



California ISO

# New Humboldt to Fern Road 500 kV Line Project Project Sponsor Selection Report

June 2, 2025

California Independent System Operator Corporation

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## LIST OF ATTACHMENTS

Attachment 1 – Competitive Solicitation Transmission Project Sponsor Application dated 06/23/23 Version 8.

## 1. INTRODUCTION

This report describes the competitive solicitation process conducted by the California Independent System Operator Corporation (ISO) for the New Humboldt to Fern Road 500 kV Line project. The ISO conducted this competitive solicitation because, in its 2023-2024 transmission planning process, the ISO identified a policy-driven need for this transmission 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 New Humboldt to Fern Road 500 kV Line project. The three qualified proposals that the ISO reviewed from the three project sponsors for the New Humboldt to Fern Road 500 kV Line project were detailed and well supported. The ISO emphasizes that it considers all project sponsors to be qualified to finance, construct, own, operate, and maintain the New Humboldt to Fern Road 500 kV Line project. While conducting the comparative analysis, the ISO had to make detailed 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 California Grid Holdings LLC (CalGrid), a wholly owned subsidiary of Viridion Holdings LLC, as the approved project sponsor to finance, construct, own, operate, and maintain the New Humboldt to Fern Road 500 kV Line project.

The ISO noted in the 2023-2024 Transmission Plan that “due to the inherent uncertainty with the development of new technologies such as floating offshore wind off the California coast, the ISO will be taking additional steps to balance the need to engage promptly on long lead time transmission with the need to remain in step with the numerous other parallel development paths needed to enable offshore wind to develop. The ISO is committed to both seeking to prudently manage expenditures that could be the subject of cost recovery processes, as well as providing industry transparency on the pace of transmission development activities and associated cost exposure. Accordingly, the approved project sponsor will be required to provide non-confidential cost tracking information and anticipated major cost commitment decision points through the project development cycle, which the ISO would approve.” As a condition of its selection of an approved project sponsor, the ISO will require that any executed Approved Project Sponsor Agreement (APSA) with CalGrid include a provision that CalGrid may not incur any major costs in connection with the project without the express written approval of the ISO.

As noted above, the ISO received and qualified three proposals from three project sponsors for the New Humboldt to Fern Road 500 kV Line project. However, the qualified proposal submitted by Horizon West Transmission, LLC (Horizon West) indicated that should Horizon West and Pacific Gas and Electric Company (PG&E) not be successful in their proposal to develop the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, then Horizon West and PG&E are not interested in consideration by the ISO for the New Humboldt to Fern Road 500 kV Line project. Because Horizon West was not selected by the ISO as the approved project sponsor for the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, the ISO has not included information provided by, or any analysis of, the proposal from Horizon West for the New Humboldt to Fern Road 500 kV Line project in this selection report.

## 2 BACKGROUND

### 2.1 New Humboldt to Fern Road 500 kV Line 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 2023-2024 transmission plan identified a policy-driven need for the New Humboldt to Fern Road 500 kV Line project as part of the overall transmission plan to integrate the offshore wind resources in the north coast to the rest of the ISO system. The ISO governing board approved the New Humboldt to Fern Road 500 kV Line project on May 23, 2024.

Following approval of the transmission plan, the ISO opened a bid solicitation window on June 26, 2024, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the New Humboldt to Fern Road 500 kV Line project. Project sponsors had an opportunity to express interest in collaborating with another entity during the first ten business days after the bid window opened. No project sponsor requested collaboration. In accordance with ISO Tariff Section 24.5.1 and the posted 2023-2024 Transmission Planning Process Phase 3 Sequence Schedule, the bid solicitation window remained open through October 28, 2024.

The ISO Functional Specifications for this project are located in Appendix I of the 2023-2024 transmission plan, under the title *Description and Functional Specifications for Proposed Policy-Driven New Humboldt to Fern Road 500 kV Line Project*, as updated as of May 23, 2024<sup>1</sup> In the ISO Functional Specifications, the New Humboldt to Fern Road 500 kV Line project is described as follows:

- A New Humboldt–Fern Road 500 kV line, estimated at 140 miles.

In the ISO Functional Specifications, the ISO provided estimates for costs for the entire project (both the part subject to competitive solicitation and the part not subject to competitive solicitation to be approximately \$980MM - \$1,400MM. The ISO also specified that the project must be in service no later than June 1, 2034. Upon completion of the project, the approved project sponsor will own the New Humboldt to Fern Road 500 kV Line project, but it must turn the facilities over to ISO operational control.

