



# Estrella Substation Project Project Sponsor Selection Report

March 11, 2015

California Independent System Operator Corporation

## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>1</b>
<b>2. BACKGROUND .....</b>	<b>2</b>
2.1 The Estrella Substation Project and Competitive Solicitation Process ...	2
2.2 The ISO Transmission Planning Process and Competitive Solicitation Tariff Structure.....	4
<b>3. SELECTION OF THE APPROVED PROJECT SPONSOR.....</b>	<b>7</b>
3.1 Description of Project Sponsor Selection Process.....	7
3.2 Description of Project Sponsors for the Estrella Substation Project.....	8
3.3 Selection Factor 24.5.4(a): Overall Capability to Finance, License, Construct, Operate, and Maintain the Facility .....	12
3.4 Selection Factor 24.5.4(b): Existing Rights-of-Way and Substations that Would Contribute to the Project .....	12
3.5 Selection Factor 24.5.4(c): Experience in Acquiring Rights-of-Way ....	14
3.6 Selection Factor 24.5.4(d): Proposed Schedule and Demonstrated Ability to Meet Schedule .....	17
3.7 Selection Factor 24.5.4(e): The Financial Resources of the Project Sponsor and Its Team.....	24
3.8 Selection Factor 24.5.4(f): Technical (Environmental Permitting) and Engineering Qualifications and Experience.....	34
3.9 Selection Factor 24.5.4(g): Previous Record Regarding Construction and Maintenance of Transmission Facilities .....	40
3.10 Selection Factor 24.5.4(h): Adherence to Standardized Construction, Maintenance, and Operating Practices .....	45
3.11 Selection Factor 24.5.4(i): Ability to Assume Liability for Major Losses .....	56
3.12 Selection Factor 24.5.4(j): Cost Containment Capability, Binding Cost Cap, and Siting Authority Cost Cap Authority .....	58
3.13 Selection Factor 24.5.4(k): Additional Strengths or Advantages .....	69
3.14 Selection Factor 24.5.4(a): Overall Capability to Finance, License, Construct, Operate, and Maintain the Facility .....	71
3.15 Qualification Criterion 24.5.3.1(a): Manpower, Equipment, and Knowledge to Design, Construct, Operate, and Maintain the Project...	72
3.16 Qualification Criterion 24.5.3.1(b): Financial Resources .....	73
3.17 Qualification Criterion 24.5.3.1(c): Ability to Assume Liability for Losses .....	73
3.18 Qualification Criterion 24.5.3.1(d): Proposed Schedule and Ability to Meet Schedule .....	74
3.19 Qualification Criterion 24.5.3.1(e): Technical and Engineering Qualifications and Experience .....	75
3.20 Qualification Criterion 24.5.3.1(f): Commitment to Enter Into TCA and Adhere to Applicable Reliability Criteria .....	75
3.21 ISO Overall Comparative Analysis for Approved Project Sponsor Selection.....	76

**LIST OF ATTACHMENTS**

Attachment 1 – Competitive Solicitation Transmission Project Sponsor Application dated 04/08/14 Version 4.

## 1. INTRODUCTION

This report describes the competitive solicitation process conducted by the California Independent System Operator Corporation (ISO) for the Estrella Substation project, including a new 230/70 kV substation approximately five miles east of the existing Paso Robles Substation. The ISO has conducted this competitive solicitation because, in its 2013-2014 transmission planning process, the ISO identified a reliability-driven need for system reinforcement in the Templeton and Estrella areas -- the Estrella Substation project. As required by the ISO Tariff, the ISO undertook a comparative analysis to determine the degree to which each project sponsor and its proposal met the qualification criteria set forth in ISO Tariff Section 24.5.3.1 and the selection factors set forth in ISO Tariff Section 24.5.4 to determine the approved project sponsor to finance, construct, own, operate, and maintain the Estrella Substation project. Four project sponsors submitted exceptionally detailed, well-supported proposals for the Estrella Substation project. The ISO would like to emphasize that it considers all project sponsors to be highly qualified to finance, construct, own, operate, and maintain the Estrella Substation project. While conducting the comparative analysis, the ISO had to make very slight distinctions among the project sponsors' proposals in determining the approved project sponsor. The result of this competitive solicitation process is that the ISO has selected NextEra Energy Transmission West, LLC (NEET West), an affiliate of NextEra Energy, Inc., as the approved project sponsor to finance, construct, own, operate, and maintain the Estrella Substation project.

## 2. BACKGROUND

### 2.1 The Estrella Substation Project and Competitive Solicitation Process

The ISO Tariff specifies that the ISO's transmission planning process must include a competitive solicitation process for new, stand-alone regional transmission facilities needed for reliability, economic, and/or public policy driven reasons. The ISO's 2013-2014 transmission plan identified a reliability-driven need to reinforce the 70 kV system in the Templeton and Estrella areas. The ISO referred to this project as the Estrella Substation project and its purpose is to increase the reliability and mitigate thermal overloads and voltage concerns in the area. The ISO governing board approved the Estrella Substation project on March 25, 2014 as part of its approval of the 2013-2014 transmission plan.

Following the approval of the transmission plan, the ISO opened a bid solicitation window on April 16, 2014, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the Estrella Substation Project. In accordance with ISO Tariff Section 24.5.1 and the posted 2013-2014 Transmission Planning Process Phase 3 Sequence Schedule, the bid solicitation window remained open through August 18, 2014.

At the time the bid solicitation window opened, the ISO posted a paper on its website entitled *Estrella Substation Project Description and Functional Specifications for Competitive Solicitation* (ISO Functional Specification) describing the Estrella Substation project<sup>1</sup>. As described in the ISO Functional Specification for the Estrella Substation project, the substation will address reliability issues in the Paso Robles area by providing Paso Robles Substation with more reinforced 70 kV sources from Templeton and Estrella Substations. The Estrella Project includes a 230/70/12 kV substation, Estrella Substation, new 230/70kV and 230/12 kV transformers, and reconductoring and looping the existing transmission lines. Only the 230/70 kV transformer, 230 kV switchyard, and 230 kV termination structures were eligible for competitive solicitation. The 230/12 kV transformer, 70 kV buswork and termination equipment, and modifications to existing facilities were not eligible for competitive solicitation under the ISO Tariff. As indicated in the ISO Functional Specification, the ISO estimates the cost of the proposed Estrella Substation project in its entirety, including both the competitive and non-competitive portions, to be between \$35 and \$45 million. As indicated in the ISO Functional Specification, the approved project sponsor will be responsible for acquiring the station land and necessary environmental permits for both the 230 kV yard and the 70 kV and distribution yard, but will need to grant a permanent easement or transfer of ownership of a parcel of land to PG&E for PG&E's portion of the total substation equipment. The ISO Functional Specification specifies that the latest in-service date for the Estrella Substation is May 2019. Upon completion of the Estrella Substation project, the facility or facilities must be turned over to ISO operational control.

---

<sup>1</sup> <http://www.caiso.com/Documents/Description-FunctionalSpecificationsEstrellaSubstation.pdf>

The ISO Identified and posted key selection factors for the Estrella Substation project<sup>2</sup>. These are the tariff criteria that the ISO has determined are the most important for selecting a project sponsor that is best able to design, finance, license, construct, operate, and maintain the project in an efficient, cost-effective, prudent, reliable, and capable manner over the lifetime of the project while maximizing overall benefits and minimizing the risk of untimely project completion, project abandonment, and future reliability, operational, and other relevant problems. For purposes of this project, the ISO identified the following subsections of ISO Tariff Sections 24.5.4 and 24.5.3.1 as the key selection factors:

- Section 24.5.4 (c) – “the experience of the Project Sponsor and its team in acquiring rights of way, if necessary, that would facilitate approval and construction, and in the case of a Project Sponsor with existing rights of way, whether the Project Sponsor would incur incremental costs in connection with placing new or additional facilities associated with the transmission solution on such existing right of way.”
- Section 24.5.4 (d) – “the proposed schedule for development and completion of the transmission solution and demonstrated ability to meet that schedule of the Project Sponsor and its team.”
- Section 24.5.4 (j) – “demonstrated cost containment capability of the Project Sponsor and its team, specifically, binding cost control measures the Project Sponsor agrees to accept, including any binding agreement by the Project Sponsor and its team to accept a cost cap that would preclude costs for the transmission solution above the cap from being recovered through the CAISO’s Transmission Access Charge, and, if none of the competing Project Sponsors propose a binding cost cap, the authority of the selected siting authority to impose binding cost caps or cost containment measures on the Project Sponsor, and its history of imposing such measures.”
- Section 24.5.3.1(a) – “whether the Project Sponsor has assembled a sufficiently-sized team with the manpower, equipment, knowledge and skill required to undertake the design, construction, operation and maintenance of the transmission solution.”

The ISO described these key selection factors during a stakeholder information conference call on May 2, 2014<sup>3</sup>.

The ISO received applications on behalf of four project sponsors – (1) Brookfield California Transmission, LLC (Brookfield CalTrans), an affiliate of Brookfield Asset Management, Inc., (2) Golden State Transmission, LLC (Golden State), a joint venture company owned by Edison Transmission, LLC and Transource Energy, LLC, (3) NextEra Energy Transmission West, LLC (NEET West), an affiliate of NextEra Energy, Inc., and (4) Pacific Gas and Electric Company (PG&E). The ISO posted a list of

---

<sup>2</sup> <http://www.caiso.com/Documents/KeySelectionFactors2013-2014TPP.pdf> page 3.

<sup>3</sup> [http://www.caiso.com/Documents/TransmissionPlanningProcessPhase3CompetitiveSolicitationInformationCallMay2\\_2014.htm](http://www.caiso.com/Documents/TransmissionPlanningProcessPhase3CompetitiveSolicitationInformationCallMay2_2014.htm)

validated project sponsor applications on October 2, 2014<sup>4</sup> and posted a list of qualified project sponsors and proposals on November 10, 2014<sup>5</sup>.

## 2.1 The ISO Transmission Planning Process and Competitive Solicitation Tariff Structure

In 2010, the Federal Energy Regulatory Commission (FERC) approved changes to the ISO's transmission planning process that included a competitive solicitation process for new, stand-alone transmission facilities needed for reliability, economic, and/or public policy driven reasons. Subsequently in 2012 the ISO filed tariff amendments to comply with the requirements of FERC Order No. 1000 to further promote competition in the transmission planning process. The ISO conducted its first competitive solicitation process during the 2012-2013 transmission planning cycle. Based on the experience gained during the competitive selection process and discussions with stakeholders, the ISO identified improvements to clarify and provide more transparency to the process for participating transmission owners and other transmission developers. The ISO conducted a competitive transmission improvement initiative in late 2013, which concluded with ISO Tariff Section 24.5 and process changes. The enhancements are applicable to the 2013-2014 transmission planning cycle. The following is a summary of tariff and process changes to Section 24.5:

1. In order to provide more transparency in the ISO selection process and assist potential project sponsors in the preparation of their applications, the ISO now posts key selection factors 30 days after the draft transmission plan is posted as required by Section 24.5.1.
2. Project sponsor application information requirements are set forth in Section 24.5.2.1.
3. In an effort to shorten the competitive solicitation process, the ISO moved the collaboration period to the beginning of the solicitation process, and it now commences after the posting of project sponsors with information-sufficient applications in accordance with Section 24.5.3.1, rather than following the project sponsor qualification phase.
4. The revised tariff contains additional clarifying qualification criteria in Sections 24.5.3.1 (Project Sponsor Qualification) and 24.5.3.2 (Proposal Qualification).
5. If the ISO does not find a project sponsor and/or its proposal to be qualified, Section 24.5.3.3 now provides a cure period to allow the project sponsor to submit additional information and/or clarify its application to correct the deficiency, and the ISO will repost the list of qualified project sponsors and proposals if necessary.
6. The revised tariff includes clarifying language to the existing selection factors set forth in Section 24.5.4 to select the approved project sponsor.
7. The ISO will now select the approved project sponsor when there are multiple project sponsors with the same authorized governmental body for project siting approval in accordance with Section 24.5.3.5.
8. The ISO also modified tariff language requiring the approved project sponsor to initiate contact with the project siting authority within 120 days. Section 24.5.3.5

---

<sup>4</sup> <http://www.caiso.com/Documents/ListofValidatedProjectSponsorApplications-EstrellaSubstationProject.pdf>

<sup>5</sup> <http://www.caiso.com/Documents/List-QualifiedProjectSponsorsandProposals-EstrellaSubstation.pdf>

now specifies that the approved project sponsor must enter into an approved project sponsor agreement with the ISO within 120 days of selection.

9. Section 24.5.6 now provides for an application fee.

In addition, for regional transmission facilities approved in the ISO's 2013-2014 transmission plan, the ISO staggered the bid solicitation window closing dates to facilitate efficient management of large number of projects subject to competitive solicitation.

Project sponsor application changes include:

1. The ISO aligned the project sponsor application with the tariff changes.
2. The ISO simplified the application.
3. The ISO added financial and construction sections.
4. The ISO added a requirement that the application include a statement by an officer that the information presented is true and correct.

With the enhancements noted above, the framework for the 2013-2014 competitive solicitation process is set forth in the ISO Tariff Section 24.5. In addition, the ISO posted the revised form of the project sponsor application (Attachment 1) on its website. Also, while the bid solicitation window was open, the ISO maintained a question and answer matrix detailing questions from prospective project sponsors and the ISO's responses so that all interested parties would have access to the same clarifying information.<sup>6</sup> In compliance with ISO Tariff Section 24.5.3.5, the ISO engaged expert consultants to assist with the selection of the approved project sponsor.

Each project sponsor completed the project application form, which included a series of questions and requirements in the following areas:

- Project Sponsor, Name and Qualifications
- Past Projects, Project Management and Cost Containment
- Financial
- Environment and Public Process
- Substation
- Transmission Line
- Construction
- Operation and Maintenance
- Miscellaneous
- Officer Certification
- Payment Instructions

The ISO provided the project sponsors opportunities to correct deficiencies in their applications. Following a project sponsor's submission of supplemental information, the ISO validated the project sponsor's application to determine if it contained sufficient information for the ISO to determine whether the project sponsor and its proposal were qualified. Once the ISO validated the applications, the ISO posted the list of validated project sponsor applications to its website, as described in Section 2.1 of this report.

---

<sup>6</sup> <http://www.caiso.com/Documents/ProjectSponsorQuestion-AnswerMatrix.pdf>



The collaboration period opened on October 7, 2014 and closed on October 21, 2014 with no project sponsors requesting collaboration.

Next the ISO determined whether the project sponsors and their proposals were qualified pursuant to ISO Tariff Sections 24.5.3.1 and 24.5.3.2. The ISO evaluated the project sponsors based on the information submitted in response to the questions in the application corresponding to ISO Tariff Sections 24.5.2.1(a)-(i) to determine, in accordance with Section 24.5.3.1, whether the project sponsor had demonstrated that its team is physically, technically, and financially capable of:

- (i) completing the needed transmission solution in a timely and competent manner; and
- (ii) operating and maintaining the transmission solution in a manner that is consistent with good utility practice and applicable reliability criteria for the life of the project, based on the qualification criteria as set forth in ISO Tariff Section 24.5.3.1(a)-(f).

In accordance with Section 24.5.3.2, the ISO evaluated the project sponsors' proposals based on the following criteria to determine whether the transmission solution proposed by the project sponsors would be qualified for consideration:

- (a) "Whether the proposed design of the transmission solution is consistent with needs identified in the comprehensive Transmission Plan;"
- (b) "Whether the proposed design of the transmission solution satisfies Applicable Reliability Criteria and CAISO Planning Standards."

The ISO found that all project sponsors and their proposals met the minimum qualification criteria as set forth in ISO Tariff Sections 24.5.3.1 and 24.5.3.2 for the Estrella Substation project. Therefore, the ISO determined that no cure period was needed for the qualification phase. As described in Section 2.1 of this report, the ISO posted the list of qualified project sponsors and their proposals to its website on November 10, 2014. Section 3 of this report describes the ISO's selection process for this project.

### **3. SELECTION OF THE APPROVED PROJECT SPONSOR**

#### **3.1 Description of Project Sponsor Selection Process**

Once the ISO has determined that two or more project sponsors are qualified, ISO Tariff Section 24.5.3.5 directs the ISO to select one approved project sponsor “based on a comparative analysis of the degree to which each Project Sponsor’s proposal meets the qualification criteria set forth in section 24.5.3.1 and the selection factors set forth in 24.5.4.” The selection factors specified in ISO Tariff Section 24.5.4 are:

- (a) the current and expected capabilities of the Project Sponsor and its team to finance, license, and construct the facility and operate and maintain it for the life of the solution;
- (b) the Project Sponsor’s existing rights of way and substations that would contribute to the transmission solution in question;
- (c) the experience of the Project Sponsor and its team in acquiring rights of way, if necessary, that would facilitate approval and construction, and in the case of a Project Sponsor with existing rights of way, whether the Project Sponsor would incur incremental costs in connection with placing new or additional facilities associated with the transmission solution on such existing right of way;
- (d) the proposed schedule for development and completion of the transmission solution and demonstrated ability to meet that schedule of the Project Sponsor and its team;
- (e) the financial resources of the Project Sponsor and its team;
- (f) The technical and engineering qualifications and experience of the Project Sponsor and its team;
- (g) if applicable, the previous record regarding construction and maintenance of transmission facilities, including facilities outside the CAISO Controlled Grid of the Project Sponsor and its team;
- (h) demonstrated capability to adhere to standardized construction, maintenance and operating practices of the Project Sponsor and its team;
- (i) demonstrated ability to assume liability for major losses resulting from failure of facilities of the Project Sponsor;
- (j) demonstrated cost containment capability of the Project Sponsor and its team, specifically, binding cost control measures the Project Sponsor agrees to accept, including any binding agreement by the Project Sponsor and its team to accept a cost cap that would preclude costs for the transmission solution above the cap from being recovered through the CAISO’s Transmission Access Charge, and, if none of the competing Project Sponsors proposes a binding cost cap, the authority of the selected siting authority to impose binding cost caps or cost containment measures on the Project Sponsor, and its history of imposing such measures; and
- (k) any other strengths and advantages the Project Sponsor and its team may have to build and own the specific transmission solution, as well as any specific efficiencies or benefits demonstrated in their proposal.

In selecting the approved project sponsor, the ISO has undertaken a comparative analysis of the project sponsors’ proposals with regard to the qualification criteria described in ISO Tariff Section 24.5.3.1 and the selection factors in ISO Tariff Section 24.5.4. As part of the comparative analysis, the ISO has given particular consideration

to the key selection factors for the Estrella Substation project as described in Section 2.1 of this report.

This report summarizes information provided by each project sponsor that was considered by the ISO to be important in analyzing their proposals with respect to each of the qualification criteria and selection factors. At the beginning of each subsection of Section 3.3 of this report, the ISO has provided a listing of the sections of the project sponsor's application that the ISO particularly considered in undertaking its comparative analysis for that qualification criterion or selection factor. In addition, in the ISO's summaries in this report describing the information provided by each project sponsor, the ISO has provided a reference to the particular section of the project sponsor's application that served as the source for that summary. Because this report is a summary, it does not repeat all of the information provided by the project sponsors. However, the ISO reviewed and considered all of the information provided by the project sponsors, and the ISO's failure to reference any specific information provided by a project sponsor does not indicate lack of consideration of such information.

### **3.2 Description of Project Sponsors for the Estrella Substation Project**

The ISO received project sponsor applications for the Estrella project on behalf of four project sponsors:

- Brookfield California Transmission, LLC (Brookfield CalTrans), an affiliate of Brookfield Asset Management, Inc.
- Golden State Transmission, LLC (Golden State), a joint venture company owned by Edison Transmission, LLC and Transource Energy, LLC
- NextEra Energy Transmission West, LLC (NEET West), an affiliate of NextEra Energy, Inc.
- Pacific Gas and Electric Company (PG&E)

All four entities are highly qualified and submitted strong, competitive applications supporting their proposals. As a result, the ISO has had to make very slight distinctions among the four project proposals in the comparative analysis process in selecting the approved project sponsor

#### **Brookfield CalTrans**

According to its proposal, Brookfield CalTrans is a registered special purpose limited liability corporation registered to do business in California. Brookfield CalTrans indicated that it is a wholly-owned affiliate of Brookfield Infrastructure Partners that was specifically formed to permit, finance, construct, own, operate, and maintain this and similar transmission substation projects, as well as other regulated electricity transmission facilities in California. Brookfield CalTrans indicated that it is part of the global Brookfield family of companies (collectively, Brookfield).

In its proposal, Brookfield CalTrans stated that Brookfield owns and operates a vast portfolio of infrastructure assets around the world, including major investments in California. In California, Brookfield CalTrans indicated that Brookfield has \$12 billion of assets under management; 850 employees; a significant presence in the commercial,

residential, retail, and industrial property sectors; container terminals; and a growing presence in the renewable power sector.

Brookfield CalTrans indicated that specific Brookfield entities associated with this project would include Brookfield's infrastructure group (drawn from Brookfield Asset Management Inc. (Brookfield Asset Management), a publically traded entity that is the ultimate parent company for the other Brookfield entities, including Brookfield CalTrans, and Brookfield Infrastructure Partners LP (Brookfield Infrastructure Partners), one of Brookfield's holding companies), which would provide management and development support; and Brookfield Infrastructure Fund II, which would provide equity financing.

Brookfield CalTrans indicated that Brookfield Asset Management will be the ultimate corporate owner of Brookfield CalTrans. Brookfield CalTrans indicated that Brookfield Asset Management is a global alternative asset manager with over a 100-year history and over \$190 billion in assets under management, with a focus on property, renewable energy, infrastructure, and private equity.

Brookfield CalTrans indicated that Brookfield Infrastructure Partners would control the management of Brookfield CalTrans and that Brookfield Infrastructure Partners was formed by Brookfield Asset Management to own and operate high quality infrastructure assets globally.

### **Brookfield CalTrans Access to Affiliate Financial Support**

Brookfield CalTrans stated that the equity required to fund the development, construction, and operating activities for the project would be provided by Brookfield Infrastructure Fund II.

## **Golden State**

Golden State indicated that it is a joint venture company, 50% owned by Edison Transmission, LLC (Edison Transmission), a Delaware limited liability company and an indirect, wholly-owned subsidiary of Edison International, and 50% owned by Transource Energy, LLC (Transource), a Delaware limited liability company and itself a joint venture between affiliates of American Electric Power Company, Inc. (AEP) and Great Plains Energy, Inc. (GPE). Golden State indicated that it is organized as a Delaware limited liability company and is the project sponsor of the Estrella Substation project. Golden State indicated that it would legally own all of the assets associated with the project during development, construction, and operation of the project.

Golden State indicated that Edison Transmission is a direct, wholly-owned subsidiary of Edison Energy, Inc., which in turn, is a wholly-owned subsidiary of Edison International. Golden State indicated that Edison International is also the parent holding company of Southern California Edison Company (SCE), a California public utility corporation and one of the largest electric utility companies in the United States. Golden State indicated that Edison Transmission was recently organized to pursue the development, ownership, and operation of competitive electric transmission projects. Golden State indicated that Edison Transmission and SCE are affiliates and, subject to the affiliate transaction rules of the California Public Utilities Commission (CPUC), Edison Transmission has access to the experience, expertise and capabilities of employees of SCE, including those with

significant experience planning, siting, constructing, owning, and operating transmission assets.

Golden State indicated that Transource is a joint venture partnership between AEP Transmission Holding Company, LLC (AEP Trans Holdco), which holds a majority interest of 86.5%, and GPE Transmission Holding Company, LLC (GPE Trans Holdco), which holds the remaining interest of 13.5%. Golden State indicated that AEP Trans Holdco is a wholly-owned subsidiary of AEP and GPE Trans Holdco is a wholly-owned subsidiary of GPE. Golden State indicated that Transource is focused on the development, ownership, and operation of competitive electric transmission projects.

According to Golden State's proposal, Edison International and AEP are among the largest electric utility holding companies in the United States, which combined serve nearly 20 million customers, and together, through their affiliates and operating companies, have vast experience in siting, licensing, and constructing transmission assets. Golden State indicated that GPE wholly owns two electric public utility companies that serve more than 826,000 customers in Missouri and Kansas.

### **Golden State Access to Affiliate Financial Support**

Golden State stated that its ultimate parent companies, Edison International, AEP, and GPE are committed to providing the funding needed to build, own, and operate this project as evidenced by letters of financial support for the project signed by an officer of each parent company.

### **NEET West**

According to its proposal, NEET West is a Delaware limited liability company formed in 2014, is a wholly-owned subsidiary of NextEra Energy Transmission, LLC (NEET), and is an indirect subsidiary of NextEra Energy, Inc. (NextEra). NEET West's proposal indicated that it was created to own the proposed Estrella Substation project and other assets in the ISO region as a portfolio, and according to the proposal is not intended to be a stand-alone project company for the Estrella Substation project. NEET West stated that it would draw 100% of its financial requirements from its ultimate corporate parent NextEra and provided appropriate documentation from NextEra reflecting this guaranty.

NEET West indicated that its ultimate parent NextEra is a company with revenues of approximately \$15 billion and 13,900 employees as of December 31, 2013. NextEra, and its wholly owned subsidiaries, NEET and NEET West, are headquartered in Juno Beach, Florida. NEET West indicated that NextEra's principal subsidiaries are Florida Power & Light Company (FPL) and NextEra Energy Resources, LLC (NEER). NEET West indicated that another key entity in the NextEra organization is NextEra Energy Capital Holdings (NEECH), which owns and provides funding for NextEra's operating subsidiaries, other than FPL and its subsidiaries.

NEET West indicated that its immediate parent, NEET, was formed by NextEra in 2007 to apply NextEra's experience and resources in developing, owning, and operating transmission facilities to projects across the United States and Canada. NEET West stated that it intends to own 100% of the project from development through operations, for the life of the project.

NEET West stated that it is an indirect, wholly owned subsidiary of NEECH and would rely upon NEECH for financial backing of this project. NEET West indicated that it plans to finance the project from development through commercial operation with corporate parent funding provided by NEECH, which will ultimately be guaranteed by NextEra.

NEET West stated that it would have ultimate responsibility for siting, permitting, engineering, procurement, construction, and placing the project into operation. NEET West indicated that it would draw from expertise across the entire NextEra organization, as well as engage a selected suite of consulting firms specifically in the areas of engineering design, construction, environmental permitting, land management, and legal and regulatory support to bring the project to successful completion. NEET West indicated that it has assembled a leadership team consisting of a project director and team leads from within NextEra who would select experienced, qualified engineers, technicians, and other staff from within NextEra or third party consultants to support the Estrella Substation project.

### **NEET West Access to Affiliate Financial Support**

NEET West provided evidence that NextEra maintains a blanket guarantee of certain obligations of NEECH, pursuant to a Guarantee Agreement between FPL Group, Inc. and FPL Group Capital Inc., dated as of October 14, 1998 (the Guarantee Agreement). NEET West further demonstrated that guarantee obligations by NEECH to NEET West would, in turn, be guaranteed by NextEra pursuant to the aforementioned Guarantee Agreement. NEET West indicated that that each and every obligation of NEET West to the ISO would be backstopped by mutually agreed upon support obligations between NEET West and its affiliates.

## **PG&E**

In its proposal, PG&E stated that it is an investor-owned utility regulated by the CPUC and is the principal provider of electric and gas transmission and distribution service in northern and central California. PG&E stated that it would be the sole project sponsor responsible for siting, land acquisition, and permitting. PG&E stated that it would also be responsible for overseeing engineering, procurement, construction and placing the project in operation. PG&E indicated that it did not intend to create a special purpose entity for this project.

PG&E indicated that it was incorporated in California in 1905, is California's largest utility, and has 20,000 employees throughout a 70,000-square-mile service area in northern and central California. PG&E indicated that it provides service to 5.1 million electric customers and owns and operates 141,215 circuit miles of electric distribution lines, 18,616 circuit miles of interconnected transmission lines, and upward of 900 substations.

PG&E described its experience in design and permitting, construction, and operations and maintenance. PG&E stated that it owns \$55 billion in assets and has constructed more than 700 capital substation projects in the past five years totaling in excess of \$998 million.

## **PG&E Access to Financial Support**

PG&E indicated that it plans to finance the project at its CPUC-authorized capital structure (currently 52 percent equity and 48 percent debt). PG&E indicated that funding would come from internally generated cash and raised from capital markets. PG&E stated that it is not relying on a parent or any other affiliated entity for financial support for this project; although PG&E stated that it could obtain equity infusions from its parent, PG&E Corporation, if necessary. PG&E further stated that PG&E Corporation is a holding company whose primary operating subsidiary is PG&E and obtains funding through issuance of debt and common stock.

### **3.3 Selection Factor 24.5.4(a): Overall Capability to Finance, License, Construct, Operate, and Maintain the Facility**

The first selection factor is “the current and expected capabilities of the Project Sponsor and its team to finance, license, and construct the facility and operate and maintain it for the life of the project.”

The ISO notes that the first selection factor is a broad factor that encompasses several of the subsequent more narrow selection factors. The ISO will therefore address satisfaction of this more general factor in its discussion of the applicable, more specific selection factors. The ISO will not duplicate here (1) the information provided by the project sponsors for purposes of demonstrating their capabilities and experience with respect to each of the encompassed selection factors, or (2) the ISO’s comparative analysis of the project sponsors in this regard, as set forth in the following sections of this report. The ISO will discuss the comparative analysis for selection factor 24.5.4(a) after the discussion of the other selection factors in Section 3.14 of this report.

