

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON**

UM 1751

In the Matter of

PUBLIC UTILITY COMMISSION OF
OREGON,

Implementing Energy Storage Program
Guidelines pursuant to House Bill 2193.

ORDER

DISPOSITION: GUIDELINES AND REQUIREMENTS ADOPTED TO
IMPLEMENT HB 2193

I. INTRODUCTION

We opened this docket to implement House Bill 2193 (HB 2193).¹ This bill requires subject electric companies to submit proposals to develop energy storage systems and to procure any authorized projects by 2020.

In this order we adopt guidelines for the electric companies to use in submitting proposals for authorization. We also adopt requirements relating to the system-wide storage potential evaluation required by HB 2193 and set minimum competitive bidding requirements for projects within this program.

II. BACKGROUND

HB 2193 directs large Oregon electric companies (PacifiCorp, dba Pacific Power and Portland General Electric Company (PGE)) to submit proposals for qualifying energy storage systems with the capacity to store at least 5 MWh of energy. The bill caps the total capacity of the systems procured by each electric company at one percent of the company's peak load in 2014, with an exception for a project of statewide significance. The electric companies must submit system proposals by January 1, 2018.

HB 2193 outlines several requirements for the proposals. First, each proposal must be accompanied by a comprehensive evaluation of the potential to store energy in the

¹ Oregon Laws 2015, chapter 312, sections 1-5.

electric company's system. This includes an analysis of operations and system data, examination of how storage would complement the electric company's existing action plans, and identification of areas with opportunity to incentivize energy storage. Second, the bill outlines specific information and analysis to be provided in the proposal including technical specifications for the project, the estimated cost, and the benefits to the electric company's system. Companies are directed to evaluate the cost-effectiveness of the project in a manner we establish by rule or order.

After the proposals are submitted, HB 2193 requires that we evaluate each proposal to determine whether it is: (a) consistent with the guidelines; (b) reasonably balances the value for ratepayers and utility operations and the costs of construction, operation, and maintenance; and (c) is in the public interest. We will consider these factors and authorize projects that we find suitable for this exploratory program. HB 2193 also states that we may prescribe competitive bidding guidelines.

To help the electric companies assess potential projects, HB 2193 directs us to adopt guidelines for submitting proposals. In developing these guidelines, the bill directs us to examine the potential value of adding energy storage, consider ways in which to encourage electric companies to invest in different types of systems, and consider any other factor reasonably related to energy storage.

If we authorize a project, the electric company has until January 1, 2020 to procure the qualifying system. HB 2193 specifies that the electric companies may recover in rates all costs prudently incurred in procuring qualifying systems under this program, including any above-market costs associated with procurement.

III. PROCEDURAL HISTORY

Our Commission Staff commenced this docket with two stakeholder workshops. Staff held an introductory workshop on January 27, 2016, where parties offered initial input on questions regarding the value of applying energy storage technology, the methodologies to quantify these values, and ways to encourage investment in different types of systems. Staff then held a workshop on February 29, 2016, where PacifiCorp, PGE, and industry experts gave more detailed presentations on the services energy storage can provide and how the value of those services can be assessed. Presenters included Pacific Northwest National Laboratory (PNNL), the Oregon Department of Energy (ODOE), PacifiCorp, PGE, SolarCity, AES Energy Storage, and Strategen Consulting.

Next, we convened a Commission Workshop on May 9, 2016. Pursuant to our requested agenda, PacifiCorp and PGE addressed a series of questions regarding the most viable applications of energy storage in their territories, projects they are considering, how they might evaluate costs and benefits, how we should evaluate projects, how strongly we

should encourage investment in different types of systems, and the mandated system-wide storage potential evaluation.

Following internal meetings with Commissioners, Administrative Law Judge Harper issued a ruling on June 1, 2016 soliciting comments from the electric companies and stakeholders on a list of 25 questions. Based on the comments received, we then issued Order No. 16-316 proposing draft guidelines and requirements for further comment. Parties filed responsive comments on September 16, 2016 to a portion of the straw proposal and September 30, 2016 to the remainder.