The ISO posted on June 6, 2024, a list of key selection factors for the New Humboldt to Fern Road 500 kV Line project.<sup>2</sup> These are the tariff criteria the ISO determined are the most important for selecting a project sponsor for this policy driven project. For the purposes of this report, the ISO identified the following subsections of ISO Tariff 24.5.4 as the key selection factors:

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<sup>1</sup> ISO Functional Specifications

[https://stakeholdercenter.caiso.com/InitiativeDocuments/AppendixI-BOARDAPPROVED\\_2023-2024\\_TransmissionPlan.pdf](https://stakeholdercenter.caiso.com/InitiativeDocuments/AppendixI-BOARDAPPROVED_2023-2024_TransmissionPlan.pdf)

<sup>2</sup> Key Selection Factors

<https://stakeholdercenter.caiso.com/InitiativeDocuments/Key-Selection-Factors-2023-2024-Transmission-Planning-Process.pdf>

- 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 costs in connection with placing new or additional facilities associated with the transmission solution on such existing right of way;”
- Section 24.5.4 (e) – “the financial resources 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 agreements 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.”

The ISO hosted an informational call for interested parties on June 26, 2024, and provided a presentation describing the project and the competitive solicitation process, including the key selection factors.<sup>3</sup>

The ISO received three proposals from three project sponsors – (1) California Grid Holdings LLC (CalGrid), a wholly owned subsidiary of Viridon Holdings LLC, (2) Horizon West Transmission, LLC (Horizon West), a wholly-owned subsidiary of NextEra Energy Transmission, LLC, in coordination with PG&E hereinafter referred to collectively as Horizon West, and (3) Cal Grid, LLC (LS Power (CAL GRID)), a wholly-owned subsidiary of LS Power Associates, L.P. The ISO posted a list of validated project sponsor applications on December 17, 2024.<sup>4</sup> The ISO found that all three of the proposals provided sufficient information to meet the minimum validation criteria as set forth in Section 24.5.2.4 of the ISO Tariff. The ISO posted a list of qualified project sponsors and proposals on February 11, 2025.<sup>5</sup> The ISO found that all three project sponsors and their three validated proposals met the minimum qualification criteria as set forth in Section 24.5.3 of the ISO Tariff.

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<sup>3</sup> Phase 3 TPP Presentation

<http://www.caiso.com/InitiativeDocuments/Presentation-2022%E2%80%932023-Transmission-Planning-Process-Phase-3-Competitive-Solicitation-Jun262023.pdf>

<sup>4</sup> Validated Project Sponsor Applications

<https://stakeholdercenter.caiso.com/InitiativeDocuments/List-of-Validated-Project-Sponsor-Applications-New-Humboldt-to-Fern-Road-500-kV-Transmission-Line-Project.pdf>.

<sup>5</sup> Qualified Project Sponsor Applications

<https://stakeholdercenter.caiso.com/InitiativeDocuments/List-of-Qualified-Applicants-Humboldt-to-Fern-Road-500kV-Transmission-Line-Project.docx>

## 2.2 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 (PTOs) 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 framework for the 2023-2024 transmission plan competitive solicitation process is set forth in ISO Tariff Section 24.5. In addition, the ISO posted the form of the project sponsor application (Attachment 1) on its website. Also, while the bid solicitation window was open, the ISO maintained and posted on its website a question-and-answer matrix detailing questions from prospective project sponsors and the ISO's responses thereto 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 two well-respected, international industry consulting firms to assist the ISO in its selection of the approved project sponsor. One firm primarily supports the ISO in the qualification and comparative analysis associated with the project schedule, rights-of-way acquisition, environmental permitting, design, construction, maintenance, and operating capabilities of the project sponsors. The other firm provides economic, financial, and rate expertise and provides cost of service analyses. Both firms have committed to remain unbiased and not participate with any project sponsor in the competitive solicitation process.