### **3.4 Selection Factor 24.5.4(b): Existing Rights-of-Way and Substations that Would Contribute to the Project**

(Section 3 - General Project Information, QS-1, QS-4, QP-1, E-1, E-10, E-13)

The second selection factor is “the Project Sponsor’s existing rights of way and substations that would contribute to the project in question.” Given the functional specifications of the project, existing substations (other than the one specified in the ISO Functional Specification) would not contribute to the project design and therefore were not identified by any project sponsors or included in the analysis.

#### **3.4.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans indicated that it does not have any existing facilities that would contribute to the proposed project. Brookfield CalTrans indicated that its preferred site is located south of Union Road and east of the Morro Bay-Gates 230 kV transmission line. If it were to be selected to develop the project, Brookfield indicated that it would attempt to purchase the proposed site from the property owner at fair market value if possible and through eminent domain as a last resort. (E-10, E-13)

### **3.4.2 Information Provided by Golden State**

Golden State indicated that it has acquired a lease option, from a private party, for approximately 20 acres north of Estrella Road and east of the Morro Bay-Gates 230 kV transmission line where its proposed substation would be located. Thus Golden State has existing land rights to contribute to the project. (E-10, E-13)

### **3.4.3 Information Provided by NEET West**

NEET West indicated that it has acquired a purchase option, from a private party, for approximately 6.1 acres of land on Union Road southeast of the Morro Bay-Gates 230 kV transmission line for its proposed substation. Thus NEET West has existing land rights to contribute to the project. (E-10, E-13)

### **3.4.4 Information Provided by PG&E**

PG&E indicated that it does not have any existing facilities that would contribute to the proposed project. PG&E indicated that it plans to purchase approximately 5.2 acres near Branch and Mill Roads east of the Morro Bay-Gates 230 kV transmission line for the proposed substation from a private party at fair market value if possible and through eminent domain as a last resort. (E-10, E-13)

### **3.4.5 ISO Comparative Analysis**

For purposes of the comparative analysis for this factor, the ISO has considered the representations by the project sponsors regarding the rights-of-way and other land rights they possess and are proposing to contribute to this project.

Golden State and NEET West propose to contribute parcels of land for which they have already acquired options; Golden State has a lease option, and NEET West has a purchase option. Brookfield CalTrans and PG&E propose to acquire parcels of land for their substation projects once they have been selected to develop their respective projects.

The ISO Functional Specification notes that “the approved project sponsor will be responsible to acquire the station land and necessary environmental permits from the applicable siting agency for both the 230 kV yard and the 70 kV and distribution yard and will grant a permanent easement or transfer of ownership of a parcel of land to PG&E for PG&E’s portion of the total station equipment.” The ISO views a purchase option as a better form of contribution of land to a project than a lease option because the owner has the right to grant the necessary permanent easement or ownership right to PG&E, while a lessee does not. For this reason, in conjunction with all the other considerations included in the ISO’s analysis for this factor, the ISO has determined that NEET West’s proposal is better than Golden State’s proposal with regard to this factor. Although NEET West’s and Golden State’s land costs are not already reflected in existing rates, and therefore do not eliminate a project cost, they do eliminate a necessary step and risk in the overall process compared to Brookfield CalTrans’ and PG&E’s proposals. For this reason, in conjunction with all the other considerations included in the ISO’s analysis for this factor, the ISO has determined that the proposals of NEET West and Golden State are slightly better than the proposals of Brookfield CalTrans and PG&E with regard to this factor, as neither Brookfield CalTrans nor PG&E currently possesses land rights to



contribute to the project. The ISO has determined that there is no material difference between the proposals of Brookfield and PG&E with regard to this factor. Both project sponsors would have the authority to obtain property by eminent domain, if necessary.

### **3.5 Selection Factor 24.5.4(c): Experience in Acquiring Rights-of-Way**

The third selection factor is “the experience of the Project Sponsor and its team in acquiring rights of way, if necessary, that would facilitate approval and construction and in the case of a Project Sponsor with existing rights of way, whether the Project Sponsor would incur incremental costs in connection with placing new or additional facilities associated with the transmission solution on such existing right of way.” As discussed in Section 2.1, the ISO has identified this selection factor as a key selection factor because experience in acquiring rights-of-way can contribute to lower project cost, more timely rights-of-way acquisition efforts, and reduction in the overall time needed to complete the project. A proposal that best satisfies this criterion will contribute significantly to ensuring that the project sponsor selected will develop the project in an efficient, cost-effective, and timely manner.

For the purpose of performing the comparative analysis for this factor, the ISO has initially considered the two components of the factor separately and then combined them into an overall comparative analysis for this factor. The two components are: (1) the experience of the project sponsor and its team in acquiring rights-of-way and (2) for the case of a project sponsor with existing rights-of-way, whether the project sponsor would incur incremental costs in connection with placing new or additional facilities associated with the transmission solution on such existing rights-of-way.

#### **Experience in Acquiring Rights-of-Way**

(Section 3 - General Project Information, QS-1, QS-4, P-1, P-9, P-10, E-1, E-2, E-3, E-4, E-7, E-8, E-9c, E-10, E-11, E-12, E-14a, E-14b, E-15a, E-15b, E-16a, E-16b, E-16c, E-16d, E-16e, E-16f, S-1, S-5)

##### **3.5.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans indicated that its staff would lead the land acquisition activities for this project. Brookfield did not indicate that its staff has specific experience in acquiring utility rights-of-way/land rights in California. However, Brookfield CalTrans indicated that its affiliates do have experience in land acquisition for similar substation projects in Ontario, Canada and west Texas and for residential and commercial property in California. (E-2, E-3, E-4, E-10, E-11, E-12, E-13, E-14a, E-14b, E-15a and E-15b)

##### **3.5.2 Information Provided by Golden State**

Golden State indicated that it and its team have experience in acquiring land rights for similar substation projects in California, including and provided several examples of projects in California for which it or its team acquired the land rights. (E-2, E-3, E-4, E-10, E-11, E-12, E-13, E-14a, E-14b, E-15a and E-15b)

### **3.5.3 Information Provided by NEET West**

NEET West indicated that it and its team have experience in acquiring land rights for similar substation projects in California and provided several examples of projects in California for which it or its team acquired the land rights. (E-2, E-3, E-4, E-10, E-11, E-12, E-13, E-14a, E-14b, E-15a and E-15b)

### **3.5.4 Information Provided by PG&E**

PG&E indicated that it and its team have experience in acquiring land rights for similar substation projects in California and provided several examples of projects in California for which it or its team acquired the land rights. (E-2, E-3, E-4, E-10, E-11, E-12, E-13, E-14a, E-14b, E-15a and E-15b)

## **Incremental Costs Associated with Use of Existing Rights-of-Way**

(Section 3 - General Project Information, E-1, E-13)

### **3.5.5 Information Provided by Brookfield CalTrans**

Brookfield CalTrans indicated that it does not currently have a land option or other existing rights-of-way for the project, and therefore that it does not expect any additional incremental rights-of-way costs for this project. (E-13)

### **3.5.6 Information Provided by Golden State**

Golden State indicated that it has obtained a lease option for the parcel needed for its proposed substation and that it otherwise has no existing rights-of-way for the project, and therefore that it does not expect any additional incremental rights-of-way costs for this project. (E-13)

### **3.5.7 Information Provided by NEET West**

NEET West indicated that it has obtained a purchase option for the parcel needed for its proposed substation and that it otherwise has no existing rights-of-way for the project, and therefore that it does not expect any additional incremental rights-of-way costs for this project. (E-13)

### **3.5.8 Information Provided by PG&E**

PG&E indicated that it does not have a land option or other existing rights-of-way for the project, and therefore that it does not expect any additional incremental rights-of-way costs for this project. (E-13)

### **3.5.9 ISO Comparative Analysis**

#### **Comparative Analysis of Experience in Acquiring Rights-of-Way**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the experience of both the project sponsor and its team members in acquiring rights-of-way, including but not limited to experience in the U.S. and California.

The ISO considers experience in California to be a slight advantage over experience in rights-of-way acquisition in other jurisdictions because the project is located in California and such experience will facilitate the timely, efficient, and effective undertaking of the project.

Golden State, NEET West, and PG&E all have substantial experience with acquiring utility rights-of-way/land rights and have acquired such rights in California, while Brookfield CalTrans did not demonstrate any experience of its staff or affiliates in acquiring utility rights-of-way/land rights in California. Based on this consideration, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to this component of the factor and that their proposals are very slightly better than Brookfield CalTrans' proposal with regard to this component of the factor.

#### **Comparative Analysis Incremental Costs Associated with Use of Existing Rights-of Way**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding whether the project sponsor would incur incremental costs in connection with placing new or additional facilities associated with the transmission solution on existing rights-of-way.

All four project sponsors indicate that they do not intend to use existing rights-of-way. Therefore, the ISO has determined that there is no material difference among the proposals of the four project sponsors with respect to this component of the factor.

#### **Overall Comparative Analysis**

Because there is no material difference among the proposals of the project sponsors with regard to the second component of this factor (incremental costs for use of existing rights-of-way), the ISO's analysis for this factor overall is based on the analysis for the first component (experience in acquiring rights-of-way).

As discussed above, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to the first component of this factor and that their proposals are very slightly better than Brookfield CalTrans' proposal with regard to the first component of this factor.

Consequently, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to this factor overall and

their proposals are very slightly better than Brookfield CalTrans' proposal with regard to this factor overall.

### **3.6 Selection Factor 24.5.4(d): Proposed Schedule and Demonstrated Ability to Meet Schedule**

The fourth selection factor is “the proposed schedule for development and completion of the project and demonstrated ability to meet that schedule of the Project Sponsor and its team.” As discussed in Section 2.1, the ISO has identified this selection factor as a key selection factor because of the need for this project by the latest in-service date specified in the ISO Functional Specification in order to ensure system reliability. The ISO used the following considerations in its analysis for this component of the factor:

- Proposed schedules
- Scope of activities specified in the proposed schedules
- Amount of schedule float
- Experience of project sponsors
- Potential risks associated with project sponsor's proposal

A proposal that best satisfies this factor will contribute significantly to ensuring that the project sponsor selected will develop the project in a prudent, efficient, cost-effective, and timely manner.

For the purpose of performing the comparative analysis for this factor, the ISO has initially considered the two components of the factor separately and then combined them into an overall comparative analysis for this factor. The two components are: (1) the proposed schedule for development and completion of the project and (2) demonstrated ability of the project sponsor and its team to meet that schedule.

#### **Proposed Schedule**

(Section 3 - General Project Information, QS-1, QS-4, QS-3, P-1, P-6, P-9, E-1, E-2, E-3, E-4, E-7, E-14a, E-14b, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15b, E-15c, E-15di, E-15dii, E-15diii, S-2, S-3, S-4)

#### **3.6.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans provided a detailed project schedule that proposes an in-service date of December 31, 2018, which is five months earlier than the latest in-service date of May 2019 specified in the ISO Functional Specification. Regarding project schedule “float,” if the start date were delayed by six months, Brookfield CalTrans stated that it would be possible to advance the execution of the EPC contract from August 2017 to as early as December 2015, at which time the technical design would have been finalized. Brookfield CalTrans indicated that this would allow detailed design work and the procurement of the long-lead items (e.g., the power transformer) to start in parallel with the permitting process. Brookfield CalTrans asserted that its plan is therefore conservative and allows for start date delays of as much as eight months without needing to accelerate any of the design, permitting, or construction activities. (P-9)

### **3.6.2 Information Provided by Golden State**

Golden State provided a project schedule that shows that it plans to place the Estrella Substation project into service in April 2018, which is 13 months ahead of the latest in-service date of May 2019 specified in the ISO Functional Specification. Regarding project schedule “float,” Golden State stated that it has sufficient flexibility built into the schedule should the start date be delayed by six months. As noted above, Golden State indicated that it has an option to lease the substation property. (P-9)

### **3.6.3 Information Provided by NEET West**

The project schedule provided by NEET West indicates that the Estrella project could be in-service by December 1, 2018, which is six months earlier than the latest in-service date of May 2019 specified in the ISO Functional Specification. Regarding project schedule “float,” NEET West indicated that it developed the project schedule with six months of built-in float. In addition, NEET West indicated that its project schedule has the potential for an incremental three months of float in the permitting schedule and two months of float in the construction schedule. (P-9)

NEET West indicated that it would undertake various steps described in its proposal to meet the in-service date of May 2019 should the originally planned scheduled start be delayed by six months. NEET West indicated that it anticipates a six month start delay would have a small impact to the overall project timeline. (P-9)

As noted above, NEET West stated that it has an option to purchase the proposed substation property. (P-9)

### **3.6.4 Information Provided by PG&E**

PG&E provided a project schedule that indicates a project in-service date of May 31, 2019, meeting the latest in-service date of May 2019 specified in the ISO Functional Specification. Regarding project schedule “float,” if the project were to be delayed six months, PG&E stated that it would delay the public involvement process until November 2015. PG&E indicated that this would be executed in parallel with the proponent’s environmental assessment process causing no delay to the proposed May 2019 in-service date. In addition, if the start of the schedule were to be delayed by six months, PG&E indicated that it could take additional actions, including eliminating two months of construction float, advancing long lead-time material acquisition, and utilizing extended work days. (P-9)

## **Ability to Meet Schedule**

(Section 3 - General Project Information, QS-1, QS-3, QS-4, P-1, P-6, P-7, P-8, P-9, P-10, E-1, E-2, E-3, E-4, E-14a, E-14b, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15b, E-15c, E-15di, E-15dii, E-15diii, S-1, S-2, S-3, S-4)

### **3.6.5 Information Provided by Brookfield CalTrans**

Brookfield CalTrans stated that because it is a newly created affiliate of its parent company for the specific purpose of participating in the ISO’s competitive solicitation process, Brookfield CalTrans has no separate history of its own projects or

collaborations with its team members. However, Brookfield CalTrans indicated that personnel and representatives from its affiliates that would be working with Brookfield CalTrans on these projects have longstanding relationships with individuals at several large firms, including two large engineering firms, an international power equipment supplier, and a large legal/regulatory firm. (P-1)

Brookfield CalTrans highlighted seven new substation projects at 230 kV or higher voltage completed in the last five years; Brookfield CalTrans indicated that these are projects where Brookfield CalTrans team members had the full range of responsibilities (financing, design, siting, construction, operations, and maintenance). None of the seven projects was in California, and one included a transformer installation. Brookfield CalTrans also listed numerous other projects designed, sited, and/or built by a member of Brookfield CalTrans' team. (P-1)

Brookfield CalTrans provided project performance information on the seven example projects; this showed some projects that were behind schedule. Brookfield CalTrans indicated that there were no significant delays associated with building the substations. (P-6)

Brookfield CalTrans indicated that the project would be managed according to Brookfield CalTrans' internal project management procedure. Brookfield CalTrans indicated that its overall approach to project management would be to appoint a single project manager with sole responsibility for project delivery and that the project manager would be overseen and advised by a project board of senior Brookfield managers. During the construction phase of the project, Brookfield CalTrans indicated that its selected EPC contractor would be responsible for the management of detailed design, procurement, and on-site construction activities. Brookfield CalTrans stated that its EPC contractor would appoint a project manager with overall responsibility for the management of its activities. (P-7)

Brookfield CalTrans provided an organization chart reflecting the project relationships, including the project contractors. This chart showed that the overall project management would be provided by the program manager. Brookfield CalTrans indicated that its proposed program manager has ten years of increasingly senior professional management experience. (P-8)

Brookfield CalTrans identified 21 major risks for the project and its proposed mitigations for each risk. Brookfield CalTrans indicated that it has not identified any risks that would prevent the ISO Functional Specification target in-service date being met regardless of whether Brookfield CalTrans were to be selected for one, two, or all three substation projects; Brookfield CalTrans indicated that it has prepared its development schedules on the basis that it would be selected for all three projects. (P-10)

### **3.6.6 Information Provided by Golden State**

Golden State specified that it is a joint venture between Edison Transmission and Transource. For this reason, Golden State indicated that its list of past projects includes substation projects successfully developed and executed by AEP and SCE. Golden State indicated that since it was formed specifically for projects in the ISO's 2013-2014 transmission plan, it has not completed any projects in the last five years. (P-1)

Golden State listed 22 substations put in service over the last five years that it believes are similar to the proposed project. Of the eight SCE projects on the list, Golden State indicated that all are 230 kV and that six include a substation transformer. Of the 14 AEP projects on the list, Golden State indicated that 11 are at 230 kV or above and that eight include a substation transformer. Golden State indicated that SCE and AEP included the full range of project responsibilities (financing, design, siting, construction, operations, and maintenance) for the projects on the list. (P-1)

Golden State provided a table with project performance information for 22 projects. Of the eight SCE projects on the list, Golden State indicated that four were completed after the scheduled initial in-service date. Of the 14 AEP projects on the list, Golden State indicated that eight projects were completed after the scheduled initial in-service date. (P-6)

Golden State focused on the project manager role and the past projects managed by its parent companies. Golden State stated that it would staff a project team led by a project manager drawn from one of its operating affiliates. Golden State provided several examples of possible project managers drawn from its parent companies – for 3 individuals listed, utility experience ranged from 25-35 years and project management experience ranged from 7-20 years. (P-7)

Golden State provided a general organization chart for the structure of the project team. Golden State indicated that the project manager would report to Golden State's management committee and would be responsible for leading a team to develop and execute the project. (P-8)

Golden State identified 17 potential risks that could affect the successful completion of the project in terms of cost and schedule; Golden State identified mitigation strategies for these risks. Golden State indicated that it has experience licensing projects in California and has already begun a dialogue with the CPUC on environmental licensing. Golden State stated that it is applying to sponsor two projects in the ISO's current competitive solicitation. Golden State indicated that it is supported by three large electric utility holding companies and that its selection for both projects would not affect the in-service date of either. (P-10)

### **3.6.7 Information Provided by NEET West**

NEET West stated that it was created in mid-2014 solely to own the proposed Estrella project and other future assets in the ISO region as a portfolio. Therefore, NEET West indicated that none of the projects listed in the tables in its proposal were or are developed, constructed, owned, and operated by NEET West. NEET West stated that it would draw upon the resources and experience of its NextEra affiliates to develop, own, and operate the project. (P-1)

NEET West provided a table of projects that showed that NextEra has completed 70 new substations in the last five years, 26 of which are 230 kV. Five of the projects on the list are shown to be in California. (P-1)

NEET West also stated that NextEra has built, owns, and operates 20 California substations connected to PG&E and SCE facilities at 115 kV and 230 kV. (P-1)

NEET West provided a detailed tabulation of previous NextEra projects with a transmission element. NEET West indicated that since 2003 NextEra has completed 100% of its stand-alone transmission projects on time (three of the total) and, overall, 88% of its 92 major capital projects that included a transmission component on time. NEET West indicated that the vast majority of projects that did not meet originally planned schedules were due to interconnection delays with the local utility. (P-6)

NEET West highlighted the 70 new substations NextEra has completed in the last five years, 26 of which are 230 kV, the same voltage as the proposed Estrella project. The information provided by NEET West regarding the 70 new substation projects indicates that eight of the projects were completed after the scheduled completion date. (P-6)

NEET West stated that it would apply the same project management approach NextEra has employed for the projects listed in its proposal. NEET West indicated that its approach would consist of active management of all aspects of the project by an experienced and highly skilled project team of professionals and subject matter experts. NEET West indicated that this team would take personal responsibility and accountability for all phases of the project's execution. NEET West listed seven major project steps with sub-steps. (P-7)

NEET West stated that its core team would be directed by NEET senior management. NEET West indicated that the project director would report to NEET senior management and provide a single point of accountability for day-to-day project activities overseeing all project work stream leads and resources and being responsible for reporting project progress to senior management. NEET West indicated that its proposed project director has 30 years of electric utility experience in power system planning, transmission, and substation design, engineering, and construction in progressive management roles at FPL and NEET. (P-8)

NEET West provided a risk and issues log that identified 56 major risks and obstacles to successful project completion on schedule and within budget. The log showed the specific risk, category of risk, whether it affects cost or schedule, the probability of occurrence, the impact of the occurrence, whether it is a risk during development or construction, and planned or potential mitigation. (P-10)

NEET West indicated that it is applying to develop multiple projects under the ISO's competitive transmission process. NEET West stated that due to the extensive experience and capabilities of the NextEra companies at project execution, NEET West would be able to execute multiple projects in parallel. (P-10)

### **3.6.8 Information Provided by PG&E**

PG&E provided a table with summary project information for nine substation projects it indicated were similar in scope and voltage to the proposed project. PG&E indicated that five of the projects in the summary table were completed in the last five years, two of which included facilities at 230 kV, including one project that included a substation transformer. (P-1)

PG&E provided a table summarizing the project schedule performance for nine projects listed in its proposal. PG&E's table indicated that five of the nine were completed in the last five years. Of these, PG&E's information showed that three projects were



completed after the original scheduled completion date (3-6 months). PG&E provided explanations for the late completions. (P-6)

PG&E stated that it utilizes the *PG&E Project Management Standard* on all capital projects. PG&E indicated that its approach to the project management would be governed by the project execution plan. PG&E indicated that the project manager would be the link among the various elements of permitting, engineering, rights-of-way, and legal departments that would be involved in this phase. (P-7)

PG&E provided a simplified diagram showing the project executive leadership and project delivery teams. PG&E indicated that the project manager would have overall responsibility for the project management functions and reporting, as well as oversight of the overall scope of work, as defined in the project organization chart. PG&E stated that the two key project positions would be the project and environmental managers. PG&E provided resumes for personnel with the typical experience and knowledge required to manage a project of this size and complexity. PG&E identified a proposed project manager with more than 25 years of experience in the utility industry, of which ten-plus years have been exclusively in project management of major electric transmission, distribution, and substation construction projects ( $\geq$  \$1 million). The proposed land and environmental manager PG&E identified has more than 20 years of experience in the field of environmental planning and land acquisition at PG&E. (P-8)

PG&E described a comprehensive risk management process that encompasses five main steps. PG&E included an overall risk registry table with 57 risks identified; the table included the cost and schedule impacts and the mitigation plan for each risk. PG&E singled out six medium or major risks to the cost and schedule for the project, along with high level-mitigation plans for these risks. (P-10)

PG&E indicated that it is bidding on the Estrella, Spring, and Wheeler Ridge Junction projects. PG&E indicated that if it were to be selected for two or more of these projects there would be no impact to the projected in-service date for the Estrella project. (P-10)

### **3.6.9 ISO Comparative Analysis**

#### **Comparative Analysis of Proposed Schedule**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding their proposed schedules for development of the project, including but not limited to the scope of activities specified in their schedules and the reasonableness of the timelines they have specified.

All four project sponsors propose schedules meeting the latest in service date of May 2019 specified in the ISO Functional Specification for the project. All project sponsors, except PG&E, propose schedules with an initial in-service date at least five months earlier than the in-service date in the ISO Functional Specification.

All four project sponsors indicate that they could complete the project by the in-service date in the ISO Functional Specification if the start date were to be delayed by six months.

All four project sponsors have proposed schedules that meet the latest in-service date specified in the ISO Functional Specification. The ISO has determined that those schedules contain all expected major activities for the project and contain potentially achievable associated timelines given the ISO's understanding of how long similar activities have taken on projects that have been completed in the recent past in California. In addition, the ISO considers the amount of float relative to the schedule delay mitigation actions proposed by the project sponsors to be comparable. Consequently, the ISO has determined that, while there are minor differences among the schedules and contingency plans proposed by the project sponsors, there are no material differences among the proposals of the four project sponsors with regard to this component of the factor.

## **Comparative Analysis of Ability to Meet Schedule**

The ISO's analysis for this component for the factor has focused primarily on the ability of the project sponsors to complete the Estrella Substation project by the latest in-service date specified in the ISO Functional Specification and any potential risks associated with each project sponsor's proposal that might impact completion of the project in a timely manner. For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the experience of both the project sponsors and its team members in meeting schedules, including but not limited to the information in their proposed schedules as well as their past experience in constructing projects on schedule, accounting for risk management, and performing project management, as well as any other indicated factors that might impact the date of completion (either favorably or unfavorably).

All four project sponsors propose schedules that meet the latest in service date of May 2019 specified in the ISO Functional Specification. Further, all four project sponsors state that they are applying for more than one ISO project and have the capability to complete multiple projects without negatively affecting the schedule for the Estrella project.

In terms of completing past projects on schedule, all project sponsors and their teams have had a reasonable degree of success in meeting project schedules. Brookfield CalTrans, Golden State, and NEET West are relying on parent or affiliate companies' performance on past projects in presenting their experience with respect to the timely completion of past projects.

All four project sponsors have provided a reasonable approach to professional project management. Brookfield CalTrans, Golden State, and NEET West would draw upon the project management experience from an affiliate or their parent company, while PG&E would use internal project managers. The project managers identified by each project sponsor have at least ten years of experience, which the ISO considers sufficient.

All four project sponsors have provided a thorough approach to identifying risks to the project schedule and possible mitigations for those risks.

Golden State has an option to lease the substation property; NEET West has an option to purchase the substation property; neither Brookfield CalTrans nor PG&E has any arrangement at this time for the control of the property needed for its proposed substation project but would have the right to acquire property by eminent domain.

Despite these differences in the land rights currently held by the project sponsors, the ISO does not consider the land rights acquisition process to pose a significant risk to the schedule of any of the project sponsors given the nature and location of the project sites proposed by the project sponsors.

Based upon a consideration of all of the aspects of the ability of the project sponsors to meet their proposed schedules, the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this component of the factor.

## **Overall Comparative Analysis**

The ISO considers the two components of this factor to be of roughly equal importance in the selection process for this project. Because the ISO has determined that there is no material difference among the project sponsors' proposals with regard to either the first component (proposed schedule) or the second component (ability to meet that schedule), the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this factor overall.

### **3.7 Selection Factor 24.5.4(e): The Financial Resources of the Project Sponsor and Its Team**

(Section 3 - General Project Information, QS-2, P-1, P 5, F 1, F 2, F 3, F 4, F 5, F 6, F 7, F 8, F 9, F 10, F 11, F 12, F 13, F 14, F 15)

The fifth selection factor is the “financial resources of the Project Sponsor and its team.”

The ISO notes that the project sponsors provided substantial information regarding their finances in their applications; however, the ISO has only incorporated relatively limited and general financial information from the project sponsors' proposals in the summaries below due to the sensitive nature of some of the financial information provided.

Project sponsors provided information related to their experience in developing and financing similar projects, annual financial results including key financial metrics, credit ratings, proposed financing sources, and other financial-oriented information requested by the ISO. In performing the comparative analysis, the ISO has considered all of the financial information provided by the project sponsors. The ISO has also utilized two metrics – tangible net worth and Moody's Analytics Estimated Default Frequency (“EDF”)<sup>7</sup> – based on information provided in the project sponsors' annual reports. Moody's Analytics EDF has an associated equivalent rating, also provided by Moody's Analytics as part of its EDF calculation, that provides the ISO another metric similar to the agency credit ratings.

While a company's net worth is sometimes used in financial analysis, it can be misleading because asset and liability values may change dramatically over time. For instance, derivative assets have the potential of changing daily. In addition, there is no prescribed way to value intangible assets. To compensate for these limitations, the ISO

---

<sup>7</sup> Estimated Default Frequency is a proprietary scoring model developed by Moody's Analytics, Inc., a subsidiary of Moody's Corporation (NYSE: MCO).

relies on tangible net worth<sup>8</sup>, which removes certain assets and liabilities from the net worth calculation. For the purpose of evaluating the financial resources of the project sponsors and their teams for this project, the ISO considers tangible net worth to be more meaningful because it better represents assets that are more immediately available for project funding.

Likewise, the ISO considers that agency credit ratings can have important but limited usefulness in financial analysis because they are largely based on historical performance. In the general course of its business, the ISO has recognized the limitation of credit ratings and has begun to rely on EDF as a more forward-looking measure of a company's financial health. It produces a forward-looking default probability by combining financial statement and equity market information into a highly predictive measurement of stand-alone credit risk. EDF provides the ISO one additional metric in assessing a project sponsor's ability to see the project through to the end. In addition, the equivalent rating associated with the EDF provides another metric similar to the agency credit ratings. The ISO has utilized both of these additional measures of financial health in its comparative analysis of the financial resources of the project sponsors and their teams for this project.

For the purpose of performing the comparative analysis for this factor, the ISO has considered the following components of the factor:

- Project financing experience
- Project financing proposal
- Financial resources
- Credit ratings
- Financial ratio analysis

The ISO initially considered these components separately and then developed an overall comparative analysis for financial resources.

### **3.7.1 Information Provided by Brookfield CalTrans**

#### **Project Financing Experience**

Brookfield CalTrans listed 12 substation projects that its affiliates had financed and detailed financing information on two of those projects. (P-1, F-11)

#### **Project Financing Proposal**

Brookfield CalTrans indicated that it is a registered special purpose limited liability corporation registered to do business in California and is an affiliate of Brookfield

---

<sup>8</sup> The ISO Tariff defines "Tangible Net Worth" as total assets minus assets (net of any matching liabilities, assuming the result is a positive value) the CAISO reasonably believes to be restricted or potentially unavailable to settle a claim in the event of a default (examples include restricted assets and Affiliate assets) minus intangible assets (i.e., those assets not having a physical existence such as patents, trademarks, franchises, intellectual property, and goodwill) minus derivative assets (net of any matching liabilities, assuming the result is a positive value) minus total liabilities.

