated cost of delivered capacity for YCGS ranked near the top of all proposals for the 5-, 10-, and 20-hour capacity duration tiers. For the 20-hour and 10-hour tiers, only one resource, another thermal resource, ranked higher than YCGS[3]. For the 5-hour tier, the same thermal resource as well as solar and storage and standalone storage resources were

[2] For the evaluation, Aion modeled YCGS as an 18 unit RICE facility with a net facility output (accounting for facility auxiliary power consumption) of nominally 165 MW; the facility gross output, or nameplate capability, does not consider facility auxiliary power consumption and is closer to 175 MW.
[3] That other resource was not able to satisfy the required schedule in the RFP.

evaluated to have a more favorable cost of delivered capacity as compared to YCGS.

YCGS ranked more favorably for the 10- and 20-hour tiers because it had a higher capacity accreditation compared to other proposals.

Q. How did the non-price attributes of the YCGS proposal compare to other proposals?

A. The non-price attributes for the YCGS project were favorable as compared to other proposals based on:

- Utilization of a proven, experienced contractor in Burns & McDonnell, including for cold-weather applications;
- Advanced development progress in terms of fuel sourcing (firm gas arranged) and electrical interconnection (in the Generator Interconnection queue and in the System Impact Study phase);
- Site control being established and permitting in progress; and
- Increased operational flexibility as compared to other resources including starting up in less than 10 minutes, the ability to ramp up and down quickly, and multiple generation shafts to facilitate various operating modes and facility turndown.

Contracting

Q. What was your role in the contract negotiations with Burns & McDonnell for YCGS?

A. Consistent with the other projects that were selected for negotiations, NorthWestern led the contract negotiations for YCGS with Burns & McDonnell. Aion participated in the contract negotiations from an observational perspective, providing insights as to whether the negotiations were completed consistently across projects (to the extent practical given different contract structures), in accordance with the protocols of the RFP, and consistent with industry standards.

Q. Were there any pricing adjustments to the YCGS proposal during contract negotiations?

A. Yes. There were updates to the Burns & McDonnell proposal pricing based on commercial negotiations and technical conformance as well as updates associated with (i) the reservation of natural gas pipeline capacity and (ii) the acquisition of pipeline infrastructure.

Q. Were there any adjustments during negotiations that influenced evaluation outcomes?

A. No. While the adjustments mentioned previously related to contract conformance and natural gas transmission resulted in a net cost increase to YCGS, this did not result in a change to the evaluation outcomes. Aion

reviewed the previous evaluation outcomes and determined that the adjustments would not have changed the establishment of the proposal shortlist, the development of resource portfolios, or the substance of the top-rated portfolios. The portfolio scores at the time of contract execution are summarized in Exhibit SAL-10. A comparison of the portfolio scores at the time of selection (Exhibit SAL-9) and at the time of contract execution (Exhibit SAL-10) is provided in Table 3 below. As noted in Table 3, the only change in the top ten rated portfolios was associated with portfolios F and V.3 (highlighted in the table). At the time of selection, portfolio F was ranked higher than portfolio V.3. At the time of contract execution, portfolio F was ranked lower than portfolio V.3. All other portfolio rankings were consistent between selection and contract execution.

Table 3

Portfolio ID	Selection			Contract Execution		
	SYS NPV ($/MW) (Rating Basis)	Total Score ($/MW + Non-Price)	Rank	SYS NPV ($/MW) (Rating Basis)	Total Score ($/MW + Non-Price)	Rank
U.2	$4,723,613	81.6	1	$4,800,558	81.8	1
H	$4,668,072	80.9	2	$4,755,124	80.9	2
W	$4,669,657	80.8	3	$4,757,453	80.7	3
V.2	$4,763,108	79.9	4	$4,841,773	79.8	4
U	$4,757,623	79.7	5	$4,834,568	79.8	5
E.2	$4,767,135	79.7	6	$4,846,482	79.6	6
B	$4,680,499	79.7	7	$4,768,819	79.6	7
F	$4,760,324	79.5	8	$4,849,131	79.0	9
V.3	$4,784,334	78.2	9	$4,842,252	79.0	8
E.3	$4,789,294	78.0	10	$4,847,714	78.8	10

Q. Do you believe the negotiations were conducted consistently across bidders and consistent with industry standards?

A. Yes. Based on the activities that Aion observed, the negotiations appeared to have been conducted consistent with industry standards and in a consistent fashion with all parties whose proposals were selected to the extent consistency was practical given the different resource attributes and proposed contract structures. NorthWestern also engaged its outside legal counsel in all of the negotiations.

Presentation and Explanation of Workpapers

Q. Please describe how your workpapers are organized.

A. First, I provide a proposal ID key. This key matches the proposal ID number with the bidder and proposal. The portfolios are identified in Exhibit SAL-8, Portfolio Roster. This roster matches each portfolio with the individual proposals contained in the portfolio. Next, I present my workpapers by evaluation phase (Phases 1, 2, and 3) and name each individual document by phase. For example, all documents in Phase 1 start with the naming convention P1. The workpapers are comprised of input files and calculations that served as the basis of the RFP evaluation. As is noted further in this testimony, many of the workpapers are the same but with updates to account for proposal-specific information and/or the stage of the evaluation.

Q. What proposals are included in the workpapers?

A. All of the proposals received in July 2020 in response to the RFP are included with my workpapers, subject to the requests for confidentiality approved by the Commission through the issuance of protective orders.