IV. DISCUSSION

In this order we adopt:

1. Project Guidelines to help the electric companies design and select projects to propose for development;
2. Proposal Guidelines for the electric companies to use in submitting their formal proposals;
3. Storage Evaluation Requirements to help the electric companies conduct the mandated system-wide storage potential evaluation; and
4. Competitive Bidding Requirements to apply to bidding HB 2193 programs.

Consistent with the directives in HB 2193, the focus of this order is solely on the proposals to be submitted. At this time we provide no guidance on process and timeline nor on cost-recovery. Later in 2017, as the date for submitting proposals nears, we will provide further guidance on the process and timeline for reviewing proposals and making cost-recovery determinations.

In each section below, we show the appropriate final guidelines or requirements. For reference, Appendix A provides the final guidelines and requirements in their entirety and tracks in redline the changes we made to the draft in Order No. 16-316.

These final guidelines and requirements incorporate much of the comment received to date in this docket from the electric utilities and stakeholders. In our immediate discussion below of each final guideline or requirement we respond directly to certain issues raised in the comments. At the end of our discussion we also address generally three common themes repeated in the comments.

A. Guidelines and Requirements

1. Project Guidelines

We adopt the following Project Guidelines. We encourage the electric companies to submit multiple, differentiated projects that test varying technologies or applications, to

use a Request for Information (RFI) to identify qualified vendors and technologies, and to use established models to estimate the value of energy storage applications. As directed in HB 2193, in developing these guidelines we focused on the potential value of applying energy storage to the electric companies' systems and ways to encourage investment in different types of energy storage systems.

PROJECT GUIDELINES

1. *Electric companies are encouraged to submit multiple projects with an aggregate capacity close to the full one percent of 2014 peak load allowed by HB 2193.*
2. *Electric companies are encouraged to submit a range of projects that are differentiated by use case, application, or other differentiating factor.*
3. *Electric companies are encouraged to submit a portfolio of projects that balance technology maturity, technology potential, short- and long-term project performance and risks, and short- and long-term potential value.*
4. *Electric companies are encouraged to submit projects that can serve multiple applications.*
5. *Electric companies are encouraged to submit projects that are strategically located to help defer or eliminate the need for system upgrades, provide voltage control or other ancillary services, or supply some other location-specific service that will improve system operation and reliability.*
6. *Electric companies are encouraged to identify qualified vendors and viable energy storage technologies through a Request for Information (RFI) process.*
7. *Electric companies are encouraged to use established models—such as, but not limited to, the Pacific Northwest National Laboratory's Battery Storage Evaluation Tool or the Electric Power Research Institute's Energy Storage Valuation Tool—to estimate the value of energy storage applications. Models must be transparent and auditable.*

These final guidelines are consistent with the proposed guidelines issued in Order No. 16-136 with two exceptions. First, we slightly change the language in Guideline 5 that lists examples of location-specific services that energy storage systems may supply. Our intent is to provide a high-level, nonexclusive list of potential location-specific services.

Second, we clarify in Guideline 7 that the models used to estimate the value of energy storage applications must be transparent and auditable and that the example models are representative and not exhaustive.

Staff commented that it may be beneficial to further define energy storage system to exclude demand response projects. We offer no new definition of energy storage system. We agree with Staff that this exploratory storage program should exclude demand response projects.

2. *Proposal Guidelines*

We also adopt the following Proposal Guidelines to ensure the electric companies provide complete proposals for our consideration. Although the bill already requires certain information and analysis with the electric companies' submissions, we augmented this list to ensure we have all the detail and analysis that we will need. For example, to determine whether a proposal reasonably balances the value for ratepayers and the system with the costs of the project, and is in the public interest, we will need a quantitative and qualitative assessment of the costs, benefits, and risks of the project. Our guidelines build on the statutory requirements to ensure that we have this information.