Infrastructure Partners. Brookfield CalTrans indicated that the equity required to fund the development, construction, and operating activities would be provided by Brookfield Infrastructure Fund II. (Section 3 - General Project Information, F-1)

Brookfield CalTrans indicated that it planned to finance the project with 50% equity and 50% debt and that Brookfield Infrastructure Fund II would provide all equity financing for construction and post-construction activities while traditional capital markets would be used for debt financing. (F-12, F-14, F-15)

Brookfield CalTrans indicated that it would have appropriate insurance to cover any loss of equipment and that any cost not covered by insurance or any time delays in receiving insurance proceeds would be covered by Brookfield CalTrans. Further, Brookfield CalTrans indicated that it would have three primary sources of funds to finance unexpected costs during the operating period: cash flow from operations, new equity injections, and new bank financing. (F-13, F-15)

### **Financial Resources**

Brookfield CalTrans provided Brookfield Infrastructure Partners' audited annual financial statements for the past five years and 2014 quarterly financial statements. (F-3, F-4)

Brookfield CalTrans provided pro-forma financial statements. Brookfield CalTrans indicated that equity would be provided by Brookfield Infrastructure Fund II and debt would be raised through the commercial debt markets. Brookfield CalTrans stated that day-to-day working capital would be funded by a mixture of retained earnings and short-term revolving credit facilities. (F-5)

### **Credit Ratings**

Brookfield CalTrans indicated that Brookfield Infrastructure Partners is rated by one of three rating agencies as an investment grade company: (F-6)

- Moody's: Not available
- S&P: BBB+
- Fitch: Not available

Brookfield CalTrans indicated that Brookfield Infrastructure Partners has not failed to make timely debt service payments over the past five years. Additionally, Brookfield CalTrans provided no history of dissolutions or bankruptcies. On the other hand, Brookfield CalTrans provided information related to three acquisitions over the past five years as well as a number of key transactions contributing to Brookfield Infrastructure Partners' recent growth. (F-7, F-8)

### **Financial Ratio Analysis**

Brookfield CalTrans reported the following financial ratios based on Brookfield Infrastructure Partners' most recent audited financial statement: (F-10)

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

### **3.7.2 Information Provided by Golden State**

#### **Project Financing Experience**

Golden State indicated that to the extent debt capital is sourced at the project sponsor level, Golden State would likely use the capital markets, either through bank, institutional, or publicly traded bonds, so as to minimize the cost and risk of capital to ratepayers and provide necessary flexibility to deal with unexpected circumstances. Alternatively, Golden State indicated that it could rely on intercompany loans and therefore benefit from the financial stability of its ultimate parent companies.

Golden State went on to state that if government loan programs or tax-exempt financing were to become available for the project, and the use of such financing programs might result in lower rates for ISO customers, then Golden State would pursue those financing options. (F-14)

#### **Financial Resources**

Golden State provided its ultimate parents' audited annual financial statements for the past five years and 2014 quarterly financial statements. (F-3)

Golden State provided pro-forma financial statements. Golden State indicated that capitalization for the project would consist of 50% debt utilizing the capital markets and 50% equity provided by its ultimate parent companies according to the following allocation: (F-5)

- Edison Transmission (Edison International): 25%
- Transource (AEP): 22%
- Transource (GPE): 3%.

#### **Credit Ratings**

Golden State provided the following credit ratings and credit reports for its ultimate parent companies as follows: (F-6)

##### Edison International

- Moody's: A3
- S&P: BBB+
- Fitch: Not available

##### AEP

- Moody's: Baa1
- S&P: BBB
- Fitch: Not available

##### GPE

- Moody's Baa2
- S&P BBB+
- Fitch Not available

Golden State indicated that it is a joint venture of Edison Transmission and Transource, that these companies have no history of failure to make debt services payments, and that none were preceded by other entities. Golden State reported that Edison Mission Energy, an indirect subsidiary of Edison International, failed to make debt service payments on time in 2012 and filed for bankruptcy protection in December 2012 along with several of its subsidiaries. Golden State indicated that Edison Mission Energy was eventually sold to NRG Energy, Inc. Golden State noted that its business is fundamentally different from Edison Mission Energy, as it does not carry the same commodity price exposure as independent generation companies. (F-7)

Golden State reported a number of AEP mergers, acquisitions, and dissolutions as well as the bankruptcy of Edison International indirect subsidiary Edison Mission Energy. (F-8)

### **Financial Ratio Analysis**

Golden State indicated that the combined assets of its ultimate parents far exceed the total cost of this project. Golden State provided total assets to total project cost ratios for its three ultimate parents. (F-9) Golden State also provided these ratios based on each ultimate parent's responsibility for total project costs. (F-9) The ISO calculated a weighted average ratio based on each ultimate parent's ownership interest in the joint venture.

Golden State provided the following financial ratios for each of its ultimate parents: (F-10)

#### Edison International

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

-

#### AEP

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

#### GPE

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

The ISO calculated the following financial metrics for the most recent year based on a weighted average according to the ultimate parents' joint venture agreement:

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

### **3.7.3 Information Provided by NEET West**

#### **Project Financing Experience**

NEET West provided information showing that NextEra is the ultimate guarantor of NEET West's financial commitments with respect to this project through NEECH. NEET West indicated that NextEra has built, owns and operates 20 substations in California. NEET West provided a table listing dozens of transmission line and substation projects that NextEra has financed. Additionally, NEET West provided detailed financing information for five of those projects. (P-1, F-11)

#### **Project Financing Proposal**

NEET West indicated that during development, permitting, and construction, it would finance the project 100% through its corporate parent with both equity and short-term debt, while maintaining a 50/50 debt-to-equity capital structure. NEET West indicated that NextEra maintains a blanket guarantee of certain obligations of NEECH, pursuant to a guarantee agreement between FPL Group, Inc. and FPL Group Capital Inc., dated as of October 14, 1998. Further, NEET West provided documentation evidencing name changes of (i) FPL Group, Inc., to NextEra Energy, Inc., and (ii) FPL Group Capital Inc., to NEECH. (Section 3 - General Project Information, F-1, F-2, F-14)

NEET West indicated that it was its firm intention that each and every obligation of NEET West to the ISO would be backstopped by mutually agreed upon support obligations. NEET West provided a letter signed by a NextEra officer stating that if NEET West is awarded the project and an APSA agreement is executed, it would guaranty financial support for the project. (Section 3 - General Project Information, F-1, F-2)

NEET West indicated that NextEra, and/or its affiliated, subsidiary, and associated companies and/or corporations, which would include the new entity, maintains a property all-risk insurance program that would cover the facility from "all risks" of direct physical loss or damage, including but not limited to loss or damage resulting from mechanical and electrical breakdown, flood, earthquake, wind, storm, and terrorism. NEET West indicated that the limits, sub-limits, deductibles, terms, and conditions of coverage are all commensurate with industry standards and with leading insurance carriers with insured values not less than the full replacement cost of the facility during construction and over the operational life of the project. (F-13)

NEET West indicated that it would also maintain a commercial general liability insurance program with industry leading insurance carriers with limits commensurate with industry standards that would provide protection against liability claims for bodily injury and property damage. (F-13)

NEET West indicated that during development, permitting and construction, and operation, the project would be supported 100% through corporate parent funding, which would consist of both equity and debt. NEET West asserted that ratepayers would receive the benefit of a project constructed with strong equity support, without any risk of project-level leverage. NEET West further asserted that corporate parent funding would benefit ratepayers by avoiding unnecessary and costly third party transaction costs and providing the flexibility to complete the project under a range of possible scenarios (e.g., construction delays, regulatory interventions, etc.). (F-14)



## Financial Resources

NEET West indicated that it does not issue its own audited financial statements and instead provided links to audited, annual financial statements for the years 2009 through 2013 and 2014 unaudited quarterly financial statements for its parent, NextEra. The ISO accepted using NextEra's financial information to conduct the financial analysis because NextEra provided financial assurances for the project. Since the 2009 financial statements for NextEra were before the FPL Energy – NextEra name change, the ISO used FPL Energy's financial statements for 2009. (F-3, F-4)

NEET West indicated that it is a limited liability company, and not a special purpose entity. NEET West indicated that it would not be funded through project financing, but instead would utilize corporate parent funding. (F-5)

## Credit Ratings

NEET West provided the following credit ratings and credit reports for its immediate and ultimate parent as follows: (F-6)

### NextEra

- Moody's: Baa1
- S&P: A-
- Fitch: A-

### NEECH

- Moody's: Baa1
- S&P: A-
- Fitch: A-

NEET West reported one instance of "events of default" in conjunction with its Spain solar project. NEET West attributed this to the result of changes of laws in Spain during the time of the project that affected project-level financing. NEET West indicated that a settlement agreement was reached where NEECH withdrew a lawsuit and the lender withdrew the events of default. Nevertheless, NEET West asserted that, regardless of the current status of the NEE España project, it would have no material impact on NEET West's ability to develop, construct, own, and operate the project. (F-7)

NEET West reported that it isn't aware of any bankruptcy, insolvency, company creditor arrangement, or other insolvency proceeding or any material litigation or other material adverse proceeding that might affect its ability to perform its obligations with respect to the project. (F-8)

## Financial Ratio Analysis

NEET West reported the following financial ratios based on its ultimate parent's most recent audited financial statements: (F-10)

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

### **3.7.4 Information Provided by PG&E**

#### **Project Financing Experience**

PG&E indicated that it has developed more than 700 capital substation projects in the past five years. PG&E highlighted four substation projects having attributes most closely resembling those of the proposed project that it financed. Additionally, PG&E provided six examples of substation projects that were balance sheet financed. (P-1, F-11)

#### **Project Financing Proposal**

PG&E indicated that it is an investor-owned utility regulated by the CPUC and that it would be the sole project sponsor and would not intend to create a special purpose entity for this project. (Section 3 - General Project Information, F-1, F-5)

PG&E indicated that it plans to finance the project at its CPUC-authorized capital structure (currently 52 percent equity and 48 percent debt). PG&E indicated that funding would come from internally generated cash and raised from capital markets. (F-1, F-14)

PG&E indicated that it is not relying on a parent or affiliated entity to satisfy the financial resources criteria for this project, although PG&E indicated that it would obtain equity infusions from its parent, PG&E Corporation, if necessary. PG&E indicated that PG&E Corporation is a holding company whose primary operating subsidiary is PG&E and obtains funding through its issuance of debt and common stock. (F-2)

In past incidents of unexpected costs due to equipment failures, PG&E indicated that it has funded such costs during the operating period as part of its portfolio of utility assets and operations and expects to continue the same practice for this and future projects. PG&E indicated it would use a combination of long-term debt and common equity issued by its parent, PG&E Corporation, to finance capital assets in proportions consistent with PG&E's CPUC-authorized capital structure. PG&E further indicated that it might bridge its long-term financing with the use of short-term debt, principally commercial paper notes backed by committed bank revolving credit lines. (F-13)

#### **Financial Resources**

PG&E provided its audited annual financial statements for the past five years and 2014 quarterly financial statements. (F-3, F-4)

#### **Credit Ratings**

PG&E indicated that each of the three credit rating agencies rated PG&E as investment grade, as follows: (F-6)

- Moody's: A3
- S&P: BBB
- Fitch: BBB+

PG&E indicated that it has had no failures of making debt service payments on time nor has it been the target of a bankruptcy proceedings, dissolution, merger, or acquisition in the past five years. (F-7, F-8)

## **Financial Ratio Analysis**

PG&E reported the following financial ratios based on its most recent audited financial statements: (F-10)

- Funds from operations (FFO)/interest coverage
- FFO/Total Debt
- Total Debt/Total Capital

### **3.7.5 ISO Comparative Analysis**

For the purpose of performing the comparative analysis for this factor, the ISO has considered the following components of the factor:

- Project financing experience
- Project financing proposal
- Financial resources
- Credit ratings
- Financial ratio analysis

The ISO has initially considered these components separately and then developed an overall comparative analysis for financial resources.

The ISO's analysis of the financial resources of the project sponsor and its team has focused primarily on whether each project sponsor has adequate capital resources to finance the project and whether constructing, operating, and maintaining the facilities would significantly impair the project sponsor's creditworthiness or financial condition.

For purposes of the comparative analysis for this factor, the ISO has largely considered the project sponsors' representations. In addition, the ISO has considered each project sponsor's audited financial statements as well as credit ratings and associated ratings reports from one or more of the credit rating agencies. In instances where a project sponsor is looking to an affiliated entity (e.g., an ultimate parent) for financial support on the project, the ISO has used financial statements and credit ratings of the affiliated entity if the affiliated entity provided a letter of assurance, signed by an officer of the company, stating that it would provide unconditional financial support to the project.

Generally speaking, while there are differences in financial and legal structure for each project sponsor, the financial strength of the company ultimately backing the project, and that company's credit ratings, the ISO does not consider these differences significant enough to materially affect any one project sponsor's ability to complete this particular project. Consequently, this comparative analysis relies in large part on minor degrees of difference.

## **Project Financing Experience**

Based upon the information provided and representations by the project sponsors, the ISO has determined that all four project sponsors have experience financing and completing a significant number of projects, including projects significantly larger than this one. Consequently, with respect to this particular project, the ISO has determined

that there is no material difference among the project sponsors and their proposals in this regard.

### **Project Financing Proposal**

Each project sponsor proposed to finance this project using a combination of debt and equity, which is consistent with industry standards for this type of project. PG&E proposes to use 52%/48% equity/debt financing, while the other project sponsors each propose 50%/50% equity/debt financing. While PG&E's proposal might result in a lower cost of debt, as PG&E suggests in its proposal, PG&E did not provide any information in its proposal to show how this debt structure actually does reduce the cost of debt. The ISO's analysis has concluded that there is no material difference among the project sponsors and their proposals with regard to their approaches to project financing.

### **Financial Resources**

Based on the project sponsors' 2013 annual financial statements and their 2014 quarterly financial reports, including tangible net worth, as calculated by the ISO, all four project sponsors exhibit sufficient financial strength and resources to complete this project. Consequently, the ISO has determined that, for purposes of financing this particular project, there is no material difference among the four project sponsors in this regard.

### **Credit Ratings**

Based on the project sponsors' current credit ratings and the ISO's calculation of Moody's Analytics equivalent ratings for the past five years, all four project sponsors exhibit the creditworthiness to complete this project. Consequently, the ISO has determined that, for purposes of this particular project, there is no material difference among the four project sponsors in this regard.

### **Financial Ratio Analysis**

Financial ratios provide the ISO insight into a project sponsor's ability to pay interest and service long-term debt out of cash flow from its operating activities as well as how leveraged a company is. While certain project sponsors had better financial ratios than other project sponsors on a purely indicative basis, these differences were not significant enough to provide one project sponsor a significant advantage over another. Consequently, the ISO has determined that, for purposes of this particular project, there is no material difference among the four project sponsors in this regard.

### **Overall**

In performing the comparative analysis for this factor, the ISO has considered all of the financial information provided by the project sponsors as well as the additional information developed by the ISO described above. The ISO's assessment of the financial resources of the project sponsors and their teams is necessary for the ISO to determine which of the project sponsors can bring the strongest financial resources to bear in order to fully finance the project over its life span at a competitive cost and to complete the project under a range of possible scenarios (e.g., construction delays, cost escalation, regulatory interventions, etc.). Each project sponsor has demonstrated

general experience and financial wherewithal to undertake a project of this size. This comparative analysis relies in large part on minor degrees of difference.

Based on the information provided by the project sponsors and a review of their current financial resources, the ISO has concluded that all four project sponsors have the financial resources to finance the completion of the project as well as to operate and maintain the project over its anticipated life. No project sponsor has a significant advantage over the others with regard to many of the financial criteria. The ISO has determined that, with respect to this particular project, there is overall no material difference among the project sponsors and their proposals with regard to this factor since all four project sponsors have demonstrated that they have more than sufficient financial resources to complete this project. The slight differences with regard to individual measures of financial resources do not give any project sponsor a distinct overall advantage when considered in the context of this particular project.

### **3.8 Selection Factor 24.5.4(f): Technical (Environmental Permitting) and Engineering Qualifications and Experience**

The sixth selection factor is “the technical and engineering qualifications and experience of the Project Sponsor and its team.”

For the purpose of performing the comparative analysis for this factor, the ISO has initially considered the two components of the factor separately and then combined them into an overall comparative analysis for this factor. The two components are: (1) the technical (environmental permitting) qualifications and experience of the project sponsor and its team and (2) the engineering qualifications and experience of the project sponsor and its team.

#### **Technical (Environmental Permitting) Qualifications and Experience**

(Section 3 - General Project Information, QS-1, QS-4, P-1, P-6, P-8, P-9, P-10, E-1, E-2, E-3, E-4, E-5, E-6, E-7, E-8, E-9 a, E-9 b, E-9bi, E-9bii, E-9c, E-10, E-14a, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15c, E-15di, E-15dii, E-15diii, E-16a, E-16b, E-16c, E-16d, E-16e, E-16f, S-1, S-2, S-5)

#### **3.8.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans indicated that its team has experience in obtaining discretionary permits for similar substation projects in California, including:

- Suncrest Substation – SDG&E
- Imperial Valley Substation- First Solar and LS Power
- SCE Red Bluff Substation
- SDG&E ECO Substation
- SCE Ivanpah Substation
- SDG&E South Bay Substation
- SCE Vincent Substation
- SCE Eldorado Substation
- SCE Antelope Substation
- SCE Mira Loma Substation

- Lassen Substation- PacifiCorp
- Scattergood Substation - LADWP
- Olympic Station - LADWP
- Barren Ridge Switching Station- LADWP
- Haskell Canyon Switching Station – LADWP

Brookfield CalTrans indicated that it and its team have experience in obtaining discretionary permits for projects in Ontario, Canada, and west Texas, including:

- Third Line 115 kV Substation in Sault Ste. Marie, Ontario, Canada. The project replaced an existing 115 kV substation with a new 230 kV/115 kV substation on the same parcel.
- A Texas CREZ Project, which included six switching stations in west Texas.

Brookfield CalTrans indicated that it has no experience overseeing an environmental permitting process as a project developer of a substation project in California. Brookfield CalTrans indicated that it has not received a notice of violation of permit requirements in the last five years. (E-2, E-3, E-4, E-5, E-6, E-7, E-9, E-10, E-14a, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15c, E-15di, E-15dii, E-15diii, E-16a, E-16b, E-16c, E-16d and E-16e)

### **3.8.2 Information Provided by Golden State**

Golden State indicated that it and its team have experience in obtaining federal and state discretionary permits for similar substation projects in California, including:

- Colorado River Substation
- Red Bluff Substation
- El Casco Substation Whirlwind Substation
- Highwind Substation
- Windhub Substation
- Ivanpah Substation

Golden State indicated that it has not received a notice of violation of permit requirements in the last five years. However, Golden State noted that since it lists the project experience of its affiliate SCE in its proposal, it provided information for the one notice of violation received by SCE in the last five years. Golden State indicated that both of its other affiliates, AEP and GPE, advised that they had not received a notice of violation in the past five years. Golden State indicated that the one violation received by SCE involved the release of fugitive dust from an active operation that remained visible in the atmosphere beyond the property line of the emissions source. (E-2, E-3, E-4, E-5, E-6, E-7, E-9, E-10, E-14a, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15c, E-15di, E-15dii, E-15diii, E-16a, E-16b, E-16c, E-16d and E-16e)

### **3.8.3 Information Provided by NEET West**

NEET West indicated that it and its team have experience in obtaining federal and state discretionary permits and regulatory approvals for substation projects in California, including:

- SCE Red Bluff Substation Project
- Montezuma I and II Substations
- Vasco Winds Repower Project

- North Sky River Wind Project
- Lambert Substation

NEET West indicated that it has not received a notice of violation (NOV) of permit requirements in the last five years. (E-2, E-3, E-4, E-5, E-6, E-7, E-9, E-10, E-14a, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15c, E-15di, E-15dii, E-15diii, E-16a, E-16b, E-16c, E-16d and E-16e)

### **3.8.4 Information Provided by PG&E**

PG&E indicated that it and its team have experience in obtaining federal and state discretionary permits for similar substation projects in California, including:

- Windsor Substation
- Seventh Standard Substation
- Lone Tree Substation

PG&E indicated that it has not received a notice of violation related to transmission line siting, permits, or land acquisition in the past five years. PG&E did, however, identify three notices of violation or alleged violations related to vegetation management in transmission line rights-of-way and distribution substation construction. One violation involved PG&E's removal of two trees, one involved issuance of a substation structure demolition permit, and one involved potential inadequate biological survey review time. (E-2, E-3, E-4, E-5, E-6, E-7, E-9, E-10, E-14a, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15c, E-15di, E-15dii, E-15diii, E-16a, E-16b, E-16c, E-16d and E-16e)

## **Engineering Qualifications and Experience**

(Section 3 - General Project Information, QS-1, QS-4, P-1, P-6, S-2, S-3, S-4, S-6, S-7, S-8, S-9, S-10)

### **3.8.5 Information Provided by Brookfield CalTrans**

Brookfield CalTrans indicated that it was specifically created for this project and did not identify any Brookfield CalTrans or affiliate personnel with experience in the design of substations, did not identify any internal resources capability for supervision or oversight of the design, did not identify any substation projects in the U.S. or California for which it has any engineering experience, and did not identify any relationship with other affiliated entities regarding engineering. Brookfield CalTrans indicated that it intends to outsource all aspects of design for the project, identified its potential owner's engineer and design firms, and stated that it has previously collaborated with both firms. (QS-1, QS-4, S-2, S-4)

Brookfield CalTrans provided a list of projects for its potential owner's engineer and design firms in the U.S. and California to demonstrate their knowledge of California requirements and their ability to design this project. (S-3)

Brookfield CalTrans provided design criteria and a list of standards and requirements that would be used in the design of the substation, including California requirements. (S-6, S-7, S-8, S-9, S-10)

### **3.8.6 Information Provided by Golden State**

Golden State indicated that it is owned by Edison International, American Electric Power (AEP), and Great Plains Energy (GPE) and was specifically created for this project. Golden State provided information on 14 AEP substations, none of which are in California, and eight SCE substations that AEP and SCE have completed in the past five years (P-1) to demonstrate knowledge of California requirements and their ability to design this project. Golden State indicated that its substation design would be completed by a wholly-owned subsidiary of AEP. Golden State indicated that in order for SCE personnel to be able to participate directly in the substation design SCE would have to comply with CPUC affiliate rules. (S-2)

Golden State indicated that the substation would be designed in accordance with AEP technical specifications and that the substation would be designed to all federal, state, and local codes and provided a list of standards. (S-6, S-7, S-8, S-9, S-10)

### **3.8.7 Information Provided by NEET West**

NEET West indicated that NextEra affiliates have completed 70 substations in the past five years, and NEET West provided additional information on 36 projects, including five in California. (P-1) NEET West indicated that it, using its internal resources with design experience and its affiliates, would be responsible for the overall design of the project. NEET West identified two large engineering and EPC companies for engineering. (QS-1, QS-4, S-2) NEET West provided a list of substation projects for these two companies in the U.S. and California to demonstrate their knowledge of California requirements and ability to design this project. (S-3) NEET West indicated that it has completed substation projects with both of its proposed design firms. (S-4) NEET West provided detailed design criteria and identified a list of standards and requirements that would be used in the design of the substation, including California and local requirements. (S-6, S-7, S-8, S-9, S-10)

### **3.8.8 Information Provided by PG&E**

PG&E indicated that it has completed more than 700 capital substation projects in the past five years and provided information on nine representative projects. PG&E indicated that it intends to complete 30% of the design before requesting proposals to complete the design and identified six large engineering and EPC companies as possible design firms. (S-2) PG&E provided a list of projects for the proposed design firms in the U.S. and California to demonstrate their knowledge of California requirements and ability to design this project. (S-3) PG&E indicated that it has completed projects with all of the firms. (S-4). PG&E provided copies of Design Criteria Memorandums and material specifications that would be used for the design of the project and provided a list of national and local standards and requirements for design. (S-6, S-7, S-8, S-9, S-10)



### **3.8.9 ISO Comparative Analysis**

#### **Comparative Analysis of Technical (Environmental Permitting) Qualifications and Experience**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the qualifications and experience of both the project sponsor and its team members in obtaining and complying with environmental permits for a transmission project, including but not limited to (1) the permitting experience of the project sponsor for projects it has developed, (2) the permitting experience for similar projects of the project sponsor's team member or members that have been designated as having responsibility for project permitting, and (3) how much of the experience of the project sponsor and its team is in the U.S. and in California.

U.S. environmental permitting laws, rules, regulations, and processes are unique to the U.S., and California environmental permitting laws, rules, regulations, and processes are unique to the state of California. For example, the process that must be followed in California to comply with the California Environmental Quality Act (CEQA) is particularly unique to the state of California.

The ISO considers experience in the U.S. and California to be an advantage over experience in environmental permitting in other jurisdictions because the project will be located in California and there are special aspects of environmental regulation and processes in the U.S. and California for which experience is an advantage.

All four project sponsors' teams have substantial experience permitting projects in the U.S. and in California. However, only Golden State, NEET West, and PG&E have experience with the environmental permitting process for substations in California as a developer. The ISO considers this environmental permitting experience of Golden State, NEET West, and PG&E for substations in California to be comparable and to give these three project sponsors an advantage over Brookfield CalTrans with regard to this matter. The ISO has determined that the three notices of violation of permit requirements that PG&E received were minor (one regarding removal of two trees, one regarding issuance of a substation structure demolition permit, and one concerning potential inadequate biological survey review time) and not a significant issue in view of the number of transmission lines and substations PG&E has developed, operated, and maintained over the past five years. The ISO has also determined that the one notice of violation received by Golden State's affiliate SCE for the release of fugitive dust beyond the property line of the emissions source was minor and not a significant issue in view of the number of transmission lines and substations SCE has developed, operated, and maintained over the past five years.

Based on the environmental permitting experience of Golden State, NEET West, and PG&E with regard to substations in California and the absence of such experience for Brookfield CalTrans, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E and that their proposals are slightly better than Brookfield CalTrans' proposal with regard to this component of the factor.

## Comparative Analysis of Engineering Qualifications and Experience

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the qualifications and experience of both the project sponsor and its team members in engineering and designing transmission and substation projects, including but not limited to (1) the engineering experience of the project sponsor for projects it has developed, (2) the engineering experience for similar projects of the project sponsor's team member or members who have been designated as having responsibility for project engineering, and (3) how much of the experience of the project sponsor and its team is in the U.S. and in California. The ISO considers experience in the U.S. and California to be an advantage over substation engineering and design experience in other jurisdictions because the project will be located in California and there are special aspects of engineering and design codes and regulations in the U.S. and California for which this experience is an advantage.

U.S. engineering and design codes and regulations are unique to the U.S., and California engineering and design laws, rules, regulations, and processes are unique to the state of California. For example, projects developed in the United States must adhere to the National Electrical Safety Code (NESC) published by the Institute of Electrical and Electronics Engineers (IEEE). In addition, the process that must be followed for engineering and design of substations in California includes adherence to requirements of the California Building Standards Commission, the California Energy Commission, the California Environmental Protection Agency, Cal-OSHA, California High Voltage Electrical Safety Orders, California Building Code Title 24, and county and city planning and permitting requirements.

With regard to its analysis of this component of the factor, the ISO first wants to point out that it considers the engineering contractors identified by the project sponsors as part of their teams to be highly qualified. As a result, the ISO's analysis identifies only the slightest of advantages for any project sponsor over any other with one of these engineering firms on its team.

Golden State, NEET West, and PG&E have extensive experience with engineering and designing substations. In addition, the firms they have identified in their proposals as responsible for the engineering and design of the project have substantial substation engineering and design experience in the U.S. and California. Golden State, NEET West, and PG&E particularly have experience with the engineering and design of substations in California. However, SCE will need to comply with California Public Utilities Commission (CPUC) affiliate rules in order to allow Golden State to access SCE's California design experience. Brookfield CalTrans did not provide any information regarding its own experience overseeing the design of substations in California. However, the large firms identified as its owner's engineer and design firm have substantial substation engineering and design experience in the U.S. and California.

Based on the extensive experience of Golden State, NEET West and PG&E in overseeing the engineering and design of substation projects, particularly projects in California, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that, for this particular project,

there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to this component of the factor.

Although Brookfield CalTrans' contractors and consultants have engineering and design experience, based on Brookfield CalTrans' absence of experience overseeing the engineering and design of substation projects, particularly projects in California, and the fact that Brookfield CalTrans has not demonstrated that any of its staff members have any substation engineering and design experience, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that the proposals of the other three project sponsors slightly better than Brookfield CalTrans' proposal with regard to this component of the factor.

## **Overall Comparative Analysis**

The ISO considers the two components of this factor to be of roughly equal importance in the selection process for this project. As discussed above, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to both components of this factor. The ISO has determined that the proposals of Golden State, NEET West, and PG&E are slightly better than Brookfield CalTrans' proposal with regard to both the first component (environmental permitting qualifications) and the second component (engineering qualifications) of this factor. Consequently, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to this factor overall and that their proposals are slightly better than Brookfield CalTrans' proposal with regard to this factor overall.