Q. Please provide a list of your workpapers.

A. A list of my workpapers is provided in Table 4 below.

Table 4

File	Description
P1_01	Side-by-side comparison matrix for each proposal received.
P2_01	EPC project O&M cost buildup for projects at the NorthWestern Dave Gates Generating Station and Billings (YCGS) Sites.
P2_02.1 through P2_02.7	PowerSIMM inputs for proposals and "fill-in" resources (inputs are provided for the selected resources as well as representative resources to characterize all of the technologies evaluated as part of the RFP).
P2_03	Buildup of total project costs for EPC projects at the NorthWestern Dave Gates Generating Station and Billings (YCGS) sites.
P2_04	Fixed O&M cost calculation for input into NPV worksheets. This is a demonstrative calculation provided for resources that were part of the selected portfolio.
P2_05.1 through P2_05.4	NPV calculations including the total project costs, fixed O&M costs, revenue requirements, and outputs of the economic dispatch modeling. The NPV calculations provided are for the resources that were part of the selected portfolio and are

	representative of the NPV calculations for all of the resources considered in Phase 2.
P2_06	Workbook detailing the total delivered cost of capacity for each resource across each capacity duration tier as well as development attributes associated with the commercial, development/schedule, and technical non-price scoring matrix categories. This workbook indicates which resources were included in the proposal shortlist and the basis for such.
P3_01	Sub-hourly credit calculation provided by NorthWestern.
P3_02	Buildup of total project costs for EPC projects at the NorthWestern Dave Gates Generating Station and Billings (YCGS) sites utilized in Phase 3 at the time of portfolio selection.
P3_03	Updated side-by-side matrix at the time of portfolio selection.
P3_04.1 through P3_04.8	Outputs/results from PowerSIMM economic dispatch modeling performed by NorthWestern for the portfolios across eight different modeling sensitivities (sensitivity "S1" served as the basis for portfolio selection).
P3_05	Updated fixed O&M calculation for input into the NPV worksheets. This is a demonstrative calculation provided for resources that were part of the selected portfolio.
P3_06.1 through P3_06.4	NPV calculations including the total project costs, fixed O&M costs, revenue requirements, and outputs of the economic dispatch modeling. These are demonstrative calculations provided for resources that were part of the selected portfolio.
P3_07	Price and non-price scoring matrix at the time of portfolio selection.

P3_08	Buildup of total project costs for the EPC project at the NorthWestern Billings site (YCGS) at the time of contract execution.
P3_09	Updated buildup of O&M costs for the EPC project at the NorthWestern Billings site (YCGS).
P3_10	Gas transmission costs provided by NorthWestern Gas Transmission and Storage for the EPC project at the NorthWestern Billings site (YCGS).
P3_11	Updated fixed O&M calculation for the Billings (YCGS) project for input into the NPV worksheets, incorporating the updated gas transportation costs.
P3_12.1 through P3_12.3	NPV calculations including the total project costs, fixed O&M costs, revenue requirements, and outputs of the economic dispatch modeling for the selected portfolio resources at the time of contract execution (an NPV calculation is not provided for proposal 015-1 as such did not change between selection and contract execution; please refer to workpaper P3_06.1 – NPV Calc – 015-1 (Feb2021)).
P3_13	Price and non-price scoring matrix at the time of contract execution, updated with the contract pricing for the selected portfolio resources.

Summary

Q. Did the RFP process adhere to the Commission's Procurement Guidelines[4]?

[4] As noted, the Commission guidelines that were in place at the time of the 2020 RFP were repealed in January 2023.

A. Yes. Aion structured the RFP process to promote a fair and un-biased solicitation, encourage participation from a wide array of market participants and resource technologies, and include an assessment of economic, quantitative, and qualitative factors in the evaluation of proposals. Adherence to the Commission's Procurement Guidelines is evidenced by:

- The development and implementation of a robust and impartial evaluation methodology consistent with common industry practice;
- Significant interest from, and participation by, various industry participants including developers, brokers/traders, contractors, and equipment suppliers including offers for renewable, storage, thermal, demand side, and market-based capacity resources;
- The consideration of both price and non-price factors in the evaluation of proposals, including dispatch modeling consistent with NorthWestern's resource planning process, a total evaluated lifecycle cost analysis, and a qualitative analysis that evaluated potential risks and benefits; and
- The comprehensiveness of the RFP process that was established, implemented, and documented, allowing NorthWestern to identify and pursue low-risk and cost-competitive proposals for its customers.

Q. Did the RFP process result in resource selections that satisfied NorthWestern's system needs identified in the RFP?

A. Yes. The RFP identified a need for capacity resources across 20-hour, 10-hour, and 5-hour capacity duration tiers. The responses to the RFP allowed NorthWestern to select a portfolio of resources to fill the capacity needs, starting with the most critical 20-hour capacity duration tier and then filling in the 10-hour and 5-hour capacity duration tiers. For the top ten most attractive portfolios, YCGS was the anchor resource for the 20-hour capacity duration tier, with various competitive alternatives for the 10-hour and 5-hour tiers.

Q. Does this conclude your direct testimony?

A. Yes, it does.

VERIFICATION

This Direct Testimony of Scott A. Leigh is true and accurate to the best of my knowledge, information, and belief.

/s/ Scott A. Leigh
Scott A. Leigh