PROPOSAL GUIDELINES

Each proposal must include the following description and analysis of each proposed project:

1. *Technical specifications for each project, including:*
 - a. *The capacity of the project to store energy including both the amount of energy the project can store and the rate at which it can respond, charge, and discharge as well as any other operational characteristics needed to assess the benefits of the energy storage system;*
 - b. *The location of the project;*
 - c. *A description of the electric company's electric system needs and the application that the energy storage system will fulfill as the basis for the project;*
 - d. *A description of the technology necessary to construct, operate, and maintain the project, including a description of any data or communication system necessary to operate the project;*
 - e. *A description of the types of services that the electric company expects the project to provide upon completion; and*
 - f. *An analysis of the risk that the electric company will not be able to complete the project;*
2. *The estimated cost of each project, including:*
 - a. *The estimated capital cost of the project;*
 - b. *The estimated output cost of the project; and*
 - c. *The amount of grant moneys available to offset the cost of the project;*

3. *The benefits of each project to the electric company's electric system, including:*
 - a. *Projected in-state benefits to the electric system;*
 - b. *Projected regional benefits to the electric system; and*
 - c. *The potential benefits to the electric company's entire electric system if the electric company installs the energy storage system technology that is the basis for the project system-wide;*
4. *Reasoning for selecting chosen technology, grid location, application, and ownership structure, with supporting analysis including findings from any Request for Information (RFI) and the system-wide storage potential evaluation, identification of any criteria used to select projects and an explanation of how the criteria were applied, and any other relevant input on evaluations;*
5. *Comprehensive description of the project;*
6. *Plan for constructing, maintaining, and operating the energy storage system;*
7. *Comprehensive analysis of all identified costs over the life of the project to the electric system and all customers;*
8. *Comprehensive assessment of project risks over the life of the project;*
9. *Comprehensive assessment of all quantitative and qualitative benefits to the electric system and all customers over the life of the project. Assessment of larger societal benefits, where applicable, is encouraged but those assessments will not be incorporated into the cost-effectiveness calculation of the proposals;*
10. *Description of methodology for assessing project benefits, including the aggregation of benefits;*
11. *Cost-effectiveness of the energy storage system including benefit-cost ratios and net present value revenue requirements over the energy storage system lifetime, and all underlying inputs and assumptions used in the calculation;*
12. *Projected trends in energy storage system cost and performance;*
13. *Strategy for large-scale deployment of the technology over time, if applicable;*
14. *Comparative analysis of: (1) the proposed storage solution, and (2) other storage and non-storage solutions for the proposed application; and*
15. *Data collection and evaluation plan with identified research objectives.*

We made four changes to the proposed guidelines in this final version. First, based on comments from PGE and Staff, we augment the required operational specifications in Guideline 1a.

Second, at PacifiCorp's request, we clarify that the intent of Guideline 3c is to consider the scalability of a proposed technology throughout a service area. Guideline 3c is taken directly from HB 2193 and requires an analysis of the potential benefits to the electric company's system if it were to install the proposed technology system-wide. PacifiCorp states that the concept of installing a technology system-wide is vague and the analysis may be complex. Our objective in this case is a high-level analysis of whether the proposed technology has widespread, or limited, applicability on the electric company's system. We recognize this cannot be calculated precisely but we ask for an order of magnitude estimate.

Third, we clarify in Guideline 4 when explaining why they selected a particular project, that electric companies should include findings from any RFI and the system-wide storage potential evaluation, and identify any criteria used to select projects and explain how the criteria were applied.

Finally, we clarify in Guidelines 7 and 9 that the focus when analyzing the costs and benefits of projects is on costs and benefits to the electric system and to all utility customers. Parties made numerous recommendations for how costs and benefits should be analyzed, particularly benefits. Many parties recommended that societal benefits and benefits accruing to participating customers should be counted along with those offered to the grid and all customers. The electric companies urge that HB 2193 limits the scope of relevant benefits to solely benefits that accrue to the electric system.