### **3.9 Selection Factor 24.5.4(g): Previous Record Regarding Construction and Maintenance of Transmission Facilities**

The seventh selection factor is "if applicable, the previous record regarding construction and maintenance of transmission facilities, including facilities outside the ISO Controlled Grid of the Project Sponsor and its team."

For the purpose of performing the comparative analysis for this factor, the ISO has initially considered the two components of the factor separately and then combined them into an overall comparative analysis for this factor. The two components are: (1) the previous record regarding construction including facilities outside the ISO controlled grid of the project sponsor and its team and (2) the previous record regarding maintenance including facilities outside the ISO controlled grid of the project sponsor and its team.

#### **Construction Record**

(Section 3 - General Project Information, QS-1, QS-4, P-1, P-2, P-6, P-7, E-14a, E-14b, E-14c, E-14di, E-14dii, E-14diii, E-15a, E-15b, E-15c, E-15di, E-15dii, E-15diii, E-16a, E-16b, E-16c, E-16d, E-16e, E-16f, S-2, S-3, S-4)

#### **3.9.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans did not identify any Brookfield CalTrans or affiliate personnel with experience regarding the construction of substations, did not identify any internal resources for supervision or oversight of construction, and did not identify any substation

projects in the U.S. or California for which it has been responsible for construction. (QS-1, QS-4, S-2, S-3)

Brookfield CalTrans indicated that it intends to outsource all aspects of design for the project and identified a large firm as its construction firm. (S-2)

Brookfield CalTrans provided a list of projects for its construction firm in the U.S. and California to demonstrate its knowledge of California requirements and its ability to construct this project. (S-3)

### **3.9.2 Information Provided by Golden State**

Golden State provided information on 22 substations that American Electric Power (AEP) and Southern California Edison (SCE) have completed in the past five years, including eight in California (P-1, S-2).

Golden State identified several large firms as possible construction firms. (S-2)

Golden State provided a list of substation projects for all of its proposed construction contractors in the U.S. and California to demonstrate their knowledge of California requirements and ability to construct this project. (S-3)

Golden State indicated that since it was created for this project it has no experience with any of its proposed construction contractors, but it added that both AEP and SCE have experience with all of the proposed construction contractors. (S-4)

### **3.9.3 Information Provided by NEET West**

NEET West indicated that it, through its affiliate NextEra, has completed 70 substations in the past five years and provided additional information on 36 projects, including five in California (P-1). NEET West identified two large firms as possible construction firms. (S-2)

NEET West provided a list of substation projects for these firms in the U.S. and California to demonstrate their knowledge of California requirements and ability to construct this project. (S-3)

NEET West indicated that it has completed substation projects with both of its proposed construction contractors. (S-4)

### **3.9.4 Information Provided by PG&E**

PG&E indicated that it has completed more than 700 capital substation projects in the past five years and provided information on nine representative projects. PG&E identified five possible firms for construction. (P-1, S-2)

PG&E provided a list of substation projects for all of its proposed construction contractors in the U.S. and California to demonstrate their knowledge of California requirements and ability to construct this project. (S-3)

PG&E indicated that it has completed substation projects with all of its proposed construction contractors. (S-4)

## **Maintenance Record**

(Section 3 - General Project Information, QS-1, QS-4, P-1, O-1, O-2, O-3, O-4, O-5, O-6, O-7, O-9, O-11, O-14, O-18)

### **3.9.5 Information Provided by Brookfield CalTrans**

Brookfield CalTrans indicated that Brookfield, through its utilities group, operates and maintains four transmission platforms in North America overseen by three separate North American Electric Reliability Corporation (NERC)-qualified control centers and that when construction is complete and operational control has been handed over to the ISO, it would draw upon the technical and regulatory expertise of its utilities group to maintain and operate the new substation (QS-4). Brookfield CalTrans stated that its affiliates own, maintain, and/or operate transmission facilities in both North and South America, including: Cross-Sound Cable Company, LLC, a 24-mile submarine high voltage direct current transmission cable, and Smoky Mountain Transmission, an 86-mile transmission line at 161 kV for which the proposed operations director for this project is currently responsible. Brookfield CalTrans indicated that this director would also be directly responsible for the O&M staff at the proposed stations in California. Brookfield CalTrans indicated that the Vice President of Utility Operations to whom the operations director would report is responsible for operation and maintenance of all of Brookfield's assets in North America. (P-1, O-2). Brookfield CalTrans described Brookfield's established employee recruiting and training programs used by Brookfield's family of companies, including Smoky Mountain Transmission, Great Lakes Power Transmission and Wind Energy Texas Transmission (O-4, O-5). Brookfield CalTrans stated that Brookfield has established a comprehensive asset management model that is deployed in all Brookfield's operations (O-6). Brookfield CalTrans stated that Brookfield has been operating as a utility in North America for over 90 years (O-9) and that each of Brookfield's entities in North America has been regularly audited by the respective NERC regional reliability entity and that there have been no notices of potential violation with regard to these facilities (O-14). Brookfield CalTrans stated that Brookfield has extensive experience operating transmission as part of an entity subject to the control of an independent system operator and has a demonstrated history of compliance with ISO-type procedures (O-18).

### **3.9.6 Information Provided by Golden State**

Golden State indicated that it assembled a team of approximately 25 professionals that developed a preliminary plan for construction, operations, and maintenance of the project. Golden State stated that it would rely on the resources of Southern California Edison (SCE), American Electric Power (AEP), and Great Plains Energy (GPE) for design, licensing, construction, operation, and maintenance of the project. In addition, Golden State indicated that its team includes experience and capability directly related to operating assets subject to ISO control and subject to NERC requirements (QS-1). Golden State indicated that it is an indirect subsidiary of Edison International, AEP, and GPE—each a major utility holding company. Golden State indicated that each of these entities and their subsidiaries has been operating transmission assets for more than 100 years. Golden State indicated that collectively they operate thousands of substations and many thousands of miles of transmission lines subject to the jurisdiction of the

NERC, Western Electricity Coordinating Council (WECC) and the ISO as well as other regional transmission organizations and independent system operators (QS-4, P-1). Golden State described the roles and responsibilities of the proposed O&M team members but indicated that it has not yet selected those team members (O-3). Golden State described SCE's employee recruiting and training programs, which it indicated it intends to use for this project (O-4, O-5). Golden State stated that its affiliate SCE's transmission system is under ISO functional control and therefore subject to and compliant with the Transmission Control Agreement (TCA) requirements (O-6, O-9, O-18). Golden State provided notices of violations and compliance audit reports for each of its three affiliates. The information provided by Golden State showed that each of the affiliates had notices of violation, generally with minimal reliability risk but some resulting in penalties. The compliance audits provided by Golden State indicated compliance with the majority of requirements with a few minor exceptions (O-14).

### **3.9.7 Information Provided by NEET West**

NEET West stated that it has an extensive operations and maintenance team at NextEra and that it would leverage both internal and contractor resources for operation and maintenance of the project (QS-1). NEET West stated that NextEra operates over 700 substations (QS-4, P-1). NEET West indicated that its proposed team members have experience with maintenance and operation of the FPL system and are currently responsible for O&M of transmission systems in Texas and New Hampshire. NEET West indicated that some team members have O&M responsibility for transmission facilities in other states, as well (O-3). NEET West stated that it would follow NextEra's established human resource policies and hiring processes and procedures (O-4). NEET West described NextEra's employee training program, which it indicated it intends to use for this project (O-5). NEET West stated that NextEra has well-established, reasonable practices and procedures for transmission system operations and maintenance of its transmission and substation facilities, which are derived from FPL's O&M practices for its facilities. NEET West indicated that one of its team members has experience as a member of the ISO Transmission Maintenance Coordination Committee (O-6). NEET West stated that NextEra and its affiliates operate in all eight NERC regions and have been audited and found compliant by each of the different regions (O-14). NEET West included sample procedures to illustrate NextEra's ability to comply with ISO TCA requirements. The procedures appeared to address NERC requirements and to include steps to coordinate operations with the Electric Reliability Council of Texas (O-18).

### **3.9.8 Information Provided by PG&E**

PG&E stated that, as one of the largest electric utilities in the United States, it provides electric service to approximately 5.1 million customers throughout a 70,000-square-mile service territory in northern and central California and that the proposed project O&M team members have been responsible for every aspect of electric transmission operations, including planning, engineering, maintenance, construction, asset management, restoration, and emergency response. PG&E indicated that its O&M team is responsible for upward of 900 substations and 18,000 miles of transmission line rated 60-kV or higher. PG&E stated that it maintains a fully staffed substation maintenance headquarters in Pismo Beach, which is 49 miles away from the Estrella Substation project area (QS-1, QS-4, P-1, O-3). PG&E stated that its Substation Maintenance & Construction-South organization would be the operating jurisdiction within its substation department to support the project (O-1). PG&E described its established employee

recruiting and training programs (O-4, O-5). PG&E stated that, as a signatory to the TCA since 1997, it has been subject to all terms and conditions of that agreement and has demonstrated itself capable of complying with the activities required of a transmission operator pursuant to NERC standards (O-6, O-9, O-18). PG&E stated that it has established and adopted a compliance management plan that evaluates its electric system's compliance with regulatory requirements related to operating PG&E's electric transmission system (O-14).

### **3.9.9 ISO Comparative Analysis**

#### **Comparative Analysis of Construction Record**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the record and experience of the project sponsor and its team members in constructing transmission projects, including substations, and how much of the experience of the project sponsor and its team is in the U.S. and in California. The ISO considers experience in the U.S. and California to be an advantage over substation construction experience in other jurisdictions because the project will be located in California and there are special aspects of construction codes and regulations in the U.S. and California for which this experience is an advantage.

U.S. construction laws, rules, regulations, and processes are unique to the U.S., and California construction laws, rules, regulations, and processes are unique to the state of California. For example, the process that must be followed in California includes adherence to the requirements of CalOSHA, the California Air Resources Board, the California Office of Historic Preservation, Title 22 regarding hazardous waste, and city and county codes. U.S. laws, rules, regulations, and processes applicable to construction include federal OSHA, NEPA, Storm Water Pollution Prevention Plan, and U.S. Fish and Wildlife Service requirements, Fair Labor Standards Act regulations, and National Electric Code standards.

Based on the extensive experience of Golden State's affiliates, NEET West and its affiliates, and PG&E and their construction firms in the construction of substation projects, particularly projects in California, and their prior experience working with their potential construction firms, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to this component of the factor. Although Brookfield CalTrans' construction contractor has significant experience, based on Brookfield CalTrans' absence of demonstrated construction experience as a substation developer, owner, and operator with regard to projects in California, and its lack of prior collaboration with its proposed construction firm, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that the proposals of the other three project sponsors are slightly better than Brookfield CalTrans' proposal with regard to this component of the factor.

#### **Comparative Analysis of Maintenance Record**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the record and

experience of both the project sponsor and its team members in maintaining transmission projects, including but not limited to experience with compliance with NERC standards.

All four project sponsors have established records and experience regarding maintenance of transmission facilities in compliance with NERC standards. Consequently, the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this component of the factor.

## **Overall Comparative Analysis**

The ISO considers the two components of this factor to be of roughly equal importance in the selection process for this project. Based upon this and the comparative analysis of the two components of this factor, the ISO has determined that there is no material difference among the proposals of Golden State, NEET West, and PG&E with regard to this factor overall because there is no material difference among their proposals with regard to either component of the factor. The ISO has determined that the proposals of Golden, State, NEET West, and PG&E are slightly better than Brookfield CalTrans' proposal with regard to this factor overall because their proposals are slightly better than Brookfield CalTrans' proposal with regard to the first component (construction record), and there is no material difference among the four proposals with regard to the second component (maintenance record).

### **3.10 Selection Factor 24.5.4(h): Adherence to Standardized Construction, Maintenance, and Operating Practices**

The eighth selection factor is “demonstrated capability to adhere to standardized construction, maintenance and operating practices.”

For the purpose of performing the comparative analysis for this factor, the ISO has initially considered the three components of this factor separately and then combined them into an overall comparative analysis for this factor. The three components are: (1) demonstrated capability to adhere to standardized construction practices, (2) demonstrated capability to adhere to standardized maintenance practices, and (3) demonstrated capability to adhere to standardized operating practices.

#### **Construction Practices**

(Section 3 - General Project Information, QS-1, QS-4, P-1, E-16a, E-16b, E-16c, E-16d, E-16e, E-16f, S-7, C-1, C-2, C-3, C-4, C-5, C-6, C-7)

##### **3.10.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans provided detailed design criteria and indicated that its EPC would have a full time site manager who would be responsible for inspecting all construction activities and be responsible for selecting and establishing material yards. (S-7, C-1, C-2)

Brookfield CalTrans indicated that its EPC contractor would work with its engineering company to ensure that the project meets specifications and that the construction risk remains the responsibility of the EPC contractor. Brookfield CalTrans indicated that it,



its engineering company, and its EPC contractor would conduct constructability review at 33% and 95%. (C-4)

Brookfield CalTrans indicated that it and its EPC contractor would work together to develop a detailed project schedule and that neither anticipates any unique or special construction techniques. (C-7)

### **3.10.2 Information Provided by Golden State**

Golden State provided an American Electric Power (AEP) design criteria and indicated that it would follow an inspection process similar to Southern California Edison (SCE), that all inspections would comply with IEEE guides, and that it would use a quality assurance/quality control program based on industry standards. (S-7, C-1)

Golden State indicated that its construction manager would be responsible for establishing material yards and responsible for planning and scheduling clearances. (C-2, C-3)

Golden State indicated that its constructability review would include engineering drawings, construction specifications, material orders, and tracking and managing changes. (C-4)

Golden State described how it would develop schedules to include environmental restrictions. (C-6) Golden State indicated that special construction techniques would not be required. (C-6, C-7)

### **3.10.3 Information Provided by NEET West**

NEET West provided detailed design criteria and an inspection process that includes construction inspections, quality assurance/quality control plans, and laboratory testing, identified a material yard and a constructability review process, indicated that it would develop a detailed schedule including actions to maintain schedule, and indicated that special construction techniques or clearances would not be required. (S-7, C-1, C-2, C-6)

NEET West indicated that it would develop an environmental compliance matrix to provide a list of all permitting requirements and mitigation measures. (C-6)

### **3.10.4 Information Provided by PG&E**

PG&E provided Design Criteria Memorandums for the design of the substation, indicated that it has over 80 internal construction inspectors, and identified specific inspection procedures. (S-7, C-1)

PG&E provided a detailed description of its constructability review process, indicated that major material would be delivered to the site and other material would be delivered from PG&E warehouses, and described its sequence of work, how it would deal with environmental issues, and actions that it would take to maintain schedule. (C-4, C-2, C-6)

PG&E indicated that special construction techniques and clearances would not be required. (C-5, C-7)

## **Maintenance Practices**

(Section 3 - General Project Information, QS-1, QS-4, P-1, O-1, O-2, O-3, O-4, O-5, O-6, O-7, O-8, O-9, O-10, O-11, O-12, O-13, O-14, O-17, O-19)

### **3.10.5 Information Provided by Brookfield CalTrans**

Brookfield CalTrans stated that it does not currently own or operate any electricity transmission facilities in California and currently plans to establish a small maintenance team in California with operations, administration, and management activities undertaken by Brookfield's NERC qualified transmission staff in Marlborough, MA (O-1). Brookfield CalTrans stated that Brookfield's standards include the elements listed in TCA and that, as part of the preparation of its proposal, its original equipment manufacturer has prepared a detailed maintenance plan for the new substation (O-6). Brookfield CalTrans stated that the systems would be monitored electronically by supervisory control and data acquisition (SCADA) systems in real time and that substation physical inspections would take place routinely. Brookfield CalTrans did not provide any notices or reports demonstrating overall compliance with its maintenance standards (O-8). Brookfield CalTrans indicated that it anticipates that it will register for NERC function roles of Transmission Owner (TO), Transmission Planner (TP), and Transmission Operator (TOP) (O-11). Brookfield CalTrans stated that its approach to assure compliance with applicable reliability standards would be to staff a compliance department, reporting to the vice president of operations, whose primary function would be to ensure FERC compliance. Brookfield CalTrans also stated that its affiliates have extensive experience operating public utility facilities in compliance with applicable reliability standards (O-13). Brookfield CalTrans stated that none of its affiliates in North America has been the subject of any NERC notice of violation, and that, to its knowledge, no Brookfield facilities have ever been notified of any violations of applicable reliability standards in the relevant jurisdiction during the time that Brookfield has owned and/or operated them (O-14). Brookfield CalTrans stated that Brookfield has an established top tier SCADA platform, including an embedded historian functionality, which would be used to provide all of the data acquisition requirements of the facilities (O-17). Brookfield CalTrans indicated that personnel would be provided by the O&M services contractor that would provide an on-call (<30 minute) response during non-business hours; during business hours, personnel would be provided by pre-qualified contractors working under a maintenance and services agreement (O-19).

### **3.10.6 Information Provided by Golden State**

Golden State indicated that it is an indirect subsidiary of Edison International, AEP, and GPE. Golden State pointed out that SCE operates a large transmission system subject to ISO control and has deep experience doing so. For other operations and maintenance activities, Golden State indicated that it would contract with a qualified service provider. Golden State indicated that this contractor would have a physical presence in the region and the ability to respond expediently to operational issues (QS-4). Golden State stated that the proposed operations and maintenance organization would be staffed by a team of professionals with qualifications and experience similar to those within Golden State's operating company affiliates. Golden State provided a general description of the qualifications for the operations, maintenance, and compliance management positions. Golden State provided resumes that were examples of management personnel, but they were not related to positions on

the organization chart provided by Golden State. Golden State did not indicate that it has selected personnel for the director level positions shown on the organization chart yet (O-2). Golden State indicated that its affiliates operate and maintain vast electrical systems and that each has more than 100 years of experience doing so (O-3, P-1). Golden State stated that its standards would include the elements listed in the TCA. Golden State stated that it would employ maintenance practices and standards like those of SCE (O-6, O-9). Golden State provided a report of its affiliated operating company, AEP Ohio Transmission Company, which was filed with the Public Utilities Commission of Ohio and summarizes activities to comply with standards for inspection, maintenance, repair, and replacement of similar facilities. The report indicated that all goals were achieved (O-8). Golden State indicated that it would register for the NERC Transmission Owner (TO) and Transmission Operator (TOP) functions (O-11). Golden State stated that SCE would manage NERC compliance for the project (O-13). Golden State indicated that it would use SCE for control center operations if allowed by CPUC affiliate transaction rules. Golden State provided alternative control center options if not allowed. Golden State indicated that adequate and reliable SCADA data for the transmission operator area would be available at SCE's grid control centers (O-17). Golden State described a number of options for fielding maintenance and operations staff and indicated that response times for field operations and maintenance could vary between 15 and 240 minutes depending on the option selected and its location. Golden State also indicated that it plans to enter into mutual assistance and spare parts agreements with respective agencies in California and on a national level as necessary. (O-1, O-19).

### **3.10.7 Information Provided by NEET West**

NEET West stated that it has an extensive operations and maintenance team at NextEra and that it would leverage both internal and contractor resources for maintenance of the project (QS-1). NEET West stated that NextEra operates over 700 substations (QS-4, P-1, O-3). NEET West stated that on-site requirements, including high voltage technician activities, would be staffed and managed from NextEra's central California office in Mojave (O-1). NEET West provided resumes of key O&M management team members who would add O&M responsibility for this project to their current responsibilities for similar projects throughout the U.S. NEET West indicated that its team members have many years of relevant experience, including experience in California (O-2). NEET West stated that NextEra has well-established, reasonable practices and procedures for operations and maintenance of its transmission and substation facilities, which are derived from FPL's O&M practices for its facilities, and that NextEra inspection and maintenance practices cover all elements in the TCA. NEET West indicated that one of its team members has experience as a member of the ISO Transmission Maintenance Coordination Committee (O-6, O-9). NEET West stated that NextEra's strong culture, organizational structure, and internal auditing processes ensure compliance with maintenance standards (O-8). NEET West stated that NextEra's compliance and responsibility organization is a centralized group of reliability standard subject matter experts who manage, report, control, and audit the NextEra registered entities' compliance programs (O-13). NEET West stated that NextEra and its affiliates operate in all eight NERC regions, that NextEra affiliates are registered for all NERC functions, and that the processes and procedures of these entities have been audited and found compliant by each of the different regions (O-14). NEET West indicated that NextEra's SCADA schemes are used to gather power delivery equipment availability data and would support the data collection requirements of the TCA (O-17).

NEET West indicated that the proposed project reporting center for NextEra high voltage technicians would be in Mojave, located less than two hours from the project site. (O-19).

### **3.10.8 Information Provided by PG&E**

PG&E stated that, as one of the largest electric utilities in the United States, it provides electric service to approximately 5.1 million customers throughout a 70,000-square-mile service territory in northern and central California and that the proposed project O&M team members have been responsible for every aspect of electric transmission operations, including planning, engineering, maintenance, construction, asset management, restoration, and emergency response. PG&E indicated that the O&M team is responsible for upward of 900 substations and 18,000 miles of transmission lines rated 60 kV or higher. PG&E stated that it maintains a fully staffed substation maintenance headquarters in Bakersfield, which is 49 miles away from the Estrella Substation project area (QS-1, QS-4, P-1, O-3). PG&E provided resumes of key O&M management personnel who would be directly responsible for the proposed project. PG&E indicated that the team members have many years of relevant experience, including experience in California (O-2). PG&E stated that, as a signatory to the TCA since 1997, it has been subject to all terms and conditions of that agreement and has demonstrated itself capable of complying with the activities required of a transmission operator pursuant to NERC standards (O-6, O-9). To demonstrate its experience with implementation of and compliance with inspection and maintenance standards, PG&E provided results of the 2012 ISO annual maintenance review. The report concluded that there were no deviations related to a similar cause that would indicate a systematic problem with adherence to the maintenance practices (O-8). PG&E stated that it has established and adopted a compliance management plan that evaluates its electric system's compliance with regulatory requirements related to operating PG&E's electric transmission system (O-13). PG&E stated that recent favorable WECC audit history illustrates its ability to fulfill compliance obligations and that it has had zero audit findings and consequently zero notices of alleged violations from its 2009 and 2012 WECC audits of FERC Order 693 standards (O-14). PG&E stated that it currently operates redundant data acquisition facilities at its primary grid control center in Vacaville, Calif., with backup facilities located at its transmission operations center in San Francisco, to manage the collection of essential operating information and maintain transmission system reliability (O-17). PG&E indicated that it has assembled a maintenance and construction department with access to a stockpile of substation equipment such as mobile transformers, breakers, switches, and other spare parts. PG&E indicated that this would allow PG&E to respond immediately to replacement activities. PG&E also stated that it maintains established mutual assistance agreements with other utilities to request restoration support and equipment and that it offers significant and substantial emergency response capability available to respond with flexible dispatch through its local presence. PG&E indicated that its Pismo Beach maintenance headquarters is the closest PG&E substation maintenance yard and is 49 miles away from the Estrella project area. PG&E indicated that the response time from this location would be approximately 50 minutes. PG&E indicated that transmission and distribution trouble men could also serve as on-call first responders throughout the region, providing nearly immediate response, and that electricians, operations engineers, and protection engineers could also serve on a stand-by basis 24 x 7 for immediate response (O-19).

## Operating Practices

(Section 3 - General Project Information, QS-1, QS-4, P-1, O-1, O-2, O-3, O-4, O-5, O-9, O-11, O-12, O-13, O-14, O-15, O-16, O-17, O-18, O-19, O-20)

### **3.10.9 Information Provided by Brookfield CalTrans**

Brookfield CalTrans stated that Brookfield, through its utilities group, operates and maintains four transmission platforms in North America overseen by three separate NERC-qualified control centers (QS-4). Brookfield CalTrans stated that the 24/7 operations center for its California transmission assets would be located initially in Marlborough, MA, with the back-up location in Lowell, MA. Brookfield CalTrans indicated that all real time operating, emergency response, data collection, and outage restoration would be performed by this team. Brookfield CalTrans indicated that field switching would be performed by local contractors under the direction of Brookfield CalTrans site supervisors. Brookfield CalTrans indicated that it plans to staff the O&M function with two substation electricians who would perform the day to day maintenance and operation of the stations (O-1). Brookfield CalTrans indicated that operator training would include NERC certification. Brookfield CalTrans provided a copy of the transmission system operator training program for its Smoky Mountain Transmission operations, which it indicated is designed to meet the requirements of NERC standard PER-005 (O-5). Brookfield CalTrans indicated that it anticipates that it would register for NERC function roles of Transmission Owner (TO) and Transmission Operator (TOP) (O-11). Brookfield CalTrans stated that its approach to assure compliance with applicable reliability standards would be to staff a compliance department, reporting to the vice president of operations, whose primary function would be to ensure NERC compliance (O-13). Brookfield CalTrans stated that none of its affiliates in North America has been the subject of any NERC notice of violation, and that, to its knowledge, no Brookfield facilities have ever been notified of any violations of applicable reliability standards in the relevant jurisdiction during the time that Brookfield has owned and/or operated them (O-14). Brookfield CalTrans stated that it does not anticipate that there would be any material differences between the existing Reliability Standards Agreements that it reviewed on the ISO website and the agreement it believes would be appropriate for this substation (O-15). Brookfield CalTrans stated that it expects to enter into the customary, industry standard interconnection and other relevant agreements with generators, planning authorities, and other transmission or distribution owners and/or operators, as appropriate (O-16). Brookfield CalTrans stated that Brookfield has an established top tier SCADA platform, including an embedded historian functionality, which would be used to provide all of the data acquisition requirements of the facilities (O-17). Brookfield CalTrans stated that Brookfield has extensive experience operating transmission as part of an entity subject to the control of an independent system operator and has a demonstrated history of compliance with ISO-type procedures (O-18). Brookfield CalTrans stated that its emergency action plan details the required response, notifications, and reporting requirements for all anticipated emergencies associated with a specific asset. Brookfield CalTrans noted that the majority of the substation equipment other than the power transmission equipment is readily available from manufacturers. Brookfield CalTrans stated that it plans to maintain a small local stock of routine maintenance and spare parts, such as gaskets, transformer bushings, a combined metering unit, spare relays, and a complete disconnect switch. Brookfield CalTrans indicated that it believes it would not be cost effective to provide a site-specific spare power transformer in California for this project. Instead, Brookfield CalTrans indicated that it plans to join with California's three investor-owned incumbent utilities

and participate in mutual assistance programs such as NERC's Spare Equipment Database and EEI's Spare Transformer Equipment Program. (O-19)

In addition, Brookfield CalTrans noted that catastrophic transformer failures would be mitigated through a long term contract with the original equipment manufacturer and through participation in a mutual assistance program. Brookfield CalTrans indicated that it plans to prepare a site-specific emergency plan for each substation and that the plan would set out the procedures for certain critical emergencies such as a catastrophic transformer failure. In the case of a transformer failure, Brookfield CalTrans indicated that it would expect to ensure that full service restoration could be implemented within 30 days of failure. Brookfield CalTrans indicated that it plans to work with the ISO and the incumbent utility to determine whether 30 days is an appropriate restoration target given the local system operating conditions and would plan for a shorter restoration time if system reliability would be compromised by a long outage. If necessary, Brookfield CalTrans indicated that it would buy and maintain a spare transformer on site. Brookfield CalTrans indicated that its emergency plan would cover the key recovery steps, including (i) making the site safe, (ii) removal of damaged equipment and environmental remediation, (iii) acquisition and delivery of a replacement transformer, (iv) transformer degassing, oiling, and installation, and (v) testing and recommissioning. (O-19).

### **3.10.10 Information Provided by Golden State**

Golden State stated that it is an indirect subsidiary of Edison International, AEP, and GPE—each a major utility holding company. Golden State indicated that each of these entities and their subsidiaries has been operating transmission assets for more than 100 years and that collectively they operate thousands of substations and many thousands of miles of transmission lines subject to the jurisdiction of NERC, WECC, and the ISO as well as other regional transmission organizations and independent system operators. Golden State indicated that it intends to use SCE for control center operations if allowed by CPUC affiliate transaction rules. Golden State provided alternative control center options if not allowed (QS-4, P-1, O-1, O-2, O-3, O-12). Golden State described the experience and capabilities of SCE, AEP, and GPE related to training programs for operations and maintenance personnel (O-5). Golden State indicated that it would register for the NERC Transmission Owner (TO) and Transmission Operator (TOP) functions (O-11). Golden State indicated that it would have SCE manage its NERC compliance program (O-13). Golden State indicated that its members and affiliates have an extensive record of implementing programs, processes, and plans to insure compliance with applicable reliability standards for large transmission systems subject to NERC standards. Golden State provided notices of violations and compliance audit reports for each of its three affiliates. The compliance audits indicated compliance with the majority of requirements with a few minor exceptions (O-14). Golden State indicated that it does not expect any differences from the current SCE Reliability Standards Agreement, with one possible exception -- if the project's substation facilities do not have any load shedding responsibilities, then Golden State asserted that NERC Protection and Control Standards PRC-10 and PRC-22 would not apply (O-15). Golden State stated that the applicable agreements for this substation project that would define the transmission operator responsibilities and authority with respect other entities would be developed with the ISO and, to the extent required, with PG&E and SCE (O-16). Golden State indicated that if SCE is providing control center operation services, adequate and reliable SCADA data for the transmission operator area would be available at SCE's grid

control centers (O-17). Golden State indicated that its affiliate, SCE, is already performing the activities identified in the TCA and that it would leverage these resources to institute policies, procedures, and processes to ensure compliance with TCA requirements (O-18). Golden State indicated that SCE operations has been in existence for over 125 years and has policies, procedures, and practices in place for managing emergencies that have been well tested and instituted when needed to mitigate emergencies. Golden State stated that if the substation were to experience a transformer failure, replacement of the transformer normally would require 10 to 14 days to remove the failed transformer, replace it with the new transformer, and repair any damaged equipment (O-19).

