

STATE OF NEVADA



GOVERNOR'S OFFICE OF ENERGY

2018  
NEVADA ENERGY STORAGE STUDY  
REQUEST FOR PROPOSALS

*Issued:* February 5, 2018  
*Responses Due:* March 2, 2018

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## Attachments

### **Appendix A – Subgrant Award Forms**

Attachment 1 – Subgrant Proposal Signature Page

Attachment 2 – Subgrant Workplan Template

Attachment 3 – Subgrant Budget Template

Attachment 4 – Assurances

### **Appendix B – SB 204**

## **Section 1. Summary**

The Nevada Governor’s Office of Energy (GOE) seeks proposals for the completion of a study to evaluate the benefits and costs of energy storage systems in Nevada, and in particular, on the distribution and transmission grid of Sierra Pacific Power Company d/b/a NV Energy and Nevada Power Company d/b/a NV Energy (jointly, “NV Energy”). The study is intended to provide information to be used by the Public Utilities Commission of Nevada (PUCN) in determining whether procurement targets for energy storage systems should be set in Nevada pursuant to Senate Bill (SB) 204 (2017), and at what level. The GOE will be the point of contact for the selected applicant on all issues related to funding of the study; the PUCN will be the point of contact for all other technical aspects of the study and its implementation.

## **Section 2. Background and Goals**

Nevada Governor Brian Sandoval issued an executive order in January 2016 which directed the GOE to reconvene the New Energy Industry Task Force, a statutory body established pursuant to Chapter 701 of the Nevada Revised Statutes, and charged it with providing recommendations on the best energy policies for Nevada's future ahead of the 2017 session of the Nevada Legislature. The Task Force specifically addressed policies that encourage development of clean energy sources and integrate renewable energy technologies into Nevada's energy sector, foster the creation of a modern, resilient, and cost-effective energy grid, and support distributed generation and storage. One of the recommendations that resulted from this Task Force was for the Nevada Legislature “to consider a bill to direct the PUCN to study and where appropriate, implement cost-effective energy storage procurement targets to serve all electric customers so that Nevada may unlock opportunities to utilize cost-effective energy storage on the electric grid.”

At the same time, the PUCN opened Docket 16-01013 to investigate energy storage. The PUCN held three workshops in 2016: to discuss the state of energy storage, the services being provided or offered, how battery storage compares to other storage options, which states have had success deploying battery storage, energy storage valuation and energy storage issues pertaining to utility planning and distribution.

In 2017, the Nevada Legislature passed SB 204. This new law requires the PUCN to investigate and determine, on or before October 1, 2018, whether it is in the public interest to establish by regulation biennial targets for the procurement of energy storage systems if certain criteria are met. This effort was initiated under Docket No. 17-07014.

SB 204 states that “[T]he Commission shall determine that the establishment of targets for the procurement of energy storage systems by an electric utility is in the public interest if the benefits to customers of the electric utility exceed the costs of the procurement of energy storage systems. In calculating the benefits and costs of the procurement of energy storage systems, the Commission shall consider all known and measurable benefits and costs...” (See Appendix C – SB 204)

In response to the passage of SB 204, the PUCN opened Docket No. 17-07014, an investigatory and rulemaking docket, on July 13, 2017. The goal of the Docket is to determine by October 1, 2018, whether establishment of targets for the procurement of energy storage systems is in the public interest. If the PUCN determines that procurement targets are in the public interest, the Docket will proceed to a rulemaking phase to promulgate rules regarding procurement targets.

The timeline for the Docket is as follows:

An initial notice was issued on August 21, 2017.

On November 9, the PUCN held a workshop. At the workshop, one of the participants suggested that a third party study of the costs and benefits of energy storage in Nevada may be a worthwhile pursuit. NV Energy also committed to conduct its own cost/benefit study with input from interested participants.

The next workshop will be held on February 21, 2017, at 1:00 p.m. to discuss the cost/benefit analysis of energy storage compiled by NV Energy and to be filed with the PUCN on February 7, 2017.

To date, the following entities have filed comments in Docket No. 17-07014: the Attorney General's Bureau of Consumer Protection; the Energy Storage Association; NV Energy; the Regulatory Operations Staff of the Commission; Tesla, Inc.; and Western Resource Advocates.