We encourage utilities to identify and attempt to quantify all potential benefits—system or societal—from a project and include this analysis in project proposals. However, we resolve that in this context the focus is properly on the benefits that accrue to the electric system and all utility customers from the project. This is consistent with the language of HB 2193, which asks electric companies to analyze in their proposals the benefits of each project to the electric company's electric system including in-state and regional benefits and the potential benefits of installing the technology system-wide.²

3. *Storage Potential Evaluation Requirements*

Next, we adopt the following Storage Potential Evaluation requirements that outline a multi-step process for the system-wide storage potential evaluation required by HB 2193.

² Section 3(2)(c)(C)(i)-(iii).

STORAGE POTENTIAL EVALUATION REQUIREMENTS

1. *Staff will convene workshops to develop a framework for the electric companies' evaluations. Staff will present the agreed-upon framework to the Commission at a special public meeting no later than March 31, 2017. If parties agree that work remains, work can and should continue as parties see fit, yet draft evaluations will remain due June 1, 2017.*

At a minimum, the following issues should be addressed, examined, and—if possible—resolved at the workshops:

- a. Establish a consistent list of use cases or applications to be considered in the evaluation;*
 - b. Establish a consistent list of definitions of key terms;*
 - c. Determine the time frame for analyses;*
 - d. Assess the potential valuation methodology or methodologies the electric companies may use for estimating storage potential in each use case or application;*
 - e. Establish criteria for identifying the main opportunities for investment in storage;*
 - f. Determine the approach for identifying system locations with the greatest storage potential; and*
 - g. Establish the level of detail required in the evaluation results and required supporting data.*
2. *The electric companies will then prepare and file with the Commission draft evaluations by June 1, 2017.*

At a minimum, the draft evaluations should:

- a. Identify storage potential by use case or application for specified time frames;*
- b. Identify higher- and lower-value applications;*
- c. Describe criteria for designating higher- and lower-value applications and explain how the criteria were applied;*
- d. Identify system locations with the greatest storage potential;*
- e. Describe the methodology for determining storage potential, explain how the methodology was applied, and identify all limiting factors that affect estimates of storage potential by application;*
- f. Provide all input, assumptions, and other calculations used to designate higher- and lower-value applications and identify locations with greatest potential;*
- g. Provide high-level summary of results of electric company's Request for Information (RFI), including description of RFI and the number and types of responses; and*
- h. Include any other provisions identified in the Staff-led workshops.*

3. *The Commission and stakeholders will have the opportunity to review and comment on the draft evaluations. We will hold a special public meeting by July 31, 2017 for informal input from the Commission and stakeholders on the draft evaluations.*
4. *The electric companies will file final versions of their evaluations with their formal project proposals, which must be filed by January 1, 2018.*

Our requirements start with Staff-led workshops where the electric companies and stakeholders can work through key concepts and approaches for how the electric companies will conduct the system-wide storage potential evaluations. We direct Staff to present the agreed-upon framework at a special public meeting no later than March 31, 2017. Next, we direct the electric companies to file draft evaluations by June 1, 2017. We will hold a special public meeting by July 1, 2017 for informal input from the Commission and stakeholders. Finally, the electric companies will file final versions of their evaluations with their formal project proposals by January 1, 2018.

We made three changes to the proposed evaluation requirements in this final version. First, we clarify that the March 31 deadline for a framework is not intended as the end of discussions. If parties agree that work remains, they may continue with further workshops to resolve outstanding issues, with any further resolution to be presented at a follow-up special public meeting.

Second, we add to the list of workshop issues the objective of establishing a consistent list of definitions of key terms. In response to comments received, if parties feel the need to define other key terms, they can do so in the workshops and bring forth consensus-based definitions for our consideration.

Third, we clarify in Guideline 1d that the objective for the workshops is to assess potential valuation methodologies the electric companies may use for estimating storage potential in each use case or application. With this groundwork, the electric companies would then determine what methodology they will utilize and use this in preparing their draft evaluation. During review of the draft evaluation, Staff, the Commission, and stakeholders will have the opportunity to comment and suggest refinements.