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

- Project Sponsor, Name, Organizational Structure, and Proposal Summary
- Project Qualifications
- Prior Projects and Experience
- Project Management and Schedule
- Cost Containment
- Financial
- Environment Permitting and Public Process
- Transmission or Substation Land Acquisition
- Substation Design and Engineering
- Transmission Line Design and Engineering
- Construction
- Maintenance

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<sup>6</sup> Response to Comments Matrix

<https://stakeholdercenter.caiso.com/InitiativeDocuments/2023-2024-Competitive-Solicitation-Questions-Matrix-R3.pdf>

- Operations
- Miscellaneous
- Officer Certification
- Application Deposit 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 on December 17, 2024, as described in Section 2.1 of this report. As also described in Section 2.1, the ISO validated all three of the applications.

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 three project sponsors and their three validated proposals met the minimum qualification criteria as set forth in ISO Tariff Sections 24.5.3.1 and 24.5.3.2 for the New Humboldt to Fern Road 500 kV Line 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 February 11, 2025. Section 3 of this report describes the ISO's selection process for this project. For the reasons stated in Section 1 above, this selection report does not include a discussion of the proposal of Horizon West.

### 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 undertook a comparative analysis of the project sponsors’ proposals regarding the qualification criteria described in ISO Tariff Section 24.5.3.1 and the selection factors in ISO Tariff Section 24.5.4. As discussed in Section 1 above, the qualified proposal submitted by Horizon West indicated that should Horizon West and PG&E not be successful in their proposal to develop the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to

Collinsville [HVDC operated as AC] project, Horizon West was not interested in consideration by the ISO for the New Humboldt to Fern Road 500 kV Line project. Because Horizon West was not selected by the ISO as the approved project sponsor for the New Humboldt 500kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville project, the ISO has not included information provided by, or an analysis of, the proposal from Horizon West for the New Humboldt to Fern Road 500 kV Line project in this selection report.

As part of the comparative analysis, the ISO has given particular consideration to the key selection factors for the New Humboldt to Fern Road 500 kV Line 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 regarding each of the qualification criteria and selection factors. 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 sections 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 New Humboldt to Fern Road 500 kV Line project**

As discussed in Sections 1 and 3.1 above, the ISO conducted a preliminary evaluation of three validated and qualified project sponsor applications for the New Humboldt to Fern Road 500 kV Line project submitted by three project sponsors. However, as discussed above, the ISO only conducted a final evaluation of two of those applications submitted by the following two project sponsors:

- CalGrid
- LS Power (CAL GRID)

These two entities are qualified and submitted strong, competitive applications supporting their proposals. As a result, the ISO had to make detailed distinctions between these two project sponsors and their validated and qualified proposals in the comparative analysis process in selecting the approved project sponsor.

#### **CalGrid**

According to its proposal, CalGrid is a wholly owned subsidiary of Viridon Holdings LLC, which, together with its subsidiaries and affiliates, is generally known as Viridon. CalGrid indicated that it is a Delaware limited liability company established as a holding company for greenfield transmission projects in California. CalGrid indicated Viridon is headquartered in Chicago, Illinois, and was formed in 2023 by a team of experienced transmission industry leaders with over 30 years of combined experience in the competitive transmission business, to expedite the clean energy transition by investing in and managing electric transmission facilities across North America. CalGrid indicated Viridon is a portfolio company of Blackstone Inc. (Blackstone), which is a publicly traded company. CalGrid indicated that Blackstone's latest investment fund, Blackstone

Energy Transition Partners IV (BETP IV), is the majority owner of Viridon's equity interest and that it is relying on BETP IV and its ultimate parent, Blackstone, to provide financial support and guarantees for this project. (A-5)

CalGrid indicated that it proposes to create a special purpose entity in the form of a limited liability company to finance, construct, own, operate, and maintain this transmission asset if selected as the approved project sponsor for this project. (A-5)

CalGrid indicated that it would fund 100% of the project costs through construction and that CalGrid would lead the development and construction of the project and retain ownership of the project post-commercial operation date. (A-5)

CalGrid indicated that Viridon and Southern California Edison Company (SCE) have entered into an agreement pursuant to which SCE, upon commercial operation, would have the option to acquire from Viridon a twenty percent (20%) minority interest in the special purpose entity owning the project, and Viridon would retain the remaining eighty percent (80%) of the project. CalGrid indicated that the special purpose entity would be a wholly-owned subsidiary of CalGrid and an affiliate of SCE. CalGrid indicated that SCE has no obligation to provide financial support or guaranties for the project. (A-5)