### **Section 3. Eligible Applicants & Minimum Qualifications**

Eligible applicants will be expected to adhere to the terms and conditions included in Appendix A (*See* Attachment 4). In addition, all applicants **MUST** have a Dun and Bradstreet (DUNS) number, Nevada business license, and must be in good standing with the Nevada Secretary of State and be able to provide proof of eligibility upon request.

The GOE is soliciting proposals from qualified proposers possessing the objectivity, experience, knowledge, capabilities, methods, models, and tools gained from successful prior engagements performing energy storage and/or distributed energy resource (DER) valuation assessments. Minimum qualifications include the following:

- Experience in collecting, organizing, and analyzing grid-scale data for assigning value to services provided by energy storage systems (ESS);
- Experience in evaluating system-level and site-specific benefits of ESS;
- Experience in simulating ESS operation, co-optimizing value, and conducting return on investment (ROI) analysis;
- Experience in evaluating energy storage policies, markets, regulations, and incentive mechanisms
- Experience in evaluating and modeling the performance of ESS
- Experience in presenting research results in public forums.

## Section 4. RFP Timeline

Issue Request for Proposals	February 5, 2018
Final Date for Questions*	February 23, 2018
Proposals Due**	March 2, 2018
Interviews with Top Applicants	Week of March 12th
Consultant Selected	March 16, 2018
Study Complete	August 15, 2018

\* Questions related to technical aspects of the study may be submitted to Donald Lomoljo at [dlomoljo@puc.nv.gov](mailto:dlomoljo@puc.nv.gov)

\*\* Dates after the Proposal Due Date are anticipated dates; all dates are subject to change by the GOE as necessary.

## Section 5. Scope of Work

The energy storage study shall evaluate the role of storage in addressing a range of Nevada's electric system needs and provide estimates for the costs and benefits of energy storage in various applications.

The energy storage study shall:

- A. Identify how storage can be used to address Nevada's existing electric system needs including:
  - The integration of renewable energy resources which generate electricity on an intermittent basis into the transmission and distribution grid of the electric utility
  - The improvement of the reliability of the systems for the transmission and distribution of electricity
  - The increased use of renewable energy resources to generate electricity
  - The reduction of the need for the additional generation of electricity during periods of peak demand
  - The avoidance or deferral of investment by the electric utility in generation, transmission, and distribution of electricity
  - The replacement of ancillary services provided by facilities using fossil fuels with ancillary services provided by the use of energy storage systems.
  - The reduction of greenhouse gas emissions.
- B. Evaluate the global storage industry landscape including technologies, trends in costs by technology, applications or use cases, economics, etc. to the extent relevant to Nevada.
- C. Identify general energy storage use cases behind-the-meter (BTM) at customer sites, on the distribution system, and on the transmission system in Nevada. Define these use cases, and review and report on literature that monetizes the value of these use cases.

**D.** Consider, via completion of a hosting study or use of other analytical tools, the interconnection of energy storage systems at each point of the electric grid, including, without limitation, in the transmission and distribution of electricity and at the site of the customers. The study should include an economic analysis to determine if the opportunities for energy storage systems are cost effective for Nevada ratepayers considering, at a minimum, the following costs and benefits:

- Any reduction in the need for the additional generation of electricity during periods of peak demand
- Any reduction in line losses
- Any benefits associated with participating in the Western Energy Imbalance Market or other wholesale energy markets
- Any benefits associated with eliminating or deferring investments in generation capacity or distribution and transmission assets
- Any benefits and costs related to ancillary services
- Any benefits arising from a reduction of greenhouse gas emissions and the emission of other air pollutants
- Any benefits and costs related to voltage support
- Any benefits of diversifying the types of resources used for the generation of electricity
- Any administrative costs incurred by the electric utility
- Any benefits associated with mitigating short-term outages or improving overall resilience
- Any improvements associated with reducing demand charges, time-of-use charges, or other actions that minimize customer bills using BTM storage
- The cost to the electric utility of the integration of energy storage systems into the transmission and distribution grid
- A calculation of the rate impact measure (RIM) test for each general energy storage use case including at the customer sites, on the distribution system, and on the transmission system in Nevada
- The cost of energy storage systems.