Several parties express concern that storage experts may be unwilling to provide public comments that are based on proprietary modeling tools. To the extent a party wishing to comment has a concern about protected information they can use our existing procedures for designating and protecting confidential information.³

³ Generally, if a party submits information under a claim of confidence, we will treat it as confidential to the extent allowed by the public records law. See OAR 860-001-0070. The Oregon Public Records Law, ORS 192.410 to 192.505, exempts from disclosure public records that are "trade secrets." In a specific Commission proceeding, a party may request under OAR 860-001-0080 a protective order to limit disclosure of protected information.

4. *Competitive Bidding Requirements*

We adopt the following competitive bidding requirements for bidding HB 2193 projects. The energy storage procurements contemplated under this program would not meet the threshold for the guidelines for major resource acquisitions in docket UM 1182. Our requirements in this order set minimum standards to be used for these initial storage projects.

COMPETITIVE BIDDING REQUIREMENTS

1. *An electric company may award a contract for a project without competition if it determines and presents justification that only a single vendor or contractor is capable of meeting the requirements of the project.*
2. *Where the requirements for sole source procurement are unmet, electric companies must use a competitive process to award contracts.*
 - a. *The electric companies will bear the burden of demonstrating that they followed a fair, competitive solicitation process to identify all vendors with the requisite expertise, experience, and capability to install viable projects.*
 - b. *The electric companies must give the Commission and stakeholders the opportunity to review the electric companies' Request for Proposal (RFP) design and offer nonbinding input.*
 - c. *The electric companies must summarize and report to the Commission their solicitation process and scoring approach. The report should be included with the formal project proposal submitted to the Commission, or, if bidding occurs after Commission authorization, at a special public meeting to follow.*

We made one change to the proposed bidding requirements in this final version. We change the language in Requirement 2a to clarify that the electric companies will bear the burden of demonstrating that they followed a fair competitive bidding process to identify all vendors with the requisite expertise. We expect that electric companies will execute a full and fair process to identify all qualified vendors in this developing field.

To address concerns that the electric companies may fail to provide in their RFPs the robust data that potential respondents will need to prepare responses, we note that one feature of the RFP process is that the Commission and stakeholders will have the opportunity to review the RFP before it is issued. At that time, parties can assess or evaluate whether the RFP provides for sufficient data exchange between the electric companies and potential respondents and voice their concerns to the Commission and electric companies.

Further, we note that PacifiCorp suggests adding time parameters for Commission and stakeholder review of RFPs to balance stakeholder need for engagement with a realistic

timeframe sensitive to business needs. We encourage PacifiCorp to raise this issue in the workshops to follow this order and work with participants to develop a practicable timeframe.

B. Response to Comments

Finally, we respond to three common themes presented in the comments filed in this docket. These comments generally seek more specificity and subject matter in the guidelines or requirements.

First, across a number of areas of this program, commenters recommend that we be more prescriptive. By design, our tone in these guidelines and requirements is not overly-prescriptive. We attempt to strike a balance between providing structure and direction and allowing the electric companies to manage the process as the program moves forward.

With respect to Project Guidelines, parties urge that we require a portfolio of diverse projects including customer-sited projects, that we prioritize certain attributes, and that we require a RFI to identify vendors and technologies. Although we encourage companies to submit multiple, diverse projects, we do not require certain attributes. This allows the electric companies and stakeholders to focus on needs and opportunities within the electric companies' systems and not on finding opportunities to meet rigid requirements. We encourage the electric companies to consider customer-sited projects in their assessment of potential projects but we do not set a minimum requirement. Likewise, we encourage but do not require use of a RFI to identify vendors and technologies.

With respect to the Storage Potential Evaluation Requirements, parties worry that the electric companies may not leverage the creativity of third-party providers to identify storage solutions. They suggest requiring a separate RFI to inform the system-wide evaluation and establishing explicit requirements for sharing system data with potential providers. We resolve that the workshops to follow this order will provide the opportunity for stakeholders to work with the electric companies to ensure that potential providers have an appropriate role in this process. We note that both electric companies have indicated they will engage the assistance of PNNL and other contractors to examine potential applications for energy storage on their systems and have been receptive to the concept of pursuing diverse projects.