Golden State noted that the project has been designed to minimize collateral damage, including providing for a deep oil sump to move transformer oil away from a failed transformer and that in the event of a transformer failure, replacement of the transformer normally would require 10 to 14 days. Golden State indicated that it would enter into mutual assistance and spare parts agreements with parties in California and on a national level as necessary. Golden State also noted that it would apply to become a member of the California Utilities Emergency Association (CUEA) and that members of CUEA are afforded an opportunity to become a member of a mutual assistance agreement that provides a mechanism to provide materials, equipment, and skilled labor to respond to an emergency such as an unexpected failure of equipment such as a transformer. With CUEA membership, Golden State indicated that it would become a signatory to the mutual assistance agreement. Golden State stated that it would evaluate joining EEI's Spare Transformer Equipment Program. (O-19)

In addition, Golden State indicated that its affiliates AEP and GPE have access to a large inventory of transformers, as they operate approximately 5,000 substations in the United States, and that Golden State would be able to access this inventory in the event of a catastrophic failure. (O-19)

### **3.10.11 Information Provided by NEET West**

NEET West stated that NextEra operates over 700 substations (QS 4, P 1, O 3) and that operational control of the project would be provided by NEET's 24/7 transmission and substation facility control center in Austin, Texas (O-1). NEET West described its training program (O-5). NEET West also stated that the reporting criteria used by NextEra align with the ISO's availability reporting obligations (O-9). NEET West indicated that it would register as a TO, TOP, and/or TP with NERC (O-11). NEET West stated that NextEra's compliance and responsibility organization is a centralized group of reliability standard subject matter experts who manage, report, control, and audit the NextEra registered entities' compliance programs (O-13). NEET West stated that NextEra and its affiliates operate in all eight NERC regions, that NextEra affiliates are registered for all NERC functions, and that the processes and procedures of these entities have been audited and found compliant by each of the different regions (O 14). NEET West stated that it would work with the ISO to develop an operational agreement that would include defining roles and responsibilities related to complying with all applicable NERC reliability standards requirements. NEET West indicated that its O&M team members have experience developing reliability standards agreements (O-15). NEET West described the applicable agreements that would define the project transmission operator's responsibilities and authority with respect to other NERC functional entities (O-16). NEET West stated that, for the proposed project, it would use

similar data acquisition architecture as used for the Lone Star Transmission system and it would maintain and operate a multi-site energy management system (O-17). NEET West described its capabilities and experience that would enable it to comply with required activities of the TCA and provided sample procedures. The procedures address NERC requirements and include steps to coordinate operations with the Electric Reliability Council of Texas (O-18). NEET West stated that it would rely on transmission operations personnel both in the project area and in support functions throughout the NextEra affiliate company organizations to ensure availability in response to emergency operating conditions. NEET West stated that the proposed project reporting center for NextEra high voltage technicians would be in Mojave, located less than two hours from the project site. NEET West stated that NextEra has access to a comprehensive fleet of transformer spares that cover all classes of transformers at its North American transmission and generation facilities, including California, and that it would create a specific contingency plan for the transformer at Estrella Substation. NEET West indicated that if a substitute transformer is not immediately available in the region through NextEra's various supply options, NextEra would utilize a suitable in-house spare located in northern Florida. NEET West indicated that NextEra has additional spares sourcing options as a participant in the Edison Electric Institute's 'Spares Connect' and 'STEP' programs, has developed emergency strategies with transformer vendors, and has replacement contingency plans in place for its critical transformer units. (O-19)

Under these circumstances, NEET West estimated that the time to return the project to full service following a failure would be 9 to 13 weeks. NEET West indicated that should a replacement transformer be immediately available in the region, the replacement time would be contingent on the local transit time plus 9–13 days for mobilizing and installing the spare unit (O-19).

In addition, NEET West stated that NextEra and a third party contractor have executed service level agreements and that both companies have worked together strategically to develop response times. NEET West indicated that this third party's specialized equipment resources would service all aspects of transmission and substation maintenance. NEET West also indicated that it would implement a specific spare equipment and parts strategy for the project based on system needs that are known at the time the transmission facilities become operational. (O-19)

### **3.10.12      Information Provided by PG&E**

PG&E stated that, as one of the largest electric utilities in the United States, it provides electric service to approximately 5.1 million customers throughout a 70,000-square-mile service territory in northern and central California and that the proposed project O&M team members have been responsible for every aspect of electric transmission operations, including planning, engineering, maintenance, construction, asset management, restoration, and emergency response. PG&E indicated that the O&M team is responsible for upward of 900 substations and 18,000 miles of transmission lines rated 60 kV or higher. PG&E stated that it maintains a fully staffed substation maintenance headquarters in Pismo Beach, which is 49 miles away from the Estrella Substation project area (QS-1, QS-4, P-1, O-3). PG&E also indicated that it maintains a stockpile of spare substation equipment such as mobile transformers, breakers, switches, and other spare parts to respond immediately to replacement needs. (O-19)



PG&E indicated that its grid operations team is charged with operating the transmission system from its 24/7 grid control center in Vacaville, Calif., with backup facilities at its transmission operations center in San Francisco (O-1). PG&E provided resumes of key O&M management personnel who would be directly responsible for the proposed project and indicated that the team members have many years of relevant experience, including experience in California (O-2). PG&E described its training program (O-5). PG&E stated that it is currently registered with NERC for several functions, including TO, TOP, and TP (O-11). PG&E stated that it has established and adopted a compliance management plan that evaluates its electric system's compliance with regulatory requirements related to operating PG&E's electric transmission system. PG&E indicated that its Vice President of Asset Management reporting to its Executive Vice President of Electric Operations ensures that PG&E is in full compliance and has the processes in place to maintain compliance with FERC approved standards for reliability of the bulk electric system (O-13, O-1). PG&E stated that recent favorable WECC audit history illustrates its ability to fulfill compliance obligations and that it has had zero audit findings and consequently zero notices of alleged violations from its 2009 and 2012 WECC audits of FERC Order 693 standards (O-14). PG&E stated that it is a signatory to an existing Reliability Standards Agreement (RSA) with the ISO since June 15, 2007, that it has an established division of responsibility for NERC reliability standards between PG&E and the ISO (O-15), and that the RSA defines the transmission operator's responsibilities and authority with respect to generator owners and operators, planning providers, balancing authorities, transmission planners, and adjacent transmission operators (O-16). PG&E stated that it currently operates redundant data acquisition facilities at its primary grid control center in Vacaville, Calif., with backup facilities located at its transmission operations center in San Francisco, to manage the collection of essential operating information and maintain transmission system reliability (O-17). PG&E stated that, as a signatory to the TCA since 1997, it has been subject to all of the terms and conditions of that agreement and has demonstrated itself capable of complying with the activities required by the TCA. PG&E stated that it has a 230/70 kV 3-phase 200 MVA transformer as well as ancillary material in its capital emergency material stock located at Herndon Substation in Fresno, California. In the event of a catastrophic failure, PG&E stated that, utilizing crews on 24-hour shifts, the total estimated time to restore the substation to its full service capability would be approximately 45 days. PG&E indicated that this duration assumes 30 days for obtaining Caltrans and local permits to transport the replacement transformer based on past experience with similar events (O-9, O-18, O-19).

### **3.10.13 ISO Comparative Analysis**

#### **Comparative Analysis of Construction Practices**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the construction practices they propose for this project, including but not limited to their proposed design criteria and constructability review process.

All four project sponsors have provided detailed design criteria and constructability review processes that demonstrate that their respective projects would adhere to standardized construction standards. Based on these considerations, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO has determined that there is no material difference among the proposals

of Brookfield CalTrans, Golden State, NEET West, and PG&E with regard to this component of the factor.

## **Comparative Analysis of Maintenance Practices**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the maintenance practices they propose for this project, including but not limited to their proposed plans for compliance with NERC requirements for transmission owners and operators, the TCA, and the ISO's transmission maintenance standards.

All four project sponsors have established records and experience demonstrating the capability to adhere to standardized maintenance practices. Although PG&E is the only project sponsor that has demonstrated compliance with the Transmission Control Agreement and the ISO's transmission maintenance standards, it does not have any greater experience or superior proposed practices than those of Brookfield CalTrans, Golden State, or NEET West with respect to maintenance of a substation. Consequently, the ISO has determined that, for this particular project, there is no material difference among the proposals of Brookfield CalTrans, Golden State, NEET West, and PG&E with regard to this component of the factor.

## **Comparative Analysis of Operating Practices**

For purposes of the comparative analysis for this component of the factor, the ISO has considered the representations by the project sponsors regarding the operating practices they propose for this project, including but not limited to their proposed emergency plans and other plans for compliance with NERC requirements for transmission owners and operators and the ISO's standards. The ISO notes that the Estrella Substation project is a reliability project, so project sponsor practices, capabilities, efficiencies, and advantages addressing reliability must be carefully considered.

Although all four project sponsors have established records and experience demonstrating the capability to adhere to standardized operating practices, the ISO considers PG&E to be in the best position to respond to field operations issues and emergency situations due to the location and size of its maintenance headquarters and other emergency response resources. PG&E also appears to be better prepared to respond to a catastrophic transformer failure than the other project sponsors because it has a spare transformer in the region. None of the other project sponsors has identified a specific spare transformer or provided information regarding how many suitable spares may exist or how long it would take to make arrangements to borrow one. Although the estimated transformer replacement times of other project sponsors are similar, not all of them appear to have included adequate time for transportation, including permits. Based on the foregoing considerations, in conjunction with all the other considerations included in the ISO's analysis for this component of the factor, the ISO considers PG&E's proposal to be better than the proposals of the other three project sponsors with regard to this component of the factor.

The ISO has determined that NEET West's proposal is slightly better than the proposals of Brookfield CalTrans and Golden State with regard to this component of the factor because, in conjunction with all other considerations included in the ISO's analysis for this component of the factor, NEET West has identified the management team members

and the location of its field headquarters, which is less than two hours away from the site of its proposed Estrella Substation.

The ISO has determined that Brookfield CalTrans' proposal is slightly better than Golden State's proposal with regard to this component of the factor because, in conjunction with all other considerations included in the ISO's analysis for this component of the factor, Brookfield CalTrans has identified its team even though it has not selected a field headquarters location, making it difficult to estimate response times.

Golden State has not identified its team members and has not specified a field headquarters location. Based on the foregoing considerations, in conjunction with all the other consideration included in the ISO's analysis for this component of the factor, the ISO considers the proposals of the other three project sponsors to be slightly better than Golden State's proposal with regard to this component of the factor.

## **Overall Comparative Analysis**

The ISO considers the three components of this factor to be of roughly equal importance in the selection process for this project.

Because the ISO has not identified any material difference among the proposals of the four project sponsors with regard to the first two components of this factor (ability to adhere to standardized construction and maintenance practices), the comparative analysis for this factor is based on the analysis for the third component (ability to adhere to standardized operating practices). As discussed above, the ISO has determined that PG&E's proposal is better than NEET West's proposal, which is slightly better than Brookfield CalTrans' proposal, which is slightly better than Golden State's proposal, with regard to the ability to adhere to standardized operating practices. Consequently, the ISO has determined that PG&E's proposal is slightly better than NEET West's proposal, which is slightly better than Brookfield CalTrans' proposal, which is slightly better than Golden State's proposal, with regard to this factor overall.

### **3.11 Selection Factor 24.5.4(i): Ability to Assume Liability for Major Losses**

(Section 3 - General Project Information, QS-1, QS-2, QS-4, P-5, F-1, F-2, F-3, F-4, F-5, F-6, F-7, F-8, F-9, F-10, F-11, F-12, F-13, F-14, F-15, F-16, S-1, O-19)

The ninth selection factor is "demonstrated ability to assume liability for major losses resulting from failure of facilities."

#### **3.11.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans stated that it would carry the customary insurance for the project, including automobile, comprehensive general liability, umbrella liability, engineer's professional liability, general property, workers' compensation, and California state disability insurance. Brookfield CalTrans indicated that its EPC contractor would be required to carry equivalent insurance coverage during the construction period for the project. (P-5)

Brookfield CalTrans noted that the most significant risk of loss for the project would be a catastrophic transformer failure, which would be mitigated through a long term contract with the original equipment manufacturer and through participation in a mutual assistance program. Brookfield CalTrans indicated that it plans to prepare a site-specific emergency plan for each substation for certain critical emergencies. (O-19)

### **3.11.2 Information Provided by Golden State**

Golden State stated that its ultimate parent holding companies and operating affiliates of Golden State have extensive experience with procuring commercial insurance for electric utility facilities. Golden State provided a detailed description of the various types of insurance it would procure for the project. (P-5)

Golden State stated that it would have access to corporate security services and emergency preparedness services provided by SCE through the permissible shared support model allowed by the CPUC affiliate transaction rules. Golden State indicated that the most significant risk of loss for the project would be a catastrophic transformer failure and that emergency preparedness would include the planning and creation of response systems, policies, and standard practices to deal with unusual natural occurrences (e.g., acts of God or terrorist actions) in order to facilitate return to a normal operating mode. (O-19)

### **3.11.3 Information Provided by NEET West**

NEET West indicated that NextEra, and/or its affiliated, subsidiary, and associated companies and/or corporations, which would include NEET West, maintains and will maintain a property all-risk insurance program that would cover the project from “all risks” of direct physical loss or damage, including but not limited to mechanical and electrical breakdown, flood, earthquake, wind, storm, and terrorism. NEET West stated that the insured values during construction and over the operational life of the project facilities would not be less than the full replacement cost of the facility. (P-5)

NEET West noted that its parent company NextEra has access to a comprehensive fleet of transformer spares that cover all classes of transformers at its North American transmission and generation facilities, including California. NEET West indicated that the most significant risk of loss for the project would be a catastrophic transformer failure and that NextEra has additional spares sourcing options as a participant in the Edison Electric Institute’s ‘Spares Connect’ and ‘STEP’ programs, has developed emergency strategies with transformer vendors, and has replacement contingency plans in place for its critical transformer units. (O-19)

### **3.11.4 Information Provided by PG&E**

PG&E stated that it would provide operational insurance for the project. PG&E indicated that during construction the responsibility for placing builders’ all-risk insurance could be placed on the EPC contractor or on PG&E. PG&E provided an example of PG&E’s planned insurance coverage typical for projects of this size and nature. (P-5)

PG&E indicated that the most significant risk of loss for the project would be a catastrophic transformer failure and noted that it has a 230/70 kV 3-phase 200 MVA transformer, as well as ancillary material, in its capital emergency material stock located

at Herndon Substation in Fresno, California. In the event of a catastrophic failure, PG&E indicated that it would immediately contract with firms with which it has alliance agreements to perform emergency substation construction service (O-19).

### **3.11.5 ISO Comparative Analysis**

This factor looks at financial ability to cover losses. For purposes of the comparative analysis for this factor, the ISO has considered the representations by the project sponsors regarding their resources and plans for assuming responsibility for losses resulting from failure of project facilities, including but not limited to their financial resources, proposed insurance, and other plans for financing emergency repairs.

The largest single point of failure for the project from a financial risk perspective is a catastrophic failure of a 230/70 kV substation transformer. There would be a significant capital expenditure to replace the failed transformer, as well as a reliability risk to the system until a replacement/spare transformer could be placed into service. Brookfield CalTrans did not identify a spare transformer, although it indicated a willingness to purchase a spare transformer and locate it at the substation; Golden State did not identify a spare transformer; NEET West may have a spare transformer from its parent organization; PG&E specifically indicated that it has a spare transformer.

The ISO has determined that all four project sponsors have the financial resources to finance the replacement of a failed transformer or otherwise assume liability for major losses resulting from failure of facilities. In addition, all four project sponsors have identified reasonable insurance coverage, including coverage during the operation of the project.

Consequently, the ISO has concluded that all four project sponsors have sufficient financial resources, insurance coverage, and operational incentives to make necessary repairs and return the facilities to service in a reasonable period of time. Based on the foregoing considerations, in conjunction with all the other considerations included in the ISO's analysis for this factor, the ISO has determined that there is no material difference among the proposals of Brookfield CalTrans, Golden State, NEET West, and PG&E with regard to this factor.

### **3.12 Selection Factor 24.5.4(j): Cost Containment Capability, Binding Cost Cap and Siting Authority Cost Cap Authority**

The tenth selection factor is “demonstrated cost containment capability of the Project Sponsor and its team, specifically, binding cost control measures the Project Sponsor agrees to accept, including any binding agreement by the Project Sponsor and its team to accept a cost cap that would preclude costs for the transmission solution above the cap from being recovered through the CAISO's Transmission Access Charge and if none of the competing Project Sponsors proposes a binding cost cap, the authority of the selected siting authority to impose binding cost caps or cost containment measures on the Project Sponsor, and its history of imposing such measures.” As discussed in Section 2.1, the ISO has identified this selection factor as a key selection factor because the ISO considers commitment to a robust binding cost cap to be the most effective way in which the ISO can ensure that a project is developed in an efficient and cost-effective manner. A proposal that best satisfies this factor will contribute significantly to ensuring

that the project sponsor selected will develop the project in an efficient and cost-effective manner.

For the purpose of performing the comparative analysis for this factor, the ISO has initially considered the two components of the factor separately and then combined them into an overall comparative analysis for this factor. The two components are: (1) demonstrated cost containment capability of the project sponsor and its team including any binding agreement by the project sponsor and its team to accept a cost cap that would preclude project costs above the cap from being recovered through the ISO's transmission access charge and (2) if none of the competing Project Sponsors proposes a binding cost cap, the authority of the selected siting authority to impose binding cost caps or cost containment measures on the Project Sponsor, and its history of imposing such measures.

### **Cost Containment Capability Including Binding Cost Cap**

(Section 3 - General Project Information, QS-1, QS-4, P-2, P-3, P-4, P-6, P-7, P-8, P-10, P-11, P-12, P-13, F-16, E-10, C-7)

#### **3.12.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans provided a capital cost estimate that included contingencies and allowance for funds used during construction (AFUDC). (P-2) Brookfield CalTrans stated that it is not proposing a binding cost cap for this project due to the remoteness of the start date. Brookfield CalTrans stated that it is very expensive to mitigate risk associated with binding contracts for performance so far out in the future. (P-12)

Brookfield CalTrans stated that the EPC cost for the project would cover 80% of the overall project costs and that this estimate was prepared exclusively for Brookfield CalTrans by its EPC contractor. Brookfield CalTrans indicated that the cost estimate assumes a standard working day, no abnormal site weather conditions, unrestricted site access, no unmitigated site contamination, no restrictions on pre-planned outages, and that outages would not be cancelled on short notice. (P-3)

Brookfield CalTrans provided a detailed estimate of the anticipated average annual O&M cost. The largest cost components identified in Brookfield's estimate are for a maintenance contract, property taxes, and direct labor. (P-4)

Brookfield CalTrans provided project performance information on seven example projects; this showed some projects that required significant cost change orders prior to completion due to scope changes. (P-6)

Brookfield CalTrans indicated that the project would be managed according to Brookfield CalTrans' internal project management procedure. Brookfield CalTrans indicated that its overall approach to project management would be to appoint a single project manager with sole responsibility for project delivery. Brookfield CalTrans indicated that the project manager would be overseen and advised by a project board of senior Brookfield managers. During the construction phase of the project, Brookfield CalTrans indicated that its selected EPC contractor would be responsible for the management of detailed design, procurement, and on-site construction activities. Brookfield CalTrans stated that its EPC contractor would appoint a project manager with overall responsibility for the management of its activities. (P-7)

Brookfield CalTrans provided an organization chart reflecting the project relationships, including the project contractors. The chart provided by Brookfield CalTrans indicated that the overall project management would be provided by the program manager. Brookfield CalTrans indicated that its proposed program manager has ten years of increasingly senior professional management experience. (P-8)

Brookfield CalTrans identified 21 major risks for the project and its proposed mitigations for each risk. Brookfield CalTrans indicated that it has not identified any risks that would prevent the ISO's target in-service dates being met regardless of whether Brookfield were to be selected for one, two, or all three projects; it indicated that it has prepared its development schedules on the basis that it would be selected for all three projects. (P-10)

Brookfield CalTrans stated that the EPC contract accounts for almost 80% of the initial capital cost of the project excluding AFUDC and that therefore it would concentrate on managing risks associated with this cost. In this case, Brookfield CalTrans indicated that it would manage the engineering, procurement, and construction risks by entering into a fixed price EPC contract on commercially negotiated terms with its EPC contractor. Brookfield CalTrans indicated that the final EPC contract, which would be negotiated if Brookfield CalTrans were to be selected, would contain the usual commercial terms for a contract of this type. (P-11)

Brookfield CalTrans indicated that operating activities would be undertaken by Brookfield employees and that maintenance would be managed by Brookfield in accordance with its internal site-specific policies and procedures with site work contracted out to a locally based specialist maintenance contractor, most likely the original equipment vendor. Brookfield CalTrans indicated that the maintenance contract would be a fixed price multi-year contract containing typical commercial terms for a contract of this type. (P-11)

Brookfield CalTrans specified that it does not have site control for the Estrella Substation project identified in its proposal but that it would begin negotiations to purchase the site once awarded the project. Brookfield CalTrans indicated that if it were unable to purchase the site, it would seek to condemn the land. (P-13)

Brookfield CalTrans stated that it would seek siting approval for the project from the CPUC as the authorized government body. Brookfield CalTrans indicated that the CPUC, as part of the permitting process, would evaluate cost and set its expected range. However, Brookfield CalTrans indicated that because network transmission costs and rate recovery are ultimately determined by FERC in its exclusive jurisdiction under the Federal Power Act, the CPUC's authority would not be binding in this respect. (P-13)

### **3.12.2 Information Provided by Golden State**

Golden State provided a capital cost estimate that included contingencies and AFUDC. (P-2) Golden State did not propose an overall construction cost cap for this project. Golden State did propose three binding cost containment measures: (1) limiting lease costs to a specific amount if the property is not purchased, subject to escalation provisions; (2) no return on equity incentives other than the 50 basis point adder for being a member of an ISO or RTO; and (3) no more than 50% equity for its capitalization structure for rate recovery. (P-12)

Golden State provided a detailed listing of the assumptions used to develop its cost estimate, grouped in the following cost categories: general, design, labor, material and equipment, development, permitting, licensing, environmental, construction, internal overhead, and financing costs. (P-3)

Golden State provided a detailed estimate of the anticipated average annual O&M cost, including back office support costs, administrative costs, and insurance costs. Golden State indicated that its O&M estimate is based on public cost data filed with the CPUC in support of SCE's 2015 general rate case filing. This estimate included the cost of Golden State's land lease should it exercise its option and did not include property tax, although that cost is included in Golden State's financial models. (P-4)

Golden State provided a table with project performance information for 22 projects. Of the eight SCE projects on the list, four were completed after the projected initial in-service date. Of the 14 AEP projects on the list, eight projects were completed after the projected initial in-service date. (P-6)

Golden State provided information on the project manager role and the past projects managed by its parent companies. Golden State stated that it would staff a project team led by a project manager drawn from one of its operating affiliates. Golden State provided several examples of possible project managers drawn from its parent companies – for three individuals reviewed, utility experience ranged from 25-35 years and project management experience ranged from 7-20 years. (P-7)

Golden State provided a general organization chart for the structure of the project team. Golden State indicated that the project manager would report to Golden State's management committee and would be responsible for leading a team to develop and execute the project. (P-8)

Golden State identified 17 potential risks that could affect the successful completion of the project in terms of cost and schedule. Golden State did not identify mitigation strategies for these risks. Golden State indicated that it has experience licensing projects in California and has already begun a dialogue with the CPUC on environmental licensing. Golden State stated that it is applying to sponsor two projects in the ISO's current competitive solicitation. Golden State indicated it is supported by three large electric utility holding companies and that its selection for both projects would not affect the in-service date of either. (P-10)

Golden State indicated that it has experience licensing projects in California and has already begun a dialogue with the CPUC on environmental licensing. Golden State stated that it is applying to sponsor two projects in the ISO's current competitive solicitation. Golden State indicated that it is supported by three large electric utility holding companies and that its selection for both projects would not affect the in-service date of either. (P-10)

Golden State indicated that it would rely on the experience and established processes and procedures of the project management organizations of its corporate operating affiliates. Golden State identified cost containment actions for procurement, securing the site, and control of O&M resources. (P-11)



Golden State specified that Edison Transmission, on behalf of Golden State, has obtained site control for the Estrella Substation project with an option to lease the land required for the substation. (P-11)

Golden State indicated that it would use parent company resources to design the project, a third-party contractor for construction and various contract terms to control costs with this contractor. (P-11)

Golden State indicated that it would use a combination of AEP, GPE, and SCE personnel and contract resources to provide O&M services for the project assets. (P-11)

Golden State specified that it will seek siting approval for the Estrella Substation project from the CPUC, either a certificate of public convenience and necessity (CPCN) or a permit to construct (PTC). Golden State indicated that the CPUC is authorized to review and approve either type of filing pursuant to Section 216 and Sections 1001 et seq. of the California Public Utilities Code and CPUC General Order No. 131-D. (P-13)

Golden State indicated that the CPUC has the authority to impose a cost cap on projects that require a CPCN and have an estimated cost that exceeds fifty million dollars. (P-13)

### **3.12.3 Information Provided by NEET West**

NEET West provided a capital cost estimate that included contingencies and AFUDC. (P-2)

NEET West offered a binding construction cost cap that is slightly above its cost estimate, including contingency. NEET West indicated that this cap would be subject to adjustment prior to the completion of construction to reflect any scope changes directed by the ISO, CPUC, or other governmental or regulatory body that impact project costs and that such changes could include changes in design, location, schedule, or other changes in the scope that forms the basis of the binding cost cap proposal.

NEET West stated that the difference between NEET West's construction cost estimate and its binding construction cost cap reflects NEET West's assessment of potential risk for the Estrella project. NEET West indicated that it expects to be able to construct the Estrella project at an amount equal to its construction cost estimate but no higher than its binding cost cap (subject to the discussion above). If NEET West is able to construct the Estrella project below its binding cost cap, NEET West stated that it would seek to recover its actual costs, which could be below the construction cost estimate.