### **CalGrid Access to Affiliate Financial Support**

CalGrid indicated the project would be financed using a combination of equity and debt. CalGrid indicated that Viridon, acting through CalGrid and with the support of majority owner BETP IV, would invest 100% of the equity required to finance the project and anticipates using debt and equity throughout the project's life. CalGrid indicated that CalGrid and the special purpose entity, as wholly owned subsidiaries of Viridon and affiliates of Viridon's majority owner BETP IV, ultimate parent Blackstone, and other Blackstone entities, would benefit from all relevant capabilities and resources of combined Viridon and Blackstone organizations. (F-1, F-5)

CalGrid provided a letter of financial support for the project sponsor financial obligations signed by an officer of BETP IV indicating that the financial guarantee would be provided prior to the close of the project's financings and that an equity commitment letter would be provided as required by lenders pursuant to the financings of the project. (F-2)

CalGrid's proposal included a parent support letter from Blackstone (indicating support for the project by Blackstone, the ultimate parent of the project's majority owner BETP IV, and that BETP IV would benefit from Blackstone's strong reputation in the financial community. (F-2)

CalGrid's proposal also included pro forma financial instruments to support the equity funding requirements of the project, which would be effective conditional upon selection of CalGrid as the approved project sponsor and closing of the financing. (F-2)

### **LS Power (CAL GRID)**

According to its proposal, LS Power (CAL GRID) is a Delaware limited liability company. LS Power (CAL GRID) indicated that, through intermediate holding companies (LSP Transmission Holdings II, LLC and LSP Generation IV, LLC), it is a wholly owned subsidiary of LS Power Associates, L.P., which together with its subsidiaries and affiliates, is generally known as LS Power. LS Power (CAL GRID) indicated that a

similar ownership and organization structure has been used by LS Power for all of its transmission projects. (A-5)

LS Power (CAL GRID) indicated that it would utilize LS Power personnel to perform or manage all aspects of the project. LS Power (CAL GRID) also identified eight affiliates as particularly relevant to its proposal: (1) LS Power Grid California, LLC (LSPGC), a public utility in California that owns the Orchard STATCOM, Fern Road GIS/STATCOM, Manning 500 kV Substation project, Collinsville 500 kV project, Metcalf–San Jose B HVDC project, and Newark–NRS project competitively awarded by the ISO between 2020 and 2023, (2) Cross Texas Transmission, LLC (Cross Texas), a transmission service provider in Texas, (3) DesertLink, LLC (DesertLink), the owner of the Harry Allen-Eldorado 500 kV transmission line competitively selected by the ISO in 2016, (4) Great Basin Transmission South, LLC, the owner of a 75% interest in the ON Line facilities in Nevada, (5) Republic Transmission, LLC, the owner of the Duff to Coleman 345 kV transmission line and the Hiple to Indiana/Michigan border 345 kV transmission line in Indiana competitively awarded by MISO between 2016 and 2023, (6) Silver Run Electric, LLC, (Silver Run) the owner of the Silver Run 230 kV Substation and Silver Run-Hope Creek 230 kV transmission line competitively awarded by PJM in 2014, (7) LS Power Grid New York Corporation I, the owner of the Gordon Road and Princetown 345 kV (GIS) Substations and 345 kV transmission line in New York competitively awarded by NYISO in 2019, and (8) Great Basin Transmission, the owner of the 285 mile 500 kV transmission line Southwest Intertie Project North. (A-5)

#### **LS Power (CAL GRID) Access to Affiliate Financial Support**

LS Power (CAL GRID) indicated that it is relying on its parent LS Power to satisfy the financial criterion for this project. LS Power (CAL GRID) provided evidence of LS Power’s financial assurances to LS Power (CAL GRID) in the form of a written guarantee. (F-2)

LS Power (CAL GRID) also provided an equity financing commitment from LS Power’s majority owner management company indicating the majority owner’s commitment to provide funding to LS Power for the project. (F-2)

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

The ISO notes that the first selection factor is a broad factor that generally encompasses several subsequent narrower selection factors. The ISO will 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 regarding each of the encompassed selection factors, or (2) the ISO’s comparative analysis of the project sponsors’ proposals 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) in Section 3.14 of this report after the discussion of the other selection factors.

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

The second selection factor is “the Project Sponsor’s existing rights of way and substations that would contribute to the transmission solution in question.”