With respect to Competitive Bidding Requirements, parties recommend requiring that RFPs be designed to solicit creative solutions to a particular need or constraint on the electric company's system—rather than predetermine the specific energy storage technology and solicit bids from vendors. We encourage electric companies to consider

this approach but we find it premature to make this a fixed requirement at this early stage of the program.

Second, parties request that we establish more precise definitions of key terms to ensure consistency in understanding among parties as the process moves forward. We recognize this concern but resolve that this is an issue better addressed among the parties. Parties may discuss the need for definitions in the workshops to follow this order and bring forth consensus-based definitions for our consideration.

Third, parties request that we issue more direction regarding our process and timeline for project authorization and cost-recovery determinations. Although these are important aspects of the overall process they are not properly part of these initial guidelines and requirements, which focus on the early phases of this program. We will address these outstanding issues later in 2017.

V. ORDER

IT IS ORDERED that: The guidelines and requirements set forth in Appendix A are adopted.


DEC 28 2016

Made, entered, and effective _____.



Lisa D. Hardie
Chair





John Savage
Commissioner



Stephen M. Bloom
Commissioner

A party may request rehearing or reconsideration of this order under ORS 756.561. A request for rehearing or reconsideration must be filed with the Commission within 60 days of the date of service of this order. The request must comply with the requirements in OAR 860-001-0720. A copy of the request must also be served on each party to the proceedings as provided in OAR 860-001-0180(2). A party may appeal this order by filing a petition for review with the Court of Appeals in compliance with ORS 183.480 through 183.484.

APPENDIX A**(Redline shows changes to straw proposal in Order No. 16-316)****PROJECT GUIDELINES**

1. Electric companies are encouraged to submit multiple projects with an aggregate capacity close to the full one percent of 2014 peak load allowed by HB 2193.
2. Electric companies are encouraged to submit a range of projects that are differentiated by use case, application, or other differentiating factor.
3. Electric companies are encouraged to submit a portfolio of projects that balance technology maturity, technology potential, short- and long-term project performance and risks, and short- and long-term potential value.
4. Electric companies are encouraged to submit projects that can serve multiple applications.
5. Electric companies are encouraged to submit projects that are strategically located to help defer or eliminate the need for system upgrades, provide voltage control or other ancillary services, ~~provide supplemental generation capacity~~, or supply some other location-specific service that will improve system operation and reliability.
6. Electric companies are encouraged to identify qualified vendors and viable energy storage technologies through a Request for Information (RFI) process.
7. Electric companies are encouraged to use established models—such as, but not limited to, the Pacific Northwest National Laboratory's Battery Storage Evaluation Tool or the Electric Power Research Institute's Energy Storage Valuation Tool—to estimate the value of energy storage applications. Models must be transparent and auditable.

PROPOSAL GUIDELINES

Each proposal must include the following description and analysis of each proposed project:

1. Technical specifications for each project, including:
 - a. The capacity of the project to store energy including both the amount of energy the project can store and the rate at which it can respond, charge, and discharge as well as any other operational characteristics needed to assess the benefits of the energy storage system;
 - b. The location of the project;
 - c. A description of the electric company's electric system needs and the application that the energy storage system will fulfill as the basis for the project;
 - d. A description of the technology necessary to construct, operate, and maintain the project, including a description of any data or communication system necessary to operate the project;
 - e. A description of the types of services that the electric company expects the project to provide upon completion; and
 - f. An analysis of the risk that the electric company will not be able to complete the project;
2. The estimated cost of each project, including:
 - a. The estimated capital cost of the project;
 - b. The estimated output cost of the project; and
 - c. The amount of grant moneys available to offset the cost of the project;
3. The benefits of each project to the electric company's electric system, including:
 - a. Projected in-state benefits to the electric system;
 - b. Projected regional benefits to the electric system; and
 - c. The potential benefits to the electric company's entire electric system if the electric company installs the energy storage system technology that is the basis for the project system-wide;
4. Reasoning for selecting chosen technology, grid location, application, and ownership structure, with supporting analysis including findings from any Request for Information (RFI) and the system-wide storage potential evaluation, identification of any criteria used to select projects and an explanation of how the criteria were applied, and any other relevant input on evaluations;
5. Comprehensive description of the project;