NEET West also proposed a cap on annual O&M expenses (including administrative and general) for the first five years following commencement of commercial operation of the project, after which point NEET West reserved the option of requesting FERC approval for a different rate. (P-12)

NEET West provided a table listing four assumptions (capital structure, return on equity, cost of debt, cost of capital) related to the AFUDC estimate and 11 assumptions (e.g., 40 hour work week, good weather, no planned outage delays, etc.) for the construction work schedule. (P-3)

NEET West provided a detailed estimate of the anticipated average annual O&M cost to operate the project over its life presented in constant 2015 dollars. NEET West broke down the average annual O&M costs by O&M categories (e.g., load dispatch, maintenance of station equipment, etc.). (P-4)

NEET West also provided a table that summarized the budget results for 92 projects delivered since 2003. For the 92 projects, NEET West indicated that NextEra demonstrated a positive variance of \$600 million (under budget) compared with overall project costs of \$23.4 billion. NEET West's information indicated that NextEra's three transmission-only projects showed a negative variance (over budget) of \$100 million compared with overall project costs of \$1.3 billion. (P-6)

NEET West highlighted the 70 new substations NextEra has completed in the last five years, 26 of which are 230 kV, the same voltage as the proposed Estrella project. Of the 70 new substation projects, seven had costs that exceeded the original budget amount. (P-6)

NEET West stated that it would apply the same project management approach NextEra has employed for the projects listed in its proposal. NEET West indicated that its approach would consist of active management of all aspects of the project by an experienced and highly skilled project team of professionals and subject matter experts and that this team would take personal responsibility and accountability for all phases of the project's execution. NEET West listed seven major project steps with sub-steps. (P-7)

NEET West stated that its core team would be directed by NEET senior management and that reporting to NEET senior management would be the project director, who would provide a single point of accountability for day-to-day project activities, would oversee all project work stream, leads, and resources, and would be responsible for reporting project progress to senior management. NEET West indicated that the proposed project director has 30 years of electric utility experience in power system planning and transmission and substation design, engineering, and construction in progressive management roles at FPL and NEET. (P-8)

NEET West provided a risk and issues log that identifies 56 major risks and obstacles to successful project completion on schedule and within budget. The log shows the specific risk, category of risk, whether it affects cost or schedule, the probability of occurrence, the impact of the occurrence, whether it is a risk during development or construction, and planned or potential mitigation. (P-10)

NEET West indicated that it is applying to develop multiple projects under the ISO's competitive transmission process. NEET West stated that due to the extensive experience and capabilities of the NextEra companies at project execution, NEET West would be able to execute multiple projects in parallel. (P-10)

NEET West stated that it would use a two part cost containment approach for the project, based on NextEra's established approach and that it would eliminate project uncertainties as early in the project lifecycle as feasible and through project execution. (P-11)

NEET West specified that an agreement has been executed for control of the project site. (P-11)

NEET West stated that it is not proposing to use a turn-key EPC contract for the project. NEET West indicated that it would directly hire a design engineer to support early procurement and the development of a civil/electrical contractor bid package. NEET West indicated that it would competitively bid the civil/electrical construction scope of this project. NEET West stated that it would use several contracting concepts to manage contractor schedule and cost. (P-11)

NEET West indicated that it would be responsible for O&M of the project. (P-11)

NEET West stated that it would seek siting approval from the CPUC through a two-step [CPCN and PTC] application process. NEET West stated that it would submit an application to the CPUC seeking a generic CPCN. After submitting the generic CPCN application, NEET West indicated that it would submit a separate application for a PTC to construct and own the Estrella project. NEET West indicated that, pursuant to CPUC General Order No. 131-D and other CPUC orders, the PTC process would focus on environmental review of the Estrella project in compliance with CEQA and confirmation that the project would comply with California's electromagnetic field guidelines, but would not entail a cost analysis or the imposition of a cost cap by the CPUC. (P-13)

#### **3.12.4 Information Provided by PG&E**

PG&E provided a capital cost estimate that included contingencies and AFUDC. PG&E stated that the estimate represents the dollars required to site, permit, engineer, and construct the project using a feasible substation design and location. (P-2)

PG&E stated that it is not proposing a binding cost cap or binding cost containment measures as part of its proposal. (P-12)

PG&E indicated that it worked with a contractor in developing the cost estimate for its proposal. PG&E provided a detailed project scope used to develop the cost estimate, as well as numerous other assumptions (e.g., outages available when needed, work five days/week, ten-hour days, no weather delays, etc.). (P-3)

PG&E provided a detailed estimate of the anticipated average annual O&M cost to operate the project over its life presented in constant 2015 dollars. The O&M costs identified in PG&E's estimate include labor, facility, and equipment costs. PG&E indicated that it was relying on its existing O&M organization and infrastructure and that this would provide a key benefit to ratepayers. PG&E stated that other project sponsors likely would require additional costs to set up this infrastructure. (P-4)

PG&E also stated that operational costs are embedded in the O&M cost estimate and that approximately 15% of the annual planned maintenance costs are related to operations support. PG&E indicated that the estimate assumes a minimal amount of corrective maintenance activities for the first ten years of service, as all of the equipment installed would be new. (P-4)

PG&E provided a table summarizing the project schedule performance for nine projects. The table showed that five of the nine were completed in the last five years. Of the five

projects completed in the last five years the cost for one project was over the initial cost estimate. PG&E provided explanations for the cost overrun. (P-6)

PG&E stated that it utilizes the *PG&E Project Management Standard* on all capital projects. PG&E indicated that its approach to project management would be governed by the project execution plan and that the project manager would be the link among the various elements of permitting, engineering, rights-of-way, and legal departments that would be involved in this phase. (P-7)

PG&E provided a simplified diagram showing the project executive leadership and project delivery teams. PG&E indicated that the project manager would have overall responsibility for the project management functions and reporting, as well as oversight of the overall scope of work, as defined in the project organization chart. PG&E stated that the two key project positions are the project and environmental managers. PG&E provided resumes for personnel with the typical experience and knowledge required to manage a project of this size and complexity. PG&E identified a proposed project manager with more than 25 years of experience in the utility industry, of which ten-plus years have been exclusively in project management of major electric transmission, distribution, and substation construction projects (≥\$1 million). The proposed land and environmental manager PG&E identified has more than 20 years of experience in the field of environmental planning and land acquisition at PG&E. (P-8)

PG&E described a comprehensive risk management process that encompasses five main steps. PG&E included an overall risk registry table with 57 risks identified; the table included the cost and schedule impacts and the mitigation plan for each. PG&E singled out six medium or major risks to the cost and schedule for the project, along with high level-mitigation plans for these risks. (P-10)

PG&E specified that it does not have site control for the Estrella Substation project identified in its proposal but that it would begin negotiations to purchase the site once awarded the project. PG&E indicated that if it were unable to purchase the site, it would seek to condemn the land. (P-10)

PG&E indicated that it is bidding on the Estrella, Spring, and Wheeler Ridge Junction projects and that if PG&E were to be selected for two or more of those projects there would be no impact to its projected in-service date for the Estrella project. (P-10)

PG&E stated that it has a track record of delivering cost containment through successful completion of on-budget and on-time major substation projects. PG&E provided specific cost containment details for the project, such as the cost estimate, risk register, design elements, etc. (P-11)

PG&E indicated that it anticipates selecting an EPC contractor through a competitive process. PG&E indicated that it would include a number of provisions in its EPC contract as well as implement measures in its administration of the contract(s) to ensure the highest level of cost containment for the work. (P-11)

PG&E stated that it is a California public utility regulated by the CPUC. Before constructing an electric transmission project, PG&E indicated that it might be required by California Public Utilities Code Section 1001 or CPUC General Order No. 131-D to obtain a CPCN. PG&E indicated that it believes the project would require a PTC,

although certain components of the related interconnection facilities would likely require a CPCN. PG&E stated that California Public Utilities Code Section 2005.5 does not require the CPUC to set a maximum cost determined to be reasonable and prudent for electrical projects requiring a PTC. (P-13)

PG&E stated that it does not anticipate any specialized construction techniques would be required at the substation site. PG&E indicated that the project is similar in size and complexity to hundreds of projects that PG&E has executed. PG&E also stated that the site is relatively flat, requires minimum rights-of-way clearing and grading, has good construction and permanent access roads to facilitate construction, and has no known land use or environmental conditions that would be problematic. (P-3, E-10, C-7)

### **Authority to Impose Binding Cost Caps**

(Section 3 - General Project Information, QS-1, QS-4, P-2, P-6, P-7, P-8, P-10, P-11, P-12, P-13)

#### **3.12.5 Information Provided by Brookfield CalTrans**

Brookfield CalTrans stated that it is not proposing a binding cost cap for this project due to the remoteness of the start date. Brookfield CalTrans stated that it is very expensive to mitigate risk associated with binding contracts for performance so far out in the future. (P-12)

Brookfield CalTrans stated that it would seek siting approval for the project from the CPUC as the authorized government body. Brookfield CalTrans indicated that the CPUC, as part of the permitting process, would evaluate cost and set its expected range. However, Brookfield CalTrans indicated that because network transmission costs and rate recovery are ultimately determined by FERC in its exclusive jurisdiction under the Federal Power Act, the CPUC's authority is not binding in this respect. (P-13)

#### **3.12.6 Information Provided by Golden State**

Golden State did not propose an overall construction cost cap for this project. Golden State did propose three binding cost containment measures: (1) limiting lease costs to a specific amount if the property is not purchased, (2) no return on equity incentives, and (3) no more than 50% equity for its capitalization structure for rate recovery. (P-12)

Golden State specified that it would seek siting approval for the Estrella Substation project from the CPUC, either a CPCN or a PTC. Golden State indicated that the CPUC is authorized to review and approve either type of filing pursuant to Section 216 and Sections 1001 et seq. of the California Public Utilities Code and CPUC General Order No. 131-D. (P-13)

Golden State indicated that the CPUC has the authority to impose a cost cap on projects that require a CPCN and have an estimated cost that exceeds fifty million dollars. (P-13)

#### **3.12.7 Information Provided by NEET West**

NEET West provided a construction cost estimate and offered a binding construction cost cap slightly above that cost estimate, subject to adjustment prior to the completion

of construction to reflect any scope changes directed by the ISO, CPUC, or other governmental or regulatory body that impact project costs. NEET West indicated that such changes could include changes in design, location, schedule, or other changes in the scope that forms the basis of the binding cost cap proposal. (P-12)

NEET West stated that it would seek siting approval from the CPUC through a two-step [CPCN and PTC] application process. NEET West stated that it would submit an application to the CPUC seeking a generic CPCN. After submitting the generic CPCN application, NEET West indicated that it would submit a separate application for a PTC to construct and own the Estrella project. NEET West indicated that, pursuant to CPUC General Order No. 131-D and other CPUC orders, the PTC process would focus on environmental review of the Estrella project in compliance with CEQA and confirmation that the project would comply with California's electromagnetic field guidelines, but would not entail a cost analysis or the imposition of a cost cap by the CPUC. (P-13)

### **3.12.8 Information Provided by PG&E**

PG&E stated that it is not proposing a binding cost cap or binding cost containment measures as part of its proposal. (P-12)

PG&E stated that it is a California public utility regulated by the CPUC. Before constructing an electric transmission project, PG&E indicated that it might be required by California Public Utilities Code Section 1001 or CPUC General Order No. 131-D to obtain a CPCN. PG&E indicated that it believes that the project would require a PTC, although certain components of the related interconnection facilities would likely require a CPCN. PG&E stated that California Public Utilities Code Section 2005.5 does not require the CPUC to set a maximum cost determined to be reasonable and prudent for electrical projects requiring a PTC. (P-13)

### **3.12.9 ISO Comparative Analysis**

## **Comparative Analysis of Cost Containment Capability Including Cost Cap Agreement**

For purposes of the comparative analysis for this component of the factor, the ISO's analysis has considered the expected effectiveness of the project sponsors' overall cost containment capabilities, including but not limited to experience of cost containment performance on previous projects, project management and scheduling organizations and capabilities, experience of key individuals, the project risks and mitigation that each project sponsor identified, factors impacting cost, and proposed cost containment plans.

The project sponsors provided different cost estimates for capital construction costs. The ISO has not identified any significant site-related risks, physical project features, or special construction techniques that would inherently or materially increase the costs of a particular project sponsor's project or pose a distinct cost escalation risk.

Only NEET West has committed to a binding construction cost cap for this project, subject to adjustments to the cap for directed changes in scope. NEET West has offered its proposed cost cap at a slight premium above its cost estimate, including contingency, to cover its evaluation of the risk for the project. Brookfield CalTrans and PG&E have not offered a cost cap. Golden State has offered to cap its lease costs, but

it has not offered an overall cost cap. The ISO considers NEET West's overall cost cap to be a superior cost containment measure to Golden State's cap on lease costs. Also, as discussed in Section 3.4, the ISO does not consider Golden State's proposal to lease the substation property to provide a demonstrable advantage over other proposals because of the uncertainty associated with a lease when compared to ownership of the property.

With respect to O&M costs, NEET West agreed to cap its O&M costs for a five-year period. PG&E, Brookfield CalTrans, and Golden State did not offer to cap O&M costs, but PG&E indicated that it will be relying on its existing O&M organization and infrastructure for purposes of O&M at the Estrella Substation. NEET West, Golden State, and Brookfield CalTrans will be relying on new organization/infrastructure and/or outside services to perform O&M functions. Golden State indicated that its O&M estimate is based on public cost data filed with the CPUC in support of SCE's 2015 general rate case filing. Brookfield CalTrans' O&M cost estimate is based on its expected maintenance service agreement with its identified contractor. Under these circumstances, NEET West's, Golden State's, and Brookfield CalTrans' O&M costs are expected to be higher than PG&E's.

Golden State committed that it would not seek return on equity incentives for the project other than FERC's customary 50 basis point adder for membership in the ISO.

In terms of completing past projects within the project budget, all four project sponsors and their teams have demonstrated a reasonable degree of success in meeting budgets. Brookfield CalTrans, Golden State, and NEET West reference parent or affiliate companies' past projects in presenting their credentials in completing past work.

All four project sponsors have provided a thorough review of potential risks and mitigation actions they would consider.

All four project sponsors have provided a reasonable approach to professional project management with experienced personnel identified as project managers.

The project sponsors have different approaches to using EPC contracts for the project. Brookfield CalTrans and PG&E will use EPC contractors for the project, while Golden State and NEET West will use a combination of internal resources and external contractors to complete the project. All four project sponsors have identified contract provisions to manage costs with their contractors.

Based on the foregoing considerations, the ISO has determined that NEET West's proposal is better than the proposals of the other three project sponsors with regard to this component of the factor as the result of its cost cap and that PG&E's and Golden State's proposals are better than Brookfield CalTrans' proposal with regard to this component of the factor because they demonstrate better cost containment.

## **Comparative Analysis of the Authority to Impose Binding Cost Caps**

Because NEET West has proposed a binding cost cap, in accordance with the provisions of this component of the factor, the ISO has not considered this component of the factor in the comparative analysis process.

## Overall Comparative Analysis

The ISO considers the first component of this factor (cost containment and cost cap) more important than the second (siting authority imposing a cost cap). And for this project, given that there was at least one cost cap offered, the first component is the only basis for the comparative analysis of this factor. On this basis, the ISO has determined that NEET West's proposal is better than the other three proposals with regard to this factor and that PG&E's and Golden State's proposals are better than Brookfield CalTrans' proposal with regard to this factor.

### 3.13 Selection Factor 24.5.4(k): Additional Strengths or Advantages

(Section 3 - General Project Information, QS-1, QS-4, E-1, E-10, C-7, M-1)

The eleventh selection factor is “any other strengths and advantages the Project Sponsor and its team may have to build and own the specific transmission solution, as well as any specific efficiencies or benefits demonstrated in their proposal.”

#### 3.13.1 Information Provided by Brookfield CalTrans

Brookfield CalTrans indicated that its preferred site is located south of Union Road and east of the Morro Bay-Gates 230 kV transmission line. (E-10)

Brookfield CalTrans indicated that Brookfield has a large presence in California, including experience with the Tehachapi Windfarm expansion project. Brookfield Caltrans stated that it can provide diversification and access to new sources of capital. (M-1)

#### 3.13.2 Information Provided by Golden State

Golden State indicated that it has acquired a lease option, from a private party, for approximately 20 acres north of Estrella Road and east of the Morro Bay-Gates 230 kV transmission line where its proposed substation would be located. (E-10)

#### 3.13.3 Information Provided by NEET West

NEET West indicated that it has acquired a purchase option, from a private party, for approximately 6.1 acres of land on Union Road southeast of the Morro Bay-Gates 230 kV transmission line for its proposed substation. (E-1, E-10)

NEET West indicated that it would draw on the extensive and long-standing local presence of the NextEra companies in California. (M-1)

#### 3.13.4 Information Provided by PG&E

PG&E indicated that it plans to purchase approximately 5.2 acres near Branch and Mill Roads east of the Morro Bay-Gates 230 kV transmission line for the proposed substation. (E-10)



PG&E stated that a single PG&E team constructing both the competitive and non-competitive portions of the project in a seamless unified fashion would provide greater efficiency, ensure a coordinated project delivery schedule and lower costs, and maximize the overall benefits and cost effectiveness of the project, while minimizing future operational and reliability risks. For example, PG&E stated that it could pursue a single application for both projects, provide joint oversight on both projects, use a single EPC contractor and construction management team, and use the same personnel on both projects. (M-1)

### **3.13.5 ISO Comparative Analysis**

For purposes of the comparative analysis for this factor, the ISO has reviewed the proposals of the four project sponsors to determine if there are other advantages the project sponsor or its team have for building the project that were not addressed in other parts of the selection process.

This project involves interconnection of the proposed substation to the electric system of the participating transmission owner (PTO) (in this case, PG&E). Specifically, the substations must connect to the 70 kV and 230 kV lines. However, the ISO Functional Specification specifies that these interconnection facilities will be constructed by the PTO and are not within the scope of the project for which the ISO is soliciting competitive proposals. Consequently, the proposals of the project sponsors do not include proposals for or cost estimates for these interconnection facilities. However, the cost of interconnecting the Estrella Substation from the sites identified by the project sponsors necessarily is an element of the overall cost of the project to ISO ratepayers. Consequently, the ISO has undertaken a comparative analysis of the relative advantages and benefits of interconnecting the project from each of the sites identified in the proposals of the project sponsors.

In conducting its analysis, the ISO has applied estimates of the costs associated with the PTO's construction of the interconnection facilities from the sites identified by each of the three project sponsors. The ISO estimates are based on common per-unit cost factors for transmission lines, and the ISO has applied them to its determination of a best-fit transmission line routing for each project.

NEET West's proposed site is the closest to the points of interconnection with two existing PG&E lines, followed by the sites proposed by Brookfield CalTrans, PG&E, and then Golden State, in that order. Accordingly, the ISO has determined that the estimated costs of interconnection from NEET West's proposed site are lower than the costs for interconnection from the proposed sites of the other three project sponsors, followed in order by the estimated costs of interconnection from Brookfield CalTrans', PG&E's, and Golden State's proposed sites. The ISO has not identified any specific, significant, or risk-increasing aspects associated with the project sponsors' sites or their anticipated interconnection facilities that would offset the relative advantages in estimated interconnection costs.

Based on NEET West's lower interconnection costs, the ISO has determined that NEET West's proposal is better than the proposals of the other three project sponsors with regard to this factor. The ISO considers Brookfield CalTrans' lower interconnection costs as outweighing PG&E's potential advantage/benefit with regard to coordinated project efficiencies. Golden State has significantly higher interconnection costs than the

other three project sponsors, particularly because of the greater distance from its substation site to the tie point with the 70 kV line.

### **3.14 Selection Factor 24.5.4(a): Capability to Finance, License, Construct, Operate, and Maintain the Facility**

In this section the ISO provides the comparative analysis of this selection factor, as discussed in Section 3.3 of this report. This selection factor is a comparative analysis of “the current and expected capabilities of the Project Sponsor and its team to finance, license, and construct the facility and operate and maintain it for the life of the solution.” As noted in Section 3.3, this factor encompasses a number of the more specific selection factors discussed in this report.

What follows is an overall comparative analysis for this factor based upon the discussion of the other factors or factor components encompassed by this factor. As stated in Section 3.3, the ISO will not repeat all of the information provided by the project sponsors for these more specific selection factors and the comparative analysis for each.

In addition to the general project information provided in the project sponsors’ proposals, the other selection factors (or components of a factor) considered in the comparative analysis for this factor are as follows:

- 24.5.4(e): the financial resources of the project sponsor and its team;
- 24.5.4(f): the technical (environmental permitting) qualifications and experience of the project sponsor and its team (component of 24.5.4 (f));
- 24.5.4(g): the previous record regarding construction and maintenance of transmission facilities, including facilities outside the ISO controlled grid, of the project sponsor and its team; and
- 24.5.4(h): demonstrated capability to adhere to standardized construction, maintenance, and operating practices.

#### **3.14.1 ISO Comparative Analysis**

The ISO’s comparative analysis has considered the results of the analysis of the four factors or factor components listed above. The ISO has determined that PG&E’s proposal is slightly better than NEET West’s proposal with regard to this factor because, as discussed regarding each of the relevant individual selection factors, there is no material difference between the two project sponsors and their proposals with regard to three of the four selection factors or factor components listed and PG&E’s proposal is slightly better than NEET West’s proposal with regard to the fourth factor (demonstrated capability to adhere to standardized construction, maintenance, and operating practices). The ISO has determined that NEET West’s proposal is slightly better than Golden State’s proposal with regard to this factor because there is no material difference between the two project sponsors and their proposals with regard to three of the four selection factors or factor components listed and NEET West’s proposal is slightly better with regard to the fourth (demonstrated capability to adhere to standardized construction, maintenance, and operating practices). The ISO has determined that Golden State’s proposal is slightly better than Brookfield CalTrans’ proposal because there is no material difference between the two project sponsors and their proposals with regard to one of the factors listed (financial resources) and Golden State’s proposal is

better than Brookfield CalTrans' proposal with regard to two of the factors or factor components listed (technical (environmental permitting) experience and construction and maintenance record), while Brookfield CalTrans' proposal is only slightly better than Golden State's proposal with regard to the fourth selection factor listed (capability to adhere to standardized construction, maintenance, and operating practices).

### **3.15 Qualification Criterion 24.5.3.1(a): Manpower, Equipment, and Knowledge to Design, Construct, Operate, and Maintain the Project**

The first qualification criterion is: "Whether the Project Sponsor has demonstrated that it has assembled, or has a plan to assemble, a sufficiently-sized team with the manpower, equipment, knowledge and skill required to undertake the design, construction, operation and maintenance of the transmission solution."

The first qualification criterion is a broad criterion that encompasses three specific selection factors that are discussed in other sections of this report. The ISO will not repeat here the information provided by the project sponsors for these more specific selection factors or the comparative analysis for each. What follows is an overall comparative analysis for this criterion based upon the comparative analyses for the selection factors encompassed by this criterion.

#### **3.15.1 ISO Comparative Analysis**

The ISO previously determined and posted notice on its website that all four project sponsors submitted proposals that meet the minimum requirements to qualify for evaluation in the selection process. Pursuant to ISO Tariff Section 24.5.4, the ISO has further reviewed the proposals with regard to the project sponsor qualification criteria in its comparative analysis for purposes of selection of the approved project sponsor.

This qualification criterion considers a number of factors addressed by the selection factors previously discussed. For this reason, the ISO bases its comparative analysis for this criterion on the results of the comparative analysis for the selection factors addressed above. The selection factors considered in the comparative analysis for this criterion are as follows:

- 24.5.4(f): the technical [environmental permitting] and engineering qualifications and experience of the project sponsor and its team;
- 24.5.4(g): the previous record regarding construction and maintenance of transmission facilities, including facilities outside the ISO controlled grid, of the project sponsor and its team; and
- 24.5.4(h): demonstrated capability to adhere to standardized construction, maintenance, and operating practices, of the project sponsor and its team.

The ISO's comparative analysis has considered the results of the analysis of the three selection factors listed above. Based on a detailed review of the proposals of the project sponsors with respect to these factors, the ISO has determined that PG&E's proposal is slightly better than NEET West's proposal with regard to this criterion because, as discussed regarding each of the relevant individual selection factors, its proposal is slightly better than NEET West's proposal with regard to its capability to adhere to

standardized construction, maintenance, and operating practices and there is no material difference between the two project sponsors and their proposals with regard to the other two selection factors listed above.

The ISO has determined that the proposals of NEET West and PG&E are both slightly better than Golden State's proposal with regard to this criterion because, as discussed regarding each of the relevant individual selection factors, their proposals are slightly better than Golden State's proposal with regard to their capability to adhere to standardized construction, maintenance, and operating practices and there is no material difference among the three project sponsors and their proposals with regard to the other two selection factors listed above.

The ISO has determined that the proposals of Golden State, NEET West, and PG&E are slightly better than Brookfield CalTrans' proposal with regard to this criterion because, as discussed regarding each of the relevant individual selection factors, their proposals are all slightly better than Brookfield CalTrans' proposal with regard to the first two selection factors listed (technical [environmental permitting] and engineering qualifications and experience and the previous record regarding construction and maintenance of transmission facilities), and Brookfield CalTrans' proposal is only slightly better than Golden State's proposal with regard to the third selection factor listed (capability to adhere to standardized construction, maintenance, and operating practices).

### **3.16 Qualification Criterion 24.5.3.1(b): Financial Resources**

The second qualification criterion is: "Whether the Project Sponsor and its team have demonstrated that they have sufficient financial resources, by providing information including, but not limited to, satisfactory credit ratings, audited financial statements, or other financial indicators."

#### **3.16.1 ISO Comparative Analysis**

The ISO previously determined and posted notice on its website that all four project sponsors submitted proposals that meet the minimum requirements to qualify for evaluation in the selection process. Pursuant to ISO Tariff Section 24.5.4, the ISO has further reviewed the proposals with regard to the project sponsor qualification criteria in its comparative analysis for purposes of selection of the approved project sponsor.

This qualification criterion essentially duplicates the factors addressed by selection factor 24.5.4(e) (the financial resources of the project sponsor and its team) discussed above. For this reason, the ISO bases its comparative analysis for this criterion on the results of the comparative analysis for the selection factor above. As discussed above with regard to selection factor 24.5.4(e), the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this criterion.

### **3.17 Qualification Criterion 24.5.3.1(c): Ability to Assume Liability for Losses**

The third qualification criterion is: "Whether the Project Sponsor and its team have demonstrated the ability to assume liability for major losses resulting from failure of any part of the facilities associated with the transmission solution by providing information

such as letters of credit, letters of interest from financial institutions regarding financial commitment to support the Project Sponsor, insurance policies or the ability to obtain insurance to cover such losses, the use of account set asides or accumulated funds, the revenues earned from the transmission solution, sufficient credit ratings, contingency financing, or other evidence showing sufficient financial ability to cover these losses in the normal course of business.”

### **3.17.1 ISO Comparative Analysis**

The ISO previously determined and posted notice on its website that all four project sponsors submitted proposals that meet the minimum requirements to qualify for evaluation in the selection process. Pursuant to ISO Tariff Section 24.5.4, the ISO has further reviewed the proposals with regard to the project sponsor qualification criteria in its comparative analysis for purposes of selection of the approved project sponsor.

This qualification criterion essentially duplicates the factors addressed by selection factor 24.5.4(i) (demonstrated ability to assume liability for major losses resulting from failure of facilities of the project sponsor) discussed above. For this reason, the ISO bases its comparative analysis for this criterion on the results of the comparative analysis for the selection factor above. As discussed above with regard to selection factor 24.5.4(i), the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this factor.

## **3.18 Qualification Criterion 24.5.3.1(d): Proposed Schedule and Ability to Meet Schedule**

The fourth qualification criterion is: “Whether the Project Sponsor has (1) proposed a schedule for development and completion of the transmission solution consistent with need date identified by the CAISO; and (2) has the ability to meet that schedule.”

### **3.18.1 ISO Comparative Analysis**

The ISO previously determined and posted notice on its website that all four project sponsors submitted proposals that meet the minimum requirements to qualify for evaluation in the selection process. Pursuant to ISO Tariff Section 24.5.4, the ISO has further reviewed the proposals with regard to the project sponsor qualification criteria in its comparative analysis for purposes of selection of the approved project sponsor.

This qualification criterion essentially duplicates the factors addressed by selection factor 24.5.4(d) (the proposed schedule for development and completion of the transmission solution and demonstrated ability to meet that schedule of the project sponsor and its team) discussed above. For this reason, the ISO bases its comparative analysis for this criterion on the results of the comparative analysis for the selection factor above. As discussed above with regard to selection factor 24.5.4(d), the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this criterion.

### **3.19 Qualification Criterion 24.5.3.1(e): Technical and Engineering Qualifications and Experience**

The fifth qualification criterion is: “Whether the Project Sponsor and its team have the necessary technical and engineering qualifications and experience to undertake the design, construction, operation and maintenance of the transmission solution.”

#### **3.19.1 ISO Comparative Analysis**

The ISO previously determined and posted notice on its website that all four project sponsors submitted proposals that meet the minimum requirements to qualify for evaluation in the selection process. Pursuant to ISO Tariff Section 24.5.4, the ISO has further reviewed the proposals with regard to the project sponsor qualification criteria in its comparative analysis for purposes of selection of the approved project sponsor.

This qualification criterion essentially duplicates the factors that are addressed by qualification criterion 24.5.3.1(a) and, by extension, selection factors 24.5.4(f), (g), and (h) discussed above. For this reason, the ISO bases its comparative analysis for this criterion on the results of the comparative analysis for the qualification criterion above. As discussed above with regard to qualification criterion 24.5.3.1(a), the ISO has determined that PG&E’s proposal is slightly better than NEET West’s proposal, which is slightly better than Golden State’s proposal, which is in turn slightly better than Brookfield Caltrans’ proposal, with regard to this criterion.

### **3.20 Qualification Criterion 24.5.3.1(f): Commitment to Enter Into TCA and Adhere to Applicable Reliability Criteria**

The sixth qualification criterion is: “Whether the Project Sponsor makes a commitment to become a Participating TO for the purpose of turning the Regional Transmission Facility that the Project Sponsor is selected to construct and own as a result of the competitive solicitation process over to the ISO’s Operational Control , to enter into the Transmission Control Agreement with respect to the transmission solution, to adhere to all Applicable Reliability Criteria and to comply with NERC registration requirements and NERC and WECC standards, where applicable.”

#### **3.20.1 Information Provided by Brookfield CalTrans**

Brookfield CalTrans stated that it commits to become a PTO, to turn the project over to the ISO’s operational control, to enter into the TCA, to adhere to all applicable reliability criteria, and to comply with NERC registration requirements and NERC and WECC standards, where applicable. (QS-5)

#### **3.20.2 Information Provided by Golden State**

Golden State stated that it commits to become a PTO for the purpose of turning the project over to the ISO’s operational control by entering into the TCA in accordance with Section 2.2 of that agreement and by complying with all of the requirements of the TCA with respect to the project. Golden State stated that it commits to adhere to all

applicable reliability criteria with respect to the project and to comply with NERC registration requirements and NERC and WECC standards, where applicable. (QS-5)

### **3.20.3 Information Provided by NEET West**

NEET West stated that if selected as the project sponsor, it would become a PTO and would construct and own the project and turn over the project to the ISO's operational control, enter into the TCA with respect to the project as applicable, and adhere to all applicable reliability criteria and comply with NERC registration requirements and NERC and WECC standards, where applicable. (QS-5)

### **3.20.4 Information Provided by PG&E**

PG&E stated that it would turn operational control of the project over to the ISO consistent with PG&E's existing PTO status with existing TCA and Reliability Standards Agreements in place. PG&E stated that it would adhere to all applicable reliability criteria and comply with NERC registration requirements and NERC and WECC standards, where applicable. (QS-5)

### **3.20.5 ISO Comparative Analysis**

The ISO previously determined and posted notice on its website that all four project sponsors submitted proposals that meet the minimum requirements to qualify for evaluation in the selection process. Pursuant to ISO Tariff Section 24.5.4, the ISO has further reviewed the proposals with regard to the project sponsor qualification criteria in its comparative analysis for purposes of selection of the approved project sponsor.