If any other costs or benefits other than those listed above are identified and analyzed, the study should explain why those benefits and costs were included. If the benefits associated with any of the above use cases are deemed to be of negligible benefit in Nevada or technically infeasible to quantify, the study should document the underlying rationale for excluding them. The study should also include an explanation of why each benefit included in the economic analysis adds value to Nevada's electric system and how each cost was derived. The economic analysis should ensure use of appropriate modeling (production cost/other) to validate value added benefits and include a comparison of a storage added case to a base scenario with traditional resources. The model should to the extent technically feasible simulate battery operation and co-optimize the results in order to ensure the estimated benefits are technically achievable and there is no double counting of different use case benefits.

- E. Quantify how much energy storage could likely be cost-effectively deployed on NV Energy's system over the next six years.
- F. Utilize the same assumptions/inputs as used by NV Energy in its integrated resource planning filings (e.g. load forecasts, natural gas forecasts, etc.), or specifically delineate when differing inputs or assumptions are used in the study to ensure any resulting benefits and costs are comparable.

## **Section 6. Budget Requirements**

Applicants must provide an anticipated budget with the proposal using the Subgrant Budget Template provided in Appendix A of this RFP. The GOE has allocated a maximum budget of \$250,000. Budget evaluation will be a factor in the selection criteria. Applicants should include both staff time and expected expenses including but not limited to any use of third parties, expected purchases of datasets, and design and printing when creating the budget for the proposed Work Plan.

Funds will be issued to the selected applicant from the GOE as a subgrant from the U.S. Department of Energy's (DOE) State Energy Program (SEP) Formula Grant, which the GOE administers. Applicants should note that payment will be on a reimbursement basis in accordance with the subgrant assurances provided in Appendix A of this RFP.

## **Section 7. Proposal Content Requirements**

### **A. Proposal Cover Sheet**

The proposal must include a completed cover sheet signed by a duly authorized representative empowered to bind the proposer. The cover sheet must include the following:

- Identification of the submitting proposer;
- Firm name and business address, including telephone number, fax number, and contact email address;
- The name and title of the person authorized by the proposer to obligate the proposer contractually;
- The signature of the person authorized to obligate the proposer contractually – the person cited shall be empowered to make binding commitments for the proposing company and its subcontractors, if any;
- The names, titles, and telephone numbers of persons to be contacted for clarification.

### **B. Executive Summary**

For the Executive Summary, highlight the major features of the proposal, including key methodological advantages of the approach defined by the proposer, and conclusions, assumptions, and recommendations the proposer wishes to make. Summarize key factors

that differentiate the proposer, including relevant experience and modeling capabilities. The Executive Summary should be designed specifically for review by executives who need to be informed but may not possess a technical background. It should be brief, no more than three pages. No price information shall be included in the Executive Summary.

**C. Statement of Qualifications**

Applicants should describe their firms' experience and capability to perform the work outlined in Section 5. In the response, applicants should specifically identify their experience providing similar services to other public and private entities.

- Provide an overview of the firm's experience in modeling energy storage and other DERs, including:
  - collecting, organizing, and analyzing grid-scale data for assigning value to services they provide;
  - evaluating site-specific benefits of ESS;
  - simulating the performance of ESS, co-optimizing value, and conducting ROI analysis.
- Provide an overview of the firm's experience in reporting results to public and private entities, and presenting results in public forums;
- Recent Projects. Provide a table of recent and similar studies/projects to include:
  - Name of study or project
  - Funding agency
  - Brief overview of project
  - Role your organization performed for the project (lead contractor, subcontractor, design, etc.).
- References. For three projects, provide references that can discuss the firm's performance on a project. Each reference should include the following information:
  - Name of person to contact for the reference
  - Organization the person represents
  - Name of the study or project for which the person can evaluate your firm's performance
  - Contact information including mailing address and phone number.
- For key personnel, provide names, titles, affiliations, roles in the proposed project, bios, and resumes.

**D. Work Plan**

Each proposal must include a work plan sufficient to demonstrate the proposer's understanding of the work to be completed. This includes a thorough understanding of grid and energy storage valuation models, and how to apply these to a specific state-level evaluation. The work plan should include the following:

- Describe your firm's understanding of project requirements contained in the statement of work.
- Identify specific methods and procedures to be implemented for each element of the work plan.