#### **3.4.1 Information Provided by CalGrid**

CalGrid indicated it does not have existing rights-of-way that can be utilized to construct any portion of the proposed project. (L-4)

CalGrid indicated that the preliminary routing study included a systematic and iterative analysis of potential route alternatives developed. (T-2)

CalGrid indicated the overall length of the transmission line is approximately 142 miles, and it divided the proposed transmission line route into two segments: (L-1)

- New Humboldt-Cottonwood segment, which is 116 miles and 297 parcels of land. This segment parallels the existing PG&E Bridgeville-Cottonwood 115 kV transmission line, near State Route 36 and within the Bureau of Land Management (BLM) Section 368 Energy Corridor (23 miles), continues easterly and diverges from the PG&E transmission line near Gas Point but continues in the vicinity of SR 36 to Cottonwood Substation.
- Valley North segment, which is 26 miles and 89 parcels of land. This segment is parallel to the Western Area Power Administration (WAPA), Transmission Agency of Northern California (TANC), and PG&E 230 kV transmission line corridor then continues easterly generally following Whitmore Road and Fern Road to the proposed Fern Road Substation.

CalGrid indicated that series compensation for this transmission line at the Humboldt end would be located within the New Humboldt Substation proposed for the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project and the series compensation at the Fern Road Substation end would be located partly within the proposed Fern Road Substation currently undergoing permitting by LSPGC and partly with an adjacent private property. (L-1)

CalGrid indicated that its proposed project traverses 142 linear miles with approximately 120 miles near and 88 miles directly adjacent to existing TANC, PG&E, and WAPA-controlled rights-of-way. CalGrid indicated that the new rights-of-way are intended to abut the existing transmission line rights-of-way where possible to avoid “stranded” pieces of land between utility easements. (T-1)

CalGrid indicated that approximately 54 miles of the new line is not directly adjacent to existing transmission lines, and of that mileage, approximately 32 miles is related to brief reroutes in the forest due to challenging terrain and avoidance of buildings and roads. CalGrid indicated that the remaining 22 miles cuts through undeveloped land near Cottonwood and near Fern Road Substation to connect from an existing PG&E corridor in the forest area to an existing shared TANC, PG&E, and WAPA transmission line corridor in the North Valley area. CalGrid indicated it selected this more direct path to reduce overall route length, to avoid populated town areas, and to minimize land use

and environmental impacts by maximizing line length sited near and parallel with existing transmission lines. (T-1)

CalGrid indicated it would require ten miles of new permanent access road, and 22 miles of temporary access roads. (L-1)

CalGrid indicated its proposed route would cross five miles of Six Rivers National Forest and 28 miles of Shasta Trinity National Forest administered by the U.S. Forest Service (USFS), and one mile of BLM managed land. (L-1)

CalGrid indicated its proposed route minimizes wildfire impacts with zero miles of its proposed route being within California Public Utilities Commission (CPUC) designated Tier 3 High Fire Threat Districts and approximately 109 miles in Tier 2 High Fire Threat Districts. (L-1)

CalGrid indicated that a portion of its proposed route would be co-located with the comparable segment of the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project for approximately 83 miles. CalGrid indicated that this approach would allow CalGrid to capitalize on the routing opportunities for both projects, and to gain efficiencies in the engineering design, construction approach, permitting, and schedule. (L-1)

### **3.4.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated it does not own or have access to existing transmission line rights-of-way for this project. (L-4)

LS Power (CAL GRID) indicated that it has obtained purchase option agreements for 100.5 acres of land for the New Humboldt Substation for the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, which includes 1.5 acres for building the series compensation for the New Humboldt to Fern Road 500 kV Line project. (L-1)

LS Power (CAL GRID) indicated that it has identified a three-acre site for the Fern Road series compensation facility partially on the parcel its affiliate company LSPGC is currently permitting for the Fern Road Substation and partially on a private land belonging to the same landowner. (L-1)

LS Power (CAL GRID) indicated that its transmission line route would begin at its proposed New Humboldt Substation, would be approximately 136 miles in length, run easterly, and parallels PG&E's Bridgeville-Cottonwood 115 kV transmission line, State Highway 36 within the BLM Section 368 Energy Corridor, WAPA's Captain Jack-Olinda 230 kV transmission line, WAPA's Olinda-Cottonwood 230 kV transmission line, PG&E's Round Mountain-Cottonwood 230 kV transmission line, then generally follow Whitmore Road and Fern Road to the proposed Fern Road Substation site. (L-1, T-3)