All four project sponsors have committed to becoming a PTO, turning over control of the project to the ISO, abiding by the terms of the TCA, and adhering to all applicable reliability criteria. Consequently, the ISO has determined that there is no material difference among the proposals of the four project sponsors with regard to this criterion.

## **3.21 ISO Overall Comparative Analysis for Approved Project Sponsor Selection**

Under ISO Tariff Section 24.5.4, the ISO conducts a comparative analysis to select an approved project sponsor. In accordance with Section 24.5.4, the purpose of the comparative analysis is to take into account all transmission solutions being proposed by competing project sponsors and to select a qualified project sponsor that is best able to design, finance, license, construct, maintain, and operate the particular transmission facility in a cost-effective, efficient, prudent, reliable, and capable manner over the lifetime of the facility, while maximizing the overall benefits and minimizing the risk of untimely project completion, project abandonment, and future reliability, operational, and other relevant problems, consistent with good utility practice, applicable reliability criteria, and ISO documents. In conducting the comparative analysis, the ISO applies the qualification criteria described in ISO Tariff Section 24.5.3.1 and the selection factors specified in Section 24.5.4.

Brookfield CalTrans, Golden State, NEET West, and PG&E all submitted strong, well-prepared proposals to develop the Estrella Substation project. As described above, the

ISO has performed a comparative analysis of the proposals of the four project sponsors with regard to each of the applicable tariff selection factors and qualification criteria. There were either no material differences or only slight differences among the project sponsors and their proposals with respect to most of the selection factors and qualification criteria. Based on the ISO's review of the proposals and a comparative analysis with regard to all of the selection factors and qualification criteria, the ISO has determined that NEET West's proposal is better than the proposals of Brookfield CalTrans, Golden State, and PG&E.

The ISO has determined that, given the specific nature of this project and taking into account the key selection factors, the overall edge goes to NEET West primarily because (1) NEET West proposed a reasonable binding cost cap, and (2) NEET West's interconnection costs are materially lower than the interconnection costs of the other project sponsors. NEET West's site and physical project do not present any inherent material cost disadvantages or distinct risks. NEET West's proposal is comparable to or slightly better than the proposals of Brookfield CalTrans and Golden State with regard to all selection factors and qualification criteria discussed above. Although the ISO has determined that PG&E's proposal is slightly better than NEET West's proposal with regard to two selection factors and two qualification criteria, this results from a single PG&E advantage -- having a more local O&M organization, an advantage with respect to response time for field operations and emergency situations, and spare equipment compared to the other project sponsors. This advantage for PG&E does not outweigh NEET West's cost cap and material interconnection cost advantages for the Estrella Substation project. NEET West and its team are well qualified, experienced, and financed to capably, cost effectively, and reliably license, finance, construct, operate, and maintain this particular project. The ISO has determined that, based on the demonstrations in the project sponsors' proposals, NEET West's proposal demonstrates that it is best positioned to meet the comparative analysis standard set forth in ISO Tariff Section 24.5.4 for the Estrella Substation project.



Attachment 1

Competitive Solicitation Transmission Project Sponsor Application

## Transmission Project Sponsor Proposal – Application

### Contents

<a href="#">1</a>	<a href="#">Introduction</a> .....	2
<a href="#">2</a>	<a href="#">General Instructions</a> .....	3
<a href="#">3</a>	<a href="#">Project Sponsor, Name and Qualifications</a> .....	5
<a href="#">4</a>	<a href="#">Past Projects, Project Management and Cost Containment</a> .....	8
<a href="#">5</a>	<a href="#">Financial</a> .....	13
<a href="#">6</a>	<a href="#">Environment and Public Processes</a> .....	18
<a href="#">7</a>	<a href="#">Substation</a> .....	25
<a href="#">8</a>	<a href="#">Transmission Line</a> .....	29
<a href="#">9</a>	<a href="#">Construction</a> .....	35
<a href="#">10</a>	<a href="#">Operation and Maintenance</a> .....	36
<a href="#">11</a>	<a href="#">Miscellaneous:</a> .....	40
<a href="#">12</a>	<a href="#">Officer Certification</a> .....	41
<a href="#">13</a>	<a href="#">Payment Instructions</a> .....	42

## Introduction

In accordance with ISO Tariff section 24.5 (Transmission Planning Process Phase 3), the ISO will initiate a period of at least two (2) months that will provide an opportunity for project sponsors to submit specific transmission project proposals to finance, construct, own, operate, and maintain certain transmission elements identified in the ISO's comprehensive transmission plan, or those approved by ISO management in advance of the issuance of the transmission plan if the capital cost of the project is less than or equal to \$50 million. Such project proposals must include plan of service details and supporting information as set forth in the Business Practice Manual for the Transmission Planning Process (BPM-TPP) sufficient to enable the ISO to determine whether the proposal meets the criteria specified in ISO Tariff sections 24.5.3 and 24.5.4. This application describes the details that must be provided regarding project sponsor proposals.

Projects included in this process will become part of the ISO controlled grid, and approved project sponsors will become Participating Transmission Owners (PTO) and will sign the Transmission Control Agreement (TCA) and a Reliability Standards Agreement (RSA). The ISO also anticipates that the project sponsor or its contracted representative(s) will be registered with the North American Electric Reliability Corporation (NERC) in the NERC categories of Transmission Owner and other functions as applicable.

## General Instructions

The information to be included in this application will be used by the ISO to determine if the proposal meets the qualification criteria set forth in ISO Tariff section 24.5.3 and, if so, to compare each project sponsor and its proposal with other project sponsors and proposals for the same approved transmission element pursuant to ISO Tariff section 24.5.4. To facilitate this assessment and comparison, project sponsors should provide information that reflects a thorough understanding of the requirements, processes, and activities needed to accomplish project completion and continuing operation and maintenance.

This application is separated into specific sections. Each section specifies information to be provided and is assigned a unique identifier for each item of information required, for example, QS-1 for Sponsor Qualifications, QP-1 for Project Qualification, E – 1 for Environmental and Public Process items, S-1 for Substation related items, and so on. Project sponsors must provide responses to each of the items in the space provided after the specification of the information required and clearly note in the response the unique item identifier in each part of the response. If a project sponsor provides attachments as part of the response, the project sponsor should specify the file name of the attachment in the space provided for the response. In addition, the project sponsor should name the attached files using the following naming convention – the file name should include the unique identifier for the application item that the information responds to (e.g., E-1.a) and a description of the contents (e.g., E-1.a Resumes of Key Individuals). All responses must be in readable electronic format and include the name of the project sponsor and description of the project. In addition, the application should include a table or index in Microsoft Word format that contains a list of documents provided. The table or index must include the file name, contents, and a description of the application section(s) and items that it responds to. The project sponsor must provide a copy of the application in Word format. The project sponsor must provide all responses and attached material in English or the ISO may disregard the information submitted.

If supporting documentation is provided to supplement specific responses to application items, the project sponsor must include a specific reference to the item number and to the page numbers and paragraphs of the supporting documentation that are responsive to the application item, along with a brief explanation of how the referenced material is responsive. If the project sponsor believes that any item of the application is not applicable to its project proposal, it may indicate “N/A” but should provide a brief reason why it believes it is not applicable.

If the project sponsor proposes to contract with others to perform duties related to the proposed project, the project sponsor’s responses to the items in the application must reflect the roles, responsibilities, processes, and procedures to be used by the organization that will perform those duties, and the management controls that will be used by the project sponsor to assure that the work is done in accordance with applicable agreements, contracts, regulatory, and reliability requirements.

For each item in the application, if the project sponsor is proposing to finance, construct, own, operate, and maintain multiple transmission elements, the project sponsor should also indicate how its response

would change depending on how many of its proposals are approved by the ISO. For example, the project sponsor should describe how the projected in-service date of a project would be affected if two or more of the project sponsor's proposals are approved.

Note that at end of the application there is an officer certification form that must be signed by an officer of the authorized representative for the application to be considered complete.

To the extent a project sponsor considers any of the information submitted with its application to be confidential or proprietary, the project sponsor must clearly identify the confidential or proprietary information and must include an explanation as to why the information should be handled by the ISO as confidential. The ISO will not treat the identity of a project sponsor and basic information about the project sponsor's proposed project as confidential information.

Project sponsors should note that the maximum size of an e-mail submitted to the ISO should not exceed 5 MB or the ISO's e-mail system may not be able to process it. An application that includes files or attachments larger than 5 MB must be compressed to files of a size less than 5 MB. Project sponsors may also submit their information via CD or DVD medium. If this option is selected, please provide 3 complete sets of CDs or DVDs.

If a project sponsor wishes to apply for more than one project eligible for the ISO's transmission procurement process, the project sponsor must submit a separate application for each project.

A project sponsor may submit questions to the ISO for clarification regarding any particular transmission procurement proposal. The ISO will attempt to answer these questions in a timely manner. The answers will be made available in a table that will be posted to the ISO website on the "Transmission Planning" page. Note that the identity of the project sponsor posing the question will not be included in the table. In general, the ISO will update this table on a weekly basis or as needed.

Please note that there are several tables in the application for use in providing responses. Project sponsors may add rows to the tables if the number of entries exceeds the number of rows initially provided in the tables.

The ISO requires a deposit of \$75,000 for each submitted application. The ISO will not consider applications if the project sponsor fails to include the deposit. Payment instructions and a project sponsor deposit form can be found in Section 13 of this application.

## Project Sponsor, Name and Qualifications

Project Sponsor Name:

*Response: (Enter Project Sponsor Company Name)*

Project Description:

*Response: (Enter Project Description)*

Submittal Date:

*Response: (Enter Submittal Date)*

Describe the legal and financial structure of the project sponsor and its team, including type of corporation if a corporation, or type of entity if it is a special purpose entity (e.g. project financed LLC) created explicitly for the proposed project. Describe the legal and financial relationship of the entity listed as the project sponsor to all other entities that are referred to in the application to include but not limited to all parent or holding company organizational entities, equity investors and any entity that will finance or otherwise financially support or provide guarantees for part or all of the project if different from the project sponsor. This description should include but not be limited to the following information:

- Which entity or entities will own the assets of the project (whether through a special purpose entity or as part of a portfolio of assets or other mechanism) during the construction period and during the operating period.
- Which entity will service the debt associated with the design, procurement, construction and placing the project in service and the debt carried after commercial operation
- The entity (or planned entity) that will have the responsibility for carrying out the siting, permitting, engineering, procurement, construction and placing the project into operation; also describe if this is to be accomplished through a turn-key EPC contract or some other manner and the type of relationship to be used (e.g. fixed price contract, etc.)
- The entity (or planned entity) that will be responsible for the operation of the project; also describe the mechanism to be used for carrying out this responsibility (e.g. in-house staff, subsidiary, outsourced to a separate O&M company, etc.)

*Response:*

**Project Sponsor and Project Qualifications:**

The ISO will review each project sponsor's proposal to assess the qualifications of the project sponsor and its project proposal based on the qualification criteria set forth in ISO Tariff section 24.5.3. The ISO will evaluate the information submitted by each project sponsor in response to the application items pertaining to sections 24.5.3.1(a)-(e) to determine whether the project sponsor has demonstrated that its team is physically, technically, and financially capable of (i) completing the needed transmission solution in a timely and competent manner and (ii) operating and maintaining the transmission solution in a manner that is consistent with good utility practice and applicable reliability criteria for the life of the project. The ISO will determine whether the transmission solution proposed by a project sponsor is qualified for consideration, based on the qualification criteria contained in ISO Tariff sections 24.5.3.2(a) and (b).

**Project Sponsor Qualification**

The project sponsor must demonstrate that it meets the project sponsor qualification criteria for the needed transmission element by providing responses to the following five items (QS-1, QS-2, QS-3, QS-4, QS-5) that relate to the qualification of the project sponsor. Note that when providing these responses, the project sponsor may refer to information that has been provided in other sections of this application for additional information and support. However, the following five responses should provide a complete demonstration of qualification – either through the responses directly or by including references in the responses to material provided in responses to other items in this application.

Describe and demonstrate how:

- QS-1. The project sponsor has assembled a sufficiently-sized team (or planned team) with the manpower, equipment, knowledge, and skill required to undertake the design, construction, operation, and maintenance of the transmission solution.

*Response:*

- QS-2. The project sponsor and its team (or planned team) will have sufficient financial resources; for example, satisfactory credit ratings and other financial indicators as well as the demonstrated ability to assume liability for major losses resulting from failure of any part of the facilities associated with the transmission solution.

*Response:*

- QS-3. The project sponsor (1) has a proposed schedule for development and completion of the transmission solution consistent with needed in service date identified by the ISO and (2) has the ability to meet that schedule.

*Response:*

- QS-4. The project sponsor and its team (or planned team) have the necessary technical and engineering qualifications and experience to undertake the design, construction, operation and maintenance of the transmission solution.

*Response:*

- QS-5. The project sponsor is making a commitment to become a Participating Transmission Owner for the purpose of turning the transmission element that the project sponsor is selected to construct and own as a result of the competitive solicitation process over to the ISO's operational control, to enter into the Transmission Control Agreement with respect to the transmission element, to adhere to all applicable reliability criteria and to comply with NERC registration requirements and NERC and Western Electricity Coordinating Council (WECC) standards, where applicable.

*Response:*

### **Proposal Qualification**

Please demonstrate that the proposed project meets the proposal qualification criteria for the needed transmission element by providing responses to the following two items (QP-1, QP-2) that relate to the qualification of the proposed project. Note: when providing these responses, the applicant may refer to information that has been provided in other sections of this application for additional information and support. However, the following two responses should provide a complete demonstration or qualification – either through the two responses directly or by including references in the two responses to material provided in responses to other items in this application.

Describe and demonstrate how:

- QP-1. The proposed design of the transmission solution is consistent with needs identified in the comprehensive ISO transmission plan.

*Response:*

- QP-2. The proposed design of the transmission solution satisfies applicable reliability criteria and ISO planning standards.

*Response:*



## Past Projects, Project Management and Cost Containment

### Project Sponsor's Past Project Information

- P - 1. Provide a list of all transmission lines (if this proposed project includes one or more transmission lines) and substations wherever located, (if this proposed project includes one or more substations) which the Project Sponsor or the Project Sponsor's team or planned team has constructed, financed, owned, operated and/or maintained within the last five years. Segregate the transmission line projects from the substation projects. For each project include the following in the table provided below:
- 1) For transmission line projects, provide a description of the line including type of construction (underground, overhead, steel pole, etc.). For substation projects include the number of breakers by voltage and the bus arrangement (BAAH, DBDB, etc.).
  - 2) location (country, state, city),
  - 3) voltage level(s),
  - 4) length,
  - 5) nominal rating of transmission line or total MVA of substation transformers,
  - 6) capital cost,
  - 7) year placed in service, and
  - 8) whether the sponsor was responsible for each of the following for the projects listed - financing (F), designing (D), siting (S), constructing (C), operating (O) and maintaining (M) the line or substation. List all areas that apply. For example if the Project sponsor had responsibility for only Construction, Operation and Maintenance on a project, then a C, O, M would be entered in that cell in the table.

## P-1 Responses - List of Past Projects

P-1 Transmission Line Projects							
(1)Project Description	(2)Location (Country, City(ies))	(3)Voltage Level(s)	(4)Length (4) (Miles)	(5)Nominal Rating (MVA)	(6)Capital Cost (Million USD)	(7)Date Placed in Service(7)	(8)Sponsor and Team Responsibility (F, D, S, C, O, M)
P-1 Substation Projects							
(1)Project Description	(2)Location (Country, City(ies))	(3)Voltage Level(s)	(4)Length (Miles)	(5)Nominal Rating of All Transformers (MVA)	(6)Capital Cost (Million USD)	(7)Date Placed in Service	(8)Sponsor and Team Responsibility (F, D, S, C, O, M)

### Project Cost Related

- P - 2. Provide a capital cost estimate presented as a buildup of costs by category, such as environmental, engineering, civil works, materials, equipment, construction, construction management, physical and price contingencies, allowance for funds used during construction (AFUDC), and all other categories for which the proposing Project Sponsor plans to seek FERC approval to recover. The above categories are illustrative; the Project Sponsor should aggregate costs into the categories most relevant to its development of the proposed project. For projects with transmission and substation components, the costs for each component should be clearly separated). All costs should be in constant 2015 dollars.

*Response:*

- P - 3. Provide the Project Sponsor's assumptions for the cost estimate (e.g. design assumptions, weather, manpower needed and work schedule like 10 hour days, construction area access, planned outages needed, cost of capital, etc.) and any sensitivity analyses performed in developing the cost estimate. (Note: all assumptions and sensitivities need to be documented).

*Response:*

- P - 4. Provide a detailed estimate of the anticipated average annual operating and maintenance cost to operate the project over its life (i.e. the specific incremental project O&M cost information and not total aggregate costs for the operation and maintenance of a sponsor's overall transmission system). Detail all of the components of the cost estimate. All costs should be in constant 2015 dollars.

*Response:*

- P - 5. Provide the Project Sponsor's planned insurance coverage, including types of coverage and insured values during the construction period and over the operational life of the project facilities including but not limited to covering negligent performance.

*Response:*

### Project Management, Historical Performance Related

- P - 6. For the transmission and substation projects included in the response to P-1, provide the following:
- Overall project description;
  - Initial schedule **and** final project in-service date; explain the circumstances for a project that did not meet the initial in-service date
  - Overall cost summary, including initial budget for the project **and** final project cost; explain the circumstances for a project that did exceed the initial project budget

- Major issues confronted and resolved during project;
- Typical management progress reports for the project;
- Other specific materials that reflect project management skills for an actual project.

*Response:*

### **Project Management, Project Related**

- P - 7. Provide a general description of the proposed approach to project management and scheduling (PM&S) for the transmission element.

*Response:*

- P - 8. Provide the proposed management structure, organization, authority levels and resources committed to PM&S for the transmission element, including relevant experience and capability for proposed Project Manager (PM) and other relevant decision-makers for the project. If the sponsor does not have a team in place, please provide your plan to meet these requirements.

*Response:*

- P - 9. Provide a proposed schedule for project development through release for operation that includes, at a minimum, key critical path items such as:

- Develop contracts for project work;
- Permitting; R/W and land acquisition;
- Engineering and design;
- Material and equipment procurement;
- Facility construction;
- Agreements (interconnection, operating, scheduling, etc.) with other entities;
- Pre-operations testing;
- Project in-service date;
- Other items identified by the Project Sponsor.

Provide a list of measures that the Project Sponsor would take to meet its schedule if the start date in the schedule was delayed by 6 months.

*Response:*

- P - 10. For the proposed project, identify the major risks and obstacles to successful project completion on schedule and within cost budget and identify proposed mitigations to minimize the risks. Describe all actions that the Project Sponsor will take to keep the project on schedule and within budget in light of the major risks identified.

If the Project Sponsor is sponsoring more than one project, the Project Sponsor should also describe how the projected in-service date of this project (as reflected in the proposed schedule) would be affected if two or more of the Project Sponsor's proposals are selected.

*Response:*

**Cost Containment Overall Process**

P - 11. Describe the Project Sponsor's cost containment approach and capabilities and how these will be applied to the proposed project. This should include, but not be limited, to the following information:

- Overall description of how the project risks described in P-10 are allocated and managed.
- If a turn-key EPC contract will be used, provide a description of the provisions in the contract (or planned to be included in the contract) to support containing the costs of this activity (e.g. performance bonds, invoice retention, etc.).
- If O&M will be outsourced, provide a description of the provisions in the contract (or planned to be included in the contract) to support containing the costs of this activity (e.g. planning and budgeting, insurance, standards of performance, etc.).

*Response:*

**Cost Containment Cost Cap and Emergency Costs**

P - 12. Does the Project Sponsor propose a binding cost cap (or some other binding cost containment measures)? If so, specify the amount of the cost cap and describe the cost cap or other cost containment measure in detail.

*Response:*

P - 13. Indicate the authorized government body from which the Project Sponsor will seek siting approval for the transmission and/or substation solution and the authority of the selected siting authority to impose binding cost caps or cost containment measures on the Project Sponsor. Indicate the history of imposing such measures by this authorized government body.

*Response:*

## Financial

The project sponsor must demonstrate it has sufficient financial resources, including, but not limited to, satisfactory credit ratings and other financial indicators as well as the demonstrated ability to assume liability for major losses resulting from failure of any part of the facilities associated with the transmission solution. In the event the project sponsor proposes to rely on an affiliated entity to meet any or all of these financial criteria, as evidenced by the submission of a non-project sponsor's financial statements or credit ratings, the ISO will require that the affiliated entity provide financial assurances in the form of a written guarantee acceptable to the ISO following the award of the project.

### General

- F - 1. Describe the financial and legal structure of the project sponsor, including type of corporation if a corporation, or type of entity if it is a Special Purpose Entity (SPE; e.g., project financed LLC) created explicitly for the proposed project. Provide a list of equity holders, equity contribution by each investor, and the amount of debt over the entire life of the project.

*Response:*

- F - 2. If the project sponsor is relying on a parent or another affiliated entity to satisfy the financial criterion of this application, please describe the entity's relationship to the Project Sponsor in the form of a corporate hierarchy. In addition, provide details of the parent or affiliated entity's plan for providing for credit, investment or financing arrangements including providing the ISO the necessary guarantees for financial backing of the project. If the financial recourse is limited, please describe under what conditions recourse is available to the parent or affiliate's financial resources. Describe how these arrangements comply with all legal and regulatory requirements related to affiliate transactions.

*Response:*

### Financial Strength and Creditworthiness

For the entity that has the financial resources to meet the financial strength and creditworthiness criteria and is required to provide financial assurances for the project, provide the information requested in F-3 through F-10.

- F - 3. If available, provide annual, audited financial statements or equivalent (for example, Auditors Statement, Management Statement, Balance Sheet, Income Statement, Statement of Cash Flows and Notes to the Financial Statements), for the most recent year and previous four years (five years total). If audited financial statements are not available, the Sponsor may provide other documentation demonstrating financial capability. If this information is available electronically, it is acceptable for the Applicant to provide links to the appropriate documents.  
NOTE: All financial statements must be provided in English.

*Response:*

- F - 4. If available, provide quarterly, unaudited financial statements or equivalent published since the last annual, audited financial statement. If not available, the Sponsor may provide other documentation demonstrating financial capability. If this information is available electronically, it is acceptable for the Applicant to provide links to the appropriate document. NOTE: All financial statements must be provided in English.

*Response:*

- F - 5. If the creation of a Special Purpose Entity (SPE) is being proposed for this project, provide pro-forma financials (balance sheet, income statement, statement of cash flows, assumptions) for the SPE for each year of the useful life of the project's duration. Describe the funding source(s) for the SPE for the duration of the project's useful life and how it fits into the corporate hierarchy.]

*Response:*

- F - 6. If available, provide current credit ratings and rating agency reports from Moody's Investor Services and Standard & Poor's or another rating agency designated by the U.S. Securities and Exchange Commission as a Nationally Recognized Statistical Rating Organization. If not available, the Sponsor may provide other supporting information.

*Response:*

- F - 7. Provide a report of any failure to make debt service payments on time during the previous five years. If the project sponsor is a Special Purpose Entity (SPE), report any such failures by its affiliated entities including any predecessor SPEs.

*Response:*

- F - 8. Provide a summary of any history of bankruptcy, dissolution, merger, or acquisition for the current calendar year and the five prior calendar years. If the project sponsor is an SPE, report any such events by its affiliated entities including any predecessor SPEs.

*Response:*

- F - 9. Based upon the most recent audited financial statements (if available), provide a ratio of total assets to the total projected capital costs of the project.

*Response:*

- F - 10. For each year for which audited financial statements were submitted according to F – 3 above, provide the following financial ratios:
- a. Funds from operations to interest coverage
  - b. Funds from operations to total debt
  - c. Total debt to total capital

*Response:*

## Project Financing

For the entity that will secure project financing and is required to provide financial assurances for the project, provide the information requested in F-11 through F-16.

F - 11. Describe the financing used on up to five projects listed in the P-1 Response that are similar in type and size to (or larger than) the transmission element and/or substation proposed in this application. Include the following in your response and use the table provided below:

- 1) Project description
- 2) Financing structure (e.g. LLC vs. corporate, etc.)
- 3) Equity and debt contribution,
- 4) Debt sources,
- 5) Bank(s) involved,
- 6) Other important information.

F-11 (1)Project Description	(2)Financing Structure	(3)Equity and Debt Contribution	(4)Debt Sources	(5)Banks Involved	(6)Other Important Information

F - 12. Describe the proposed financing sources of funds and instruments for construction and working capital for this project by completing the following table:

Entity Providing Debt Financing	Loan Amount	Interest Rate	Repayment Period	Grace Period During Construction	Equity Provided by Project Sponsor

F - 13. Specify the estimated useful life of the transmission element(s) (i.e., the “operating period”) and describe your ability to finance unexpected repairs or replacement construction during the operating period (e.g., replacement of a series of towers). For example, this demonstration could include but not be limited to the following: use of account set-asides or accumulated funds, parent organization guarantees, letters of credit, letters of intent from intent from financial institutions to support the project sponsor, insurance or other means of ensuring that



these increased costs can be covered in a timely manner and thus not delay the return of the project to normal operation.

Describe any actual events where the Project Sponsor had to cover increased costs due to equipment failures including the nature of the event, costs incurred, and how these costs were funded by the Project Sponsor.

Describe any actual events where the Project Sponsor had to cover increased costs due to equipment failures including the nature of the event, costs incurred, and how these costs were funded by the Project Sponsor.

*Response:*

- F - 14. For financing sources other than the capital markets, describe the benefits to ratepayers and others of your proposed financing source(s). This should include the projected cost of the financing sources.

*Response:*

- F - 15. Describe the detailed financial plan, including planning assumptions, on a monthly basis during the construction period and the first three years of commercial operation for the project. The plan should present the costs and financial outlays in each month of the construction period, and the corresponding sources of financing (equity contribution and debt drawdown), as in the following illustrative table. Data should include an estimate of the cost of both physical and price contingencies during the construction period. The same cost categories and amounts as used in P – 2. The financing plan should indicate the ability of the sponsor to finance the construction of the proposed project under base case and contingency scenarios. Once commercial operation is achieved, the plan should present ongoing maintenance costs as well as cash inflows as construction costs are recovered via the anticipated revenue stream from the project.

In addition to the contingencies included in the base plan, demonstrate how financing would be accomplished under significant project overruns and delays in completion. This should be demonstrated by developing a second plan (or changes to the base plan) that demonstrates how a project that is 30% over budget during construction would be financed, and a third plan (or changes to the base plan) that demonstrates how a project whose commercial operation date is delayed by 20% of the planned time to reach this milestone would be financed.

			Year 1												Year 2												
Item	Cost Categories	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total
1	Environmental and Related																										
2	Engineering																										
3	Civil Works																										
4	Materials																										
5	Equipment																										
6	Construction																										
7	Construction Management																										
8	Other																										
9	Subtotal - Base Cost																										
10	Physical Contingencies																										
11	Price Contingencies																										
12	Subtotal - Installed Cost																										
13	Working Capital																										
14	AFUDC																										
15	Total Cost = Total Financing Req'd																										
16	Finance Drawdowns																										
17	Debt																										
18	Equity																										
19	Total Finance Drawdowns																										

*Response:*

- F - 16. Provide the annual revenue forecasts for the project - including assumptions. Provide a draft version of the revenue requirement calculation in a format that is similar to what would be included in the tariff application to FERC, indicating the requested tariff level and all assumptions used in the calculations. This should include but not be limited to the assumptions regarding rate of return, depreciation life, split between debt and capital, AFUDC, CWIP, special rate or return adders or bonuses and the weighted cost of capital.

*Response:*

## Environment and Public Processes

- E - 1. Provide an overview of the various project activities needed to achieve siting approval, obtain rights of way (ROW) or other land acquisition for the project, and any other necessary public processes required to construct the project. Include which agencies and permits may be required and why. Base this on a review of the proposed project ROW and/or substation lands to be acquired. Provide a description of the business practices that will be followed (e.g. list of steps or flow chart). If the project is located within more than one state provide a response for each state as applicable.

*Response:*

### Environmental Team and Experience

- E - 2. Provide a list of and description of the firm or group who will be responsible for the siting, land acquisition and permitting aspects of the project. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, a division or department of the Project Sponsor, etc.). For each of the firms or groups listed, indicate their individual responsibilities and provide a resume for each lead individual. If the sponsor does not have a team assembled, provide your plan to meet these requirements.