- What equipment and software are to be used, and what documentation will be provided?
- The work plan must include a description of the deliverables to be performed.
- Provide a high level implementation plan and schedule with specific detail to meet the completion date of August 15<sup>th</sup>. This will be the basis from which a mutually agreed upon project plan will be developed.
- If use of subcontractors is proposed, address specifically how coordination will be maintained.

Proposals must use the Work Plan Template provided in Appendix A of this RFP.

#### **E. Deliverables**

Deliverables will include the following:

- Develop a draft and final study, including summary and analysis of study results, modeling procedures, and methods used in the estimation of ESS benefits and costs.
- Develop a slide deck of approximately 20-30 slides and present results at a workshop in Nevada.
- Be available for questions (from legislators, stakeholders, or others) on the study and information sources for the study as required.

#### **F. Budget**

The cost proposal will include the total cost proposed for the project, the level of effort for each deliverable, and the fully burdened hourly rate for each proposed staff and subcontractor assigned to the work. The total cost proposed for the project must not exceed \$250,000.

Applicants must include participation in workshops at the PUCN as well as presentations on study findings to both the PUCN and/or Legislature.

Proposals must use the Budget Template provided in Appendix A of this RFP.

### **Section 8. Proposal Submission Requirements**

Final proposals must include completed Attachments 1 – 3 in Appendix A and shall be submitted electronically to Marianne Lockyer at [mflockyer@energy.nv.gov](mailto:mflockyer@energy.nv.gov).

#### **8.1 Public Disclosure and Proposer Responsibilities**

Applicants are required to clearly identify any confidential material and demonstrate that the material within the proposal marked “confidential” conforms to NRS §333.333, which states “Only specific parts of the proposal may be labeled a “trade secret” as defined in NRS §600A.030(5)”. Not conforming to these requirements will cause the proposal to be deemed non-compliant and will not be accepted by the State of Nevada. Applicants acknowledge that material not marked as “confidential” will become public record upon submission.

## Section 9. Proposal Evaluation & Selection Criteria

### 9.1 Consideration of Proposals

The State reserves the right to reject any or all proposals, to waive technicalities, to cancel this proposal, to advertise for new proposals, or to proceed to do the work otherwise, in its sole discretion.

### 9.2. Evaluation Criteria

An evaluation committee will evaluate the proposals using the point method of award. The final award will be made based on the point method using the following criteria:

Evaluation Criteria	Maximum Points Awarded
Experience and Qualifications	150
Project Management	25
Study Proposal	200
Cost	50
Total	400

Proposals are evaluated using a point method of award with the criteria outlined below. Each proposal will first be evaluated against the mandatory proposal requirements. Proposals that fail to comply with the mandatory requirements may be rejected and receive no further consideration.

#### Experience and Qualifications

- Prior experience in conducting evaluations of the benefits associated with energy storage and DER deployments
- Prior experiencing in developing and using grid and energy storage evaluation tools
- Reviews provided by previous customers.

#### Project Management

- Experience of the proposed Principal Investigator
- Method for management reporting and communication flow.

#### Study Proposal

- Understanding of the objectives and issues to be resolved in executing this project
- Understanding of the issues driving the need to deploy and evaluate the deployment of energy storage
- Proposed methodology to address the tasks outlined in the work scope
- Knowledge of the use cases or services provided by energy storage, and how the unique attributes of energy storage affect these values
- Understanding of how to develop system and energy storage evaluation models.

Cost

The proposer with the lowest total project cost will receive 50 points. All other cost proposals will receive a portion of the 50 available cost points, calculated as follows:

The lowest cost will be divided by the other proposal cost, then multiplied by the total number of available points (50), e.g.:

	<u>Proposer A</u>	<u>Proposer B</u>
Total Project Cost	\$10,000	\$15,000

Proposer A would receive 50 points for being the lowest cost proposal.

Proposer B would receive 33 points in accordance with the following formula:

$$\$10,000 / \$15,000 \times 50 = 33$$

A detailed scoring evaluation will be accomplished in a consistent, uniform manner for all proposals. Members of the evaluation committee will score each proposal according to the pre-established evaluation criteria and weights for relative importance.

**9.3 Final Results and Grant Award**

The scores from the technical and cost proposals evaluations will be summed, and the proposals will be ranked by final total score. Final grant award will be made after recommendation by the evaluation committee. A Notice of Grant Award will be awarded by the GOE to the responsive and responsible proposer with the highest total number of points.