LS Power (CAL GRID) indicated the proposed transmission line route would cross 24.4 miles of the Shasta-Trinity National Forest, 1.8 miles of the Six Rivers National Forest, and 0.3 miles of BLM managed land. (L-1)

LS Power (CAL GRID) indicated that its proposed route parallels existing transmission lines for approximately 87 miles. (T-3)

LS Power (CAL GRID) indicated its proposed project would require a total of 3,027 acres of land, including 2,376 acres of private property and 651 acres of public land and including 33.25 miles of permanent access roads, 18.11 miles of temporary access roads, and 161.68 miles of overland access. (L-1)

LS Power (CAL GRID) indicated its proposed route minimizes wildfire impacts with zero miles within CPUC designated Tier 3 High Fire Threat Districts and approximately 105 miles in Tier 2 High Fire Threat Districts. (L-1)

### **3.4.3 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 or other land rights they possess and are proposing to contribute to this project and acquisition of land rights needed for the project.

Both CalGrid and LS Power (CAL GRID) indicate that they do not have existing land rights to contribute for the transmission line portion of the project.

For the series compensation, LS Power (CAL GRID) has obtained purchase option agreements for 100.5 acres of land for the New Humboldt Substation for the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, which includes 1.5 acres for building the series compensation for the New Humboldt to Fern Road 500 kV Line project.

Subject to the following considerations the ISO considers both project sponsors to have sufficient plans for the acquisition of land rights for the project.

Both CalGrid and LS Power (CAL GRID) propose routes that are similar for portions yet distinct in others with both directly paralleling existing corridors for large portions of the identified routes. However, the proposal from LS Power (CAL GRID) identifies the need for a greater amount of infrastructure to access the proposed transmission line during both development and construction and operations than the proposal from CalGrid. The ISO considers the potential schedule and cost risks of the proposed routes in Sections 3.6 and 3.12 respectively.

CalGrid's proposed route is 142 miles long and LS Power (CAL GRID)'s proposed route is 136 miles long.

Regarding land rights included in the proposals, the ISO considers the proposal of LS Power (CAL GRID) to be slightly better than CalGrid's proposal because it has executed purchase option agreements for its proposed series compensation site at the Humboldt end of the proposed transmission line and CalGrid has not.

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, based on the specific scope of this project, the proposal of LS Power (CAL GRID) is slightly better than CalGrid's proposal regarding this factor.

### **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, reduced rights-of-way acquisition efforts, and reduction in the overall time needed to complete the project.

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**

##### **3.5.1 Information Provided by CalGrid**

CalGrid provided a list of its experience and the experience of its contractors with acquiring rights-of-way for transmission line and reactive compensation projects. Regarding projects that are ongoing or have been completed in the past ten years, and are located in the U.S., the information provided included 34 transmission line projects with two projects in California, and three reactive compensation projects with one in California. (Prior Projects and Experience Workbook)

##### **3.5.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) provided a list of its experience and the experience of its contractors with acquiring the rights-of-way for transmission line and reactive compensation projects. Regarding projects that are ongoing or have been completed in the past ten years, and are located in the U.S., the information provided included 23 transmission line projects with three projects in California, and eight reactive compensation projects with two projects in California. (Prior Projects and Experience Workbook)

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

##### **3.5.3 Information Provided by CalGrid**

CalGrid indicated it does not have any existing rights-of-way that can be utilized to construct any portion of the project. (L-4)

### **3.5.4 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated it does not own or have access to existing rights-of-way for the project. (L-4)

### **3.5.5 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 acquiring rights-of-way in California to be a slight advantage over experience in other jurisdictions because the project is located in California and such experience will result in the timely, effective and efficient undertaking of this project.

The ISO considers both CalGrid and LS Power (CAL GRID) and their teams to have substantial experience in acquiring land rights and site control in the U.S., including experience in California.

Based on the foregoing considerations, in conjunction with all the other considerations included in the ISO analysis for this component of the factor, the ISO has determined that, based on the specific scope of the project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding this component of the factor.

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

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

CalGrid and LS Power (CAL GRID) indicate they do not have existing rights-of-way associated with the project, and as such do not anticipate any related additional costs.