6. Plan for constructing, maintaining, and operating the energy storage system;
7. Comprehensive analysis of all identified costs over the life of the project to the electric system and all customers;
8. Comprehensive assessment of project risks over the life of the project;
9. Comprehensive assessment of all quantitative and qualitative benefits to the electric system and all customers over the life of the project. Assessment of larger societal benefits, where applicable, is encouraged but those assessments will not be incorporated into the cost-effectiveness calculation of the proposals;
10. Description of methodology for assessing project benefits, including the aggregation of benefits;
11. Cost-effectiveness of the energy storage system including benefit-cost ratios and net present value revenue requirements over the energy storage system lifetime, and all underlying inputs and assumptions used in the calculation;
12. Projected trends in energy storage system cost and performance;
13. Strategy for large-scale deployment of the technology over time, if applicable;
14. Comparative analysis of: (1) the proposed storage solution, and (2) other storage and non-storage solutions for the proposed application; and
15. Data collection and evaluation plan with identified research objectives.

STORAGE POTENTIAL EVALUATION REQUIREMENTS

1. Staff will convene workshops ~~to starting in late 2016 to~~ develop a framework for the electric companies' evaluations. Staff will present the agreed-upon framework to the Commission at a special public meeting no later than March 31, 2017. If parties agree that work remains, work can and should continue as parties see fit, yet draft evaluations will remain due June 1, 2017.

At a minimum, the following issues should be addressed, examined, and—if possible—resolved at the workshops:

- a. Establish a consistent list of use cases or applications to be considered in the evaluation;
 - b. Establish a consistent list of definitions of key terms;
 - c. Determine the time frame for analyses;
 - d. ~~Determine~~ Assess the potential valuation methodology or methodologies the electric companies may use for estimating storage potential in each use case or application;
 - e. Establish criteria for identifying the main opportunities for investment in storage;
 - f. Determine the approach for identifying system locations with the greatest storage potential; and
 - g. Establish the level of detail required in the evaluation results and required supporting data.
2. The electric companies will then prepare and file with the Commission draft evaluations by June 1, 2017.

At a minimum, the draft evaluations should:

- a. Identify storage potential by use case or application for specified time frames;
- b. Identify higher- and lower-value applications;
- c. Describe criteria for designating higher- and lower-value applications and explain how the criteria were applied;
- d. Identify system locations with the greatest storage potential;
- e. Describe the methodology for determining storage potential, explain how the methodology was applied, and identify all limiting factors that affect estimates of storage potential by application;
- f. Provide all input, assumptions, and other calculations used to designate higher- and lower-value applications and identify locations with greatest potential;

- g. Provide high-level summary of results of electric company's Request for Information (RFI)~~RFI~~, including description of RFI and the number and types of responses; and
 - h. Include any other provisions identified in the Staff-led workshops.
- 3. The Commission and stakeholders will have the opportunity to review and comment on the draft evaluations. We will hold a special public meeting by July 31, 2017 for informal input from the Commission and stakeholders on the draft evaluations.
 - 4. The electric companies will file final versions of their evaluations with their formal project proposals, which must be filed by January 1, 2018.

COMPETITIVE BIDDING REQUIREMENTS

- 1. An electric company may award a contract for a project without competition if it determines and presents justification that only a single vendor or contractor is capable of meeting the requirements of the project.
- 2. Where the requirements for sole source procurement are unmet, electric companies must use a competitive process to award contracts.
 - a. The electric companies will bear the burden of demonstrating that they followed a fair, competitive solicitation process to identify all vendors with the requisite expertise, experience, and capability to install viable projects.
 - b. The electric companies must give the Commission and stakeholders the opportunity to review the electric companies' Request for Proposal (RFP) design and offer nonbinding input.
 - c. The electric companies must summarize and report to the Commission their solicitation process and scoring approach. The report should be included with the formal project proposal submitted to the Commission, or, if bidding occurs after Commission authorization, at a special public meeting to follow.