*Response:*

- E - 3. Complete a section of the table below for each firm or group listed in E-2, whether in place or planned. For each of the firms or groups listed provide a list of all transmission substation projects in which they have had the responsibility for siting, land acquisition and/or permitting aspects of the project within the last five years. Include the following information:
- 1) Firm or group name
  - 2) Summary of the project (purpose, include voltage level(s), capacity, number of breakers and arrangement)
  - 3) The firm or group's responsibility on the project (e.g. siting, permitting, ROW acquisition, etc.)
  - 4) Year project was completed
  - 5) Capital cost of the project in US Dollars (millions)
  - 6) Client, who the firm or group worked for

E-3 (1) Firm or Group Name [Use for first firm or group]				
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Comp	(5) Capital Cost (USD) (M)	(6) Client

(1) Firm or Group Name [Use for second firm or group if needed]				
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Comp	(5) Capital Cost (USD) (M)	(6) Client
(1) Firm or Group Name [Use for third firm or group if needed]				
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Comp	(5) Capital Cost (USD) (M)	(6) Client

- E - 4. For each firm or group listed, indicate what work the Project Sponsor has completed in the past using these firms for similar areas of responsibilities.

*Response:*

#### Permitting

- E - 5. Using your best estimate and available resources, indicate whether any Federal discretionary permit(s) will be required, which agency and under which governing rule or statute. Describe these in detail e.g. EPA Clean Water Act, USACOE Section 401- 404, USFWS Biological Opinion required, etc.

*Response:*

- E - 6. Using your best estimate and available resources, indicate whether any state discretionary permit(s) will be required and the type of permit to be filed (e.g. incidental take permit, water quality Section 401, etc.)

*Response:*

- E - 7. Provide a generalized schedule of the permit activities anticipated and their dependencies and timelines.

*Response:*

- E - 8. Indicate if any federal land (for example Forest Service, BLM, etc.) is proposed to be crossed and if a NEPA (National Environmental Policy Act) environmental process is required.

*Response:*

- E - 9. For projects within the State of California:

- a. Indicate which Agency is the expected California Environmental Quality Act (CEQA) Lead Agency. Explain why that agency was chosen and indicate whether that agency has agreed to be the lead agency for this project.

*Response:*

- b. Provide a list of Best Management Practices<sup>9</sup> (BMPs) and Applicant Proposed Measures<sup>10</sup> (APMs) that would be applicable for the proposed project.

*Response:*

---

<sup>9</sup> BMPs, which are environmental industry standard terminology, are the applicant's standards that would be common to all projects, i.e. not specific to any particular project. For example, this could consist of company training policies that relate to required safety training, environmental sensitivity training, accident/injury reporting, community involvement programs involving both the local elected officials and the immediate community that will be impacted by the proposed project.

<sup>10</sup> An environmental consultant industry standard generic term found in any environmental application, that the project proponent would offer in their application submitted to their Lead Agency as initial mitigation for potential environmental impact that the applicant has identified. Normally APMs are fully accepted by the Lead Agency which would then build upon the offered measures based upon the Lead Agencies further assessment of construction impacts to the environment. For example, an applicant's APMs could be a commitment to limit project construction speed limits to 10 mph in order to limit fugitive dust and to re-fuel motor vehicles at least 100 feet from any body of water.

- i. BMPs – provide Project Sponsor standing policies, related to siting and permit processes, that all employees are required to observe, how are they implemented, how are they reported.

*Response:*

- ii. APMs –provide Project Sponsor mitigation measures that would be applied to reduce the potential environmental impact for a particular construction activity to ensure the impact is reduced below the level of a significant unavoidable impact. These are normally related to the CEQA checklist.

*Response:*

- c. Indicate if you expect to perform any public outreach (e.g. open houses, project hotline number, project update mailings etc.) and describe the planned program in general.

*Response:*

#### **Transmission or Substation ROW Acquisition**

- E - 10. Provide a general description of the land siting and acquisition needed for the proposed project and a map of the proposed project alignment and/or substation site on a suitable map base and scale - USGS quadrangle 1:24000 at a minimum. The map should show the study area for routing the project as well as any alternate routes, existing transmission lines, California Natural Diversity Data Base (CNDDB) information within the project area and avoidance areas (such as parks, airports, military installations, and areas of local, state or national interest and any other major exclusion areas). Provide estimated acreages required. Include construction access, permanent access roads, laydown yards and landing zones if required. Show alternatives evaluated, dismissed and justification for preferred.

*Response:*

- E - 11. Provide a copy of the standard grant of easement anticipated and any temporary construction easement documents necessary for the project construction and a description of your proposed strategy for crop loss and or business loss compensation.

*Response:*

- E - 12. Provide an indication of whether the Project Sponsor has eminent domain authority. Describe the negotiation strategy in general up to the necessity to file for eminent domain. If applicant does not have eminent domain authority and does not plan to obtain eminent domain authority, describe strategy for acquisition of necessary land rights.

*Response:*

- E - 13. Indicate whether the Project Sponsor has any existing ROW or substations or plans to acquire existing ROWs or substation property from another party on which all or a portion of the transmission element can be built. For any such ROW describe how it would be used as part of the proposed project. Also, for any such ROW describe any incremental costs and / or risks associated with using the existing ROW (for example negotiating additional land rights or the potential of "overburdening" existing easements, etc.).

*Response:*

- E - 14. Provide information describing all transmission lines that were constructed in the last 5 years for which the Project Sponsor or its environmental contractor (designated to complete the environmental and public processes for this proposed project) completed the environmental and public processes associated with the project. The information provided should include:

- a. Transmission line routing and length of routes

*Response:*

- b. Rights of way acquired

*Response:*

- c. Federal and State permits acquired to construct the project

*Response:*

- d. Environmental processes and results as follows:
- i. Provide Federal NEPA or State environmental review determinations if applicable. For projects in California provide CEQA filing history and link to agency web site of the final adjudication or Cal State Clearinghouse number;

*Response:*

- ii. Provide a list of post project mitigation agreements for endangered species impact mitigation; and

*Response:*

- iii. Provide a list of any management plans instituted to comply with Fed/State permits authorizing construction.

*Response:*

- E - 15. Provide information describing all transmission substation projects that were constructed in the last 5 years in which the Project Sponsor or its contractor (designated to complete the environmental and public processes for this proposed project) completed the environmental and public processes. The information provided should include (for multiple projects, duplicate the headings (a-d) and Response boxes for each project):

a. Substation location

*Response:*

b. Land acquired

*Response:*

c. Federal and State permits acquired to construct the project

*Response:*

d. Environmental processes and results as follows:

*Response:*

- i. Provide Federal NEPA or State environmental review determinations if applicable. For projects in California provide CEQA filing history and link to agency web site of the final adjudication or Cal State Clearinghouse number;

*Response:*

- ii. Provide a list of post project mitigation agreements for endangered species impact mitigation; and

*Response:*

- iii. Provide list of any management plans instituted to comply with Fed/State permits authorizing construction.

*Response:*

- E - 16. Provide information related only to transmission line and substation siting, permits, rights of way and land acquisition in the last 5 years. Provide:

- a. A description of any project Notice of Violation (NOV) in the last 5 years

*Response:*

- b. Fines levied by the Project approval authority and any other discretionary/ministerial authority



*Response:*

- c. Remediation actions taken to avoid future violations

*Response:*

- d. A summary of law violations by the Project Sponsor found by federal or state courts, federal regulatory agencies, state public utility commissions, other regulatory agencies, or attorneys general

*Response:*

- e. Any notice of violations that were remediated to the satisfaction of the issuing agency or authority

*Response:*

- f. A summary of any instances in which the Project Sponsor is currently under investigation or is a defendant in a proceeding involving an attorney general or any state or federal regulatory agency, for violation of any laws

*Response:*

## Substation

The S items listed below should only be completed if the propose transmission solution contains a substation or facilities similar to a substation (e.g. synchronous condenser, STATCOM, etc.).

- S - 1. For each substation or reactive control element that is included as part of your proposed project, provide the location, interconnection with new or existing transmission facilities, bus and breaker arrangement, typical structure types and materials that will be used and any other unique aspects of the substation that the Project Sponsor proposes.

*Response:*

- S - 2. Provide a list and a description of the firms or groups who will be responsible for substation design and construction. Indicate if the work will be done by the Applicant's personnel, specific firms, firms pre-approved by the Applicant or a combination. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, a division or department of the Project Sponsor, etc.). For each of the firms or groups listed indicate their individual responsibilities on the proposed project (e.g. design, construction, etc.) and provide a resume for the lead individual for each group or firm. If this information is not available provide your plan to meet these requirements.

*Response:*

- S - 3. Complete a section of the table below for each firm or group listed in S-2, whether in place or planned. For each firm or group listed provide a list of all transmission substation projects they have constructed within the last five years.
1. Firm or group name
  2. Summary of the project (purpose, include voltage level(s), capacity, number of breakers and arrangement)
  3. The firm or group's responsibility on the project (e.g. engineering, construction, procurement, etc.)
  4. Year project was completed
  5. Capital cost of the project in US Dollars (million)

S-3 (1) Firm or Group Name [Use for first firm or group]			
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Completed	(5) Capital Cost (USD) (M)

(1) Firm or Group Name [Use for second firm or group if needed]			
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Completed	(5) Capital Cost (USD) (M)
(1) Firm or Group Name [Use for third firm or group if needed]			
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Completed	(5) Capital Cost (USD) (M)

- S - 4. For each firm or group listed, indicate what previous work (list projects or activities) the Project Sponsor has completed using these firms. In particular, list any previous work that is similar to the work that the firm or group will be responsible for on the project.

*Response:*

- S - 5. For each proposed substation provide the substation siting criteria that will be used on the project (e.g. future area plans, constructability, earthquake activity, flood plain and mud slide considerations, etc.).

*Response:*

- S - 6. For each proposed substation provide the basic parameters for the substation - primary and secondary voltage, BIL<sup>11</sup>, initial design power capacity and final design power capacity (if developed in stages).

<sup>11</sup> A design voltage level for electrical apparatus that refers to a short duration (1.2 x 50 microsecond) crest voltage and is used to measure the ability of an insulation system to withstand high surge voltage.

*Response:*

- S - 7. For each proposed substation provide a preliminary design criteria document that specifies the criteria that will be used in the design of the substation or its equivalent. Also provide a list of standards and requirements that will be used in the substation design - e.g. IEEE 142, etc. Provide a complete list of state specific requirements for each US state that the project will be located in (e.g. California and other state specific requirements if part of the project or the entire project is located outside California).

*Response:*

- S - 8. For each proposed substation provide a single line diagram and general arrangement plan which includes:
- i. bus and breaker arrangement,
  - ii. transformer arrangement,
  - iii. automatic tap changer, if any,
  - iv. power factor correction equipment if any,
  - v. voltage regulator, if any,
  - vi. ground fault limiting resistor or reactor, if any,
  - vii. line terminations for existing or proposed transmission lines,
  - viii. bus type and rating,
  - ix. high voltage switch types and ratings,
  - x. switchgear type and ratings,
  - xi. battery system arrangements,
  - xii. substation layout with equipment location, fencing, grounding, control/relay building, etc.

*Response:*

- S - 9. For each proposed substation describe the protection system criteria and specific components included in the substation design for primary and back-up protection. Identify any special protection considerations for the substation.

*Response:*

- S - 10. For each proposed substation describe the SCADA incorporated in the design; list the data that will be provided to the ISO; list the control functions that will be included, and which entity will be in control of the devices.

*Response:*

- S - 11. For each proposed substation describe the substation physical security criteria and specific security measures that will be incorporated in the final substation design and the substation oil containment criteria and specific containment measures that will be incorporated in the final design.

*Response:*

## Transmission Line

The T items listed below should only be completed if there is a transmission line included in the proposed transmission solution.

- T - 1. Provide a general overview and description of the transmission line that the Project Sponsor proposes including the following items. Use the table provided below for your responses :
- the starting and ending points including length of preferred route. If the route is in more than one state provide the information for each state.
  - proposed conductor size, bundling and type,
  - intervening substations,
  - typical span lengths,
  - any other unique aspects of the line that the Project Sponsor proposes that has not previously been provided for the overhead portions of the line.

If any underground transmission is proposed, include a general description of the following items:

- the underground conductor size and type and length of segment(s)
- the proposed termination facilities and,
- any other unique aspects of the underground portion of the line not previously provided.

T-1 Item	Response
a	
b	
c	
d	
e	
f	
g	
h	

- T - 2. Provide a description of the firms or groups who will be responsible for the transmission line design and construction. Indicate if the work will be done by the Applicant's personnel, specific firms, firms pre-approved by the Applicant or a combination. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, a division or department of the Project Sponsor, etc.). For each of

the firms or groups listed indicate their individual responsibilities on the proposed project (e.g. design, construction, etc.) and provide a resume for the lead individual for each group or firm. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, etc.) If this information is not currently available, please provide your plan to meet these requirements.

*Response:*

- T - 3. Complete a section of the table below for each firm or group listed in T-2, whether in place or planned. For each of the firms or groups listed provide a list of all transmission line projects they have designed or constructed within the last five years and the following information:
1. Firm or group name
  2. Summary of the project purpose, include voltage level(s), capacity, conductor, structure type, and mileage. If both overhead and underground transmission was included separate info into overhead and underground.
  3. The firm or group's responsibility on the project (e.g. engineering, construction, procurement, etc.)
  4. Year project was completed
  5. Capital cost of the project in US Dollars (million)
  6. Client – who the firm or group worked for on the project

T-3 (1) Firm or Group Name [Use for first firm or group]				
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Comp	(5) Capital Cost (USD) (M)	(6) Client

  

(1) Firm or Group Name [Use for second firm or group]				
(2) Project Summary	(3) Firm/Group Responsibility	(4) Year Comp	(5) Capital Cost (USD) (M)	(6) Client

- T - 4. For each firm or group listed, indicate what previous work the Project Sponsor has completed using these firms for similar areas of responsibility.

*Response:*

- T - 5. Provide the transmission line siting criteria that will be used for any overhead section of the proposed transmission line and any underground sections of the proposed transmission line.

*Response:*

- T - 6. Provide the preliminary design criteria document for any overhead section of the proposed transmission line and any underground section of the proposed transmission line.

*Response:*

- T - 7. Provide a list of standards and requirements that will be used in the transmission line design for both overhead and underground - e.g. IEEE 951, ASCE Manual No. 72, GO 95, etc. with an emphasis on providing a complete list of State specific requirements and the requirements of other states where the proposed project will be located. Also provide any interconnection standards for interconnection of the project to existing utility system(s).

*Response:*

- T - 8. Provide a single line diagram and a general arrangement plan of the entire proposed transmission line, including transmission line crossings by the new project line. For crossings, provide a list by voltage and type of construction of lines crossed (either over or under) by the proposed project. Include isolation devices to be installed for operations and maintenance purposes.

*Response:*

- T - 9. Provide the following information in the table provided for any proposed overhead transmission line:
- Basic parameters of the transmission line(s) - Design voltage, BIL (design or adjacent substation criteria), initial design power capacity and final design power capacity (if developed in stages).

**Support Structures**

For any support structures including wood poles, tubular poles, and lattice steel structures – provide:

- a description of the proposed support structures and conductor geometry,
- structure foundations as appropriate and grounding criteria and implementation,



- d. insulation level, insulator types,
- e. lightning protection,
- f. estimated right of way widths for each different segment of the project with drawings for each and the basis of determining each right of way width.

**Line Ratings and Impedance**

- g. Provide the estimated per mile line impedances for each different line section proposed in the project, suitable for use in power flow, system stability and system protection studies. Also provide an estimate of the completed line overall impedance in per unit on a 100 MVA base.
- h. Provide NESC and/or GO95 Grade of Construction.
- i. Provide NESC and/or GO95 Loading Corridor Separation.
- j. Identify all existing or permitted transmission lines, including voltage, structure type, and separation, located in the same corridor as the proposed project. Identify the criteria used to establish the corridor separation.

T-9 Item	Response
a	
b	
c	
d	
e	
f	
g	
h	
i	
j	

- T - 10. For any proposed overhead transmission line Provide the ampacity rating methodology including maximum conductor temperature that will be used to determine the normal and emergency ratings of the overhead line for summer and winter. Provide the actual ampacity for the line under normal conditions and emergency operations (specify time limit for emergency operations) for summer and winter operating conditions.

*Response:*

- T - 11. For any proposed underground transmission sections, provide the following additional information not included in response to T-1 in the table provided below:
- Type of transmission cable, including splicing and cable grounding,
  - Substructures, conduits and duct banks, and splicing enclosures,
  - Termination facilities and structures,
  - Description of the type of transmission cable, including splicing and cable grounding
  - Provide the estimated per mile line impedances for each different line section proposed in the project. All line impedances shall be provided on a per unit 100 MVA base. Also provide an estimate of the completed line overall impedance.
  - lightning protection
  - estimated right of way widths for each different segment of the project with drawings for each.
- Corridor Separation
- Identify all existing or permitted transmission lines, including voltage, structure type, and separation, located in the same corridor as the proposed project.

T-11 Item	Response
a	
b	
c	
d	
e	
f	
g	
h	

- T - 12. For any proposed underground transmission sections provide the ampacity rating methodology including maximum conductor temperature that will be used to determine the normal and emergency ratings of the overhead line for summer and winter. Provide the actual ampacity for the line under normal conditions and emergency operations (specify time limit for emergency operations) for summer and winter operating conditions.

*Response:*

- T - 13. For each substation that the proposed transmission line would terminate in that will not be the responsibility of the Project Sponsor to modify in order to interconnect the line, provide the following information in the table below:

- a. Name of the substation where the interconnection will take place.
- b. A description of the demarcation point that identifies the point in the interconnection where responsibility for implementation (e.g. design, construction, testing, etc.) changes from the Project Sponsor to the substation owner.
- c. List of agreements that must be reached with the substation owner or others to interconnect and operate the proposed line to the substation (e.g. interconnection agreement, schedule agreement, etc.).
- d. A description of the Project Sponsor's approach to determining if any environmental permitting will be required to terminate the proposed line at the substation
- e. A description of the approach the Project Sponsor's will use to determine the cost to implement changes at the substation or other locations that are associated with the interconnection of the proposed project at the substation and of those costs which will be paid for by the Project Sponsor.

T-13 Item	Response
a	
b	
c	
d	
e	

## Construction

Provide an overview and description of the construction plan and management practices that the Project Sponsor proposes to follow in response to the questions below;

- C-1 Description of inspection of construction activities including substations, overhead transmission lines and underground transmission lines if part of the project.

*Response:*

- C-2 Description of the method of establishing material yards, sequencing and receiving material, to provide material to contractors, quality, and expediting.

*Response:*

- C-3 Description of the method of coordination of the duration and timing of any clearances of existing circuits necessary during construction.

*Response:*

- C-4 Description of the plans for a constructability review including completeness of engineering drawings, construction specifications, material orders, and tracking and providing changes.

*Response:*

- C-5 Description of the status of easements orders of possession, permits, and compliance with pre-construction permit conditions and mitigation measures.

*Response:*

- C-6 Description of the method for detail scheduling showing sequence of work, environmental restrictions, clearances requirements, progress reports, and actions taken to maintain schedule.

*Response:*

- C-7 Description of any unique or special construction techniques proposed for any aspect of the proposed project, including ROW clearing, construction and permanent access road construction, expected helicopter work, etc.)

*Response:*

## Operation and Maintenance

### Operation and Maintenance Team and Operating and Maintenance Record

- O-1 Provide a chart of the Project Sponsor's proposed organizations showing the reporting relationships of the maintenance and operations organizations including compliance management functions. Describe the roles and responsibilities of the maintenance and operations organizations, including operating jurisdictions as they relate to the proposed project. Describe any organizational changes to the Project Sponsor's current organization that are planned to accommodate the proposed project.

*Response:*

- O-2 Provide resumes describing the qualifications and experience of key management personnel in the proposed maintenance and operating organizations. Relate each resume to a position on the organization chart provided in response to O-1.

*Response:*

- O-3 Describe the experience over the past 5 years with operating and maintaining all transmission facilities by the Project Sponsor or Project Sponsor team members. Describe the role played by the proposed project team members in operating and maintaining those facilities.

*Response:*

- O-4 Describe the Project Sponsor's policies, processes and procedures for assuring that only persons who are appropriately qualified, skilled, and experienced in their respective trades or occupations are employed. Include qualifications and experience requirements for operators and field personnel.

*Response:*

- O-5 Describe the Project Sponsor's training program for operations and maintenance personnel. Include initial and continuing education requirements for maintaining qualifications for classifications with operation and maintenance responsibilities (e.g. what are the training and certification requirements for operators, linemen and substation electricians?). Identify training resources used.

*Response:*

### Maintenance Practices

- O-6 Describe the Project Sponsor's capability and experience that will enable it to comply with the maintenance standards described in Appendix C of the TCA. Indicate whether or not the project sponsor's standards include the elements listed in TCA Appendix C 5.2.1. Transmission Line

Circuit Maintenance and 5.2.2. Station Maintenance. (Note: Each PTO will prepare its own Maintenance Practices that shall be consistent with the requirements of these ISO Transmission Maintenance Standards. The effectiveness of each PTO's Maintenance Practices will be gauged through the Availability performance monitoring system. Each PTO's adherence to its Maintenance Practices will be assessed through an ISO review. (TCA Appendix C Maintenance Procedure 4).

*Response:*

- O-7 Describe the project Sponsor's Vegetation Management plan as it applies to the proposed project. Provide the Project Sponsor's preexisting procedures and historical practices for managing ROW for transmission facilities.

*Response:*

- O-8 Provide information, notices or reports regarding the Project Sponsor's experience with implementation and compliance with its standards for inspection, maintenance, repair and replacement of similar facilities.

*Response:*

- O-9 Describe the Project Sponsor's capability and experience that will enable it to provide its Availability Measures in accordance with TCA Appendix C 4.3 as applicable. Provide sample availability measures, or similar measures, for other facilities owned by the Project Sponsor to demonstrate the Project Sponsor's capability and experience.

*Response:*

- O-10 Would adding the project to the ISO controlled grid require any changes or exceptions to the provisions of the TCA? If "yes", describe.

*Response:*

### **Operating Practices**

- O-11 Identify the NERC functions for which the Project Sponsor has registered or intends to become registered related to the proposed project. If the Project Sponsor plans to contract for services to perform the NERC functions, identify the contractor and the NERC functions for which it is registered.

*Response:*

- O-12 If the Project Sponsor plans to contract for services to perform any NERC functions, describe how the Project Sponsor will ensure that these reliability standard(s) or requirement(s) will be accomplished?

*Response:*

- O-13 Describe the approach the Project Sponsor will use to assure compliance with Applicable Reliability Standards. Include descriptions of organizational responsibility, processes and procedures for assuring compliance. Identify any Applicable Reliability Criteria for which Transmission Owners are responsible that require temporary waivers under TCA 5.1.6. Explain any.

*Response:*

- O-14 Provide information demonstrating that the Project Sponsor has been in compliance with the Applicable Reliability Standards for all transmission facilities that it owns, operates, and or maintains. This could include information for facilities outside the ISO controlled grid and should include available NERC compliance audit results and any notices of violation. Provide information describing the amount of transmission facilities subject to NERC compliance, e.g. miles of line by voltage class, number of substations by voltage class. If the Project Sponsor does not have experience with transmission facilities subject to NERC Standard, provide information demonstrating compliance with standards that do apply to those facilities and the amount of facilities subject to such compliance.

*Response:*

- O-15 Describe, in general, how the Project Sponsor proposes to divide responsibility for NERC reliability standards between the Project Sponsor and the ISO in the Reliability Standards Agreement. Compare your response with existing agreements between the CAISO and other PTOs, and describe expected differences if any. Existing agreements are available on the CAISO website.

*Response:*

- O-16 Describe the applicable agreements that will define the Transmission Operator responsibilities and authority with respect to Generator Owner(s), Generator Operator(s), Planning Authority(ies), Distribution Provider(s), Transmission Owner(s), Transmission Service Provider(s), Balancing Authority(ies), Transmission Planner(s), and adjacent Transmission Operator(s).

*Response:*

- O-17 Describe how the Project Sponsor will meet the requirement that Transmission Operators have adequate and reliable data acquisition facilities for its Transmission Operator Area and with others for operating information necessary to maintain reliability. Include back-up control center plans if any. Also include provisions for providing the availability data required by TCA Appendix C 4.3.

*Response:*

- O-18 Describe the Project Sponsor's (for its team or planned team) capability and experience that will enable it to comply with the activities required by TCA 6.1. Physical Operation of Facilities. (Operation, ISO Operating Orders, Duty of Care, Outages, Return to Service and Written Report), TCA 6.3 Other Responsibilities and TCA 7 Operations and Maintenance. (Scheduled Maintenance, Exercise of Contractual Rights and Unscheduled Maintenance).

*Response:*

- O-19 Describe the Project Sponsor's capability (for its team or its planned team) and experience that will enable it to comply with the activities required by TCA 9.2. Management of Emergencies by Participating TOs and 9.3. System Emergency Reports: TO Obligations. Identify resources available, including spare parts and material, to respond to major problems on the proposed project. Include resources available through mutual assistance agreements and describe expected response times. Provide samples of emergency operating plans.

*Response:*

- O-20 Will the project be subject to any encumbrance? If so, provide a statement of any Encumbrances to which any of the transmission lines and associated facilities to be placed under the ISO's Operational Control are subject, together with any documents creating such Encumbrances and any instructions on how to implement Encumbrances and Entitlements in accordance with the TCA 6.4.2.

*Response:*



**Miscellaneous:**

M-1: Provide any additional evidence or support that the Project Sponsor believes supports its selection as an approved Project Sponsor. This can include, but is not limited to, other benefits the Project Sponsor's proposal provides, specific advantages that the Project Sponsor or its team have, or any efficiencies to be gained by selecting the Project Sponsor's proposal or additional information that was not requested in the other sections that supports the selection of the Sponsor's application.

<i>Response:</i>
------------------

## Officer Certification

### OFFICER CERTIFICATION FORM

**Project Sponsor Name:** \_\_\_\_\_

I, \_\_\_\_\_, an officer of the entity identified above as the Project Sponsor or affiliate of the Project Sponsor, understanding that the ISO is relying on the information set forth in the foregoing application to select an Approved Project Sponsor for the transmission element that is the subject of the application, hereby certify that I have full authority to represent the Project Sponsor or affiliate of the Project Sponsor, as described below. I further certify that:

1. I am the \_\_\_\_\_ (title) of \_\_\_\_\_ (Project Sponsor).
2. I have prepared, or have reviewed, all of the information contained in the foregoing application which is being submitted into the ISO's competitive selection process for the:  
  
\_\_\_\_\_ (name of transmission element).
3. On behalf of the Project Sponsor, I agree that any dispute between the ISO and the Project Sponsor regarding any aspect of the competitive selection process, including the ISO's selection report, will be resolved in accordance with ISO Tariff Section 13 ("Dispute Resolution").

I acknowledge that I understand the relevant provisions of Section 24.5. of the ISO Tariff and the Business Practice Manual for Transmission Planning applicable to the Project Sponsor's application, including, but not limited to, those provisions describing the information that will be used by the ISO to determine the Project Sponsor's qualifications to participate in the competitive selection process and the criteria that the ISO will apply in the comparative evaluation for purposes of Selecting an Approved Project Sponsor. I certify, after due investigation, that the information provided in the application is true and accurate to the best of my belief and knowledge and there are no material omissions. In addition, by signing this certification, I acknowledge the potential consequences of making incomplete or false statements in this certification, which may include exclusion from the current and subsequent competitive selection processes.

\_\_\_\_\_  
(Signature)

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## Application Deposit Payment Instructions

Please complete this entire form.

### Project Sponsor Deposit Information

1. Name of Phase 3 Project: \_\_\_\_\_
2. Name, address, telephone number, and e-mail address of the Customer's contact person (primary person who will be contacted):

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City, State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Fax Number: \_\_\_\_\_  
Email Address: \_\_\_\_\_

3. Alternate contact:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City, State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_  
Phone Number: \_\_\_\_\_  
Fax Number: \_\_\_\_\_  
Email Address: \_\_\_\_\_

4. Any deposit paid by check shall be submitted to the CAISO representative indicated below: Note – the check may be included with applications submitted on CDs or DVDs. Checks should be made payable to the CAISO.

#### Overnight Address

California ISO  
Attn: Julie Balch  
Grid Assets  
P.O. Box 639014

California ISO  
Attn: Julie Balch  
Grid Assets  
250 Outcropping Way

Folsom, CA 95763-9014

Folsom, CA 95630

**5. Project Sponsor Deposit is submitted by:****Legal name of the Customer:** \_\_\_\_\_

By (signature): \_\_\_\_\_

Name (type or print): \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**\*\*Required Deposit: \$75,000 USD (note: Wires originating from outside the U.S. are subject to currency conversion rates and/or additional bank fees).**

**\*\*Your application will not be considered received if the deposit is not received prior to the bid window close date.**

**Wire Information**

California ISO - Remit to Addresses

Beneficiary Bank Name

Beneficiary Bank Address

Wells Fargo Bank, NA

420 Montgomery St.

San Francisco, CA 94104

LGIP/SGIP

Wells Fargo Bank, NA

ABA # 121000248

Account # 4122041825

Account name: CAISO LGIP

## Approval History

Approval Date: April 7, 2014

Effective Date: April 7, 2014

Application Owner: Stephen Ruttly

Application Owner's Title: Director, Grid Assets

## Revision History

Version	Date	Description
4	4-07-2014	Revised to align with updated tariff.
3	4-4-2013	Revised Version Released – Add Version Control, Approval History, and Revision History Sections
2	4-1-2013	Revised Version Released - General clarification modifications and clean-up for 2012-2013 TPP Phase 3 Bid Window Opening
1	12-19-2012	Initial Version Released