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 has determined based on the specific scope of this project that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding this component of the factor.

#### **Overall Comparative Analysis**

Regarding the two components of this factor, as described above, the ISO has determined that there is no material difference between the proposals of the project

sponsors regarding either the first component (experience acquiring rights-of-way) or the second component (incremental cost of using existing rights-of-way) of this factor.

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, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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 transmission solution and demonstrated ability to meet the schedule of the Project Sponsor and its team.” 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**

### **3.6.1 Information Provided by CalGrid**

CalGrid's proposed project schedule included an in-service date of June 1, 2034, the required in-service date specified in the ISO Functional Specifications, which CalGrid indicated includes approximately eight months of float. (P-3)

CalGrid also provided measures that it could take if faced with unanticipated delays in its schedule for land acquisition, permitting, or construction of up to six months, such as utilizing, if necessary, price escalation strategies and eminent domain for rights-of-way acquisition, utilizing the recent provisions streamlining the application of the California Environmental Quality Act (CEQA) and the transmission siting and economic development grant program, if applicable, to expedite permitting activities, as well as expediting construction and procurement activities by releasing the procurement of long-lead time materials at an earlier date and increasing work crews and work hours. (P-3)

### **3.6.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID)'s proposed project schedule included an expected in-service date of March 3, 2034, which is approximately three months earlier than the ISO's required in-service date specified in the ISO Functional Specifications. (P-3)

LS Power (CAL GRID) also indicated in the event of a delay related to land acquisition, permitting, or construction of up to three months, LS Power (CAL GRID)'s project schedule includes a float that could be used to meet the required in-service date of June 1, 2034. (P-3)

LS Power (CAL GRID) indicated that a delay in land acquisition activities of up to six months would not impact the project schedule as it is not on the critical path and that no additional measures would be necessary to meet the proposed schedule in the event of a delay. (P-3)

LS Power (CAL GRID) indicated that in case of a six-month delay in permitting, it would use additional crews and/or extended work hours to reduce the construction timeframe to offset delays incurred during permitting as necessary. (P-3)

LS Power (CAL GRID) further indicated that it could compress the engineering, procurement, and construction components of the schedule to meet the required in-service date in case of unanticipated delays. LS Power (CAL GRID) indicated that engineering and procurement activities could be released earlier and certain activities, which are scheduled to be performed sequentially, could be performed in parallel by the use of additional crews and extended work hours to reduce construction timeframe. (P-3)

## **Ability to Meet Schedule**

### **3.6.3 Information Provided by CalGrid**

#### **Past Performance**

CalGrid provided schedule performance for 17 200 kV or above transmission line, and reactive compensation projects that were completed in the past ten years in the U.S., along with their planned and actual in-service dates. The information provided by CalGrid indicated that 16 of the 17 projects were completed on or before schedule. The information provided by CalGrid also indicated that one project was delayed by nearly 33 months due to the extended CPUC regulatory process. (Prior Projects and Experience Workbook)

#### **Project Management and Team**

CalGrid indicated that its project management steps included project kickoff and scoping, schedule development, risk identification and mitigation plans, and cost estimates and provided detailed information for these steps. (P-1)

Regarding project kickoff and scoping, CalGrid indicated that it would host a formal project kickoff meeting where it would confirm that each team member understands the project scope, goals, objectives, and priorities and would define individual priorities and responsibilities. (P-1)

Regarding schedule development, CalGrid indicated that it has developed a schedule that captures all key tasks and milestones using the Primavera Enterprise project portfolio management tools and that it would host additional planning sessions shortly after the project award to refresh all key inputs and to re-establish the baseline for project execution. (P-1)

Regarding risk identification and mitigation plans, CalGrid indicated that its project planning team has developed a framework to provide each team member with the means to populate a risk log covering their functional areas of expertise and experience. CalGrid also indicated that the project team held work sessions to collaborate as a group on each item to reach consensus on the totality of risks considered and the appropriate mitigation measures. (P-1)

Regarding cost estimates, CalGrid indicated that each contractor has created a detailed bottoms-up cost estimate for their functional areas based on specific knowledge and detail on the project and the ability to incorporate market-based quotes and estimates for materials, equipment, labor, land valuation, taxes, and other associated costs. CalGrid indicated that it has performed internal analyses and benchmarking to ensure the project cost estimates were accurate, complete, and competitive against relevant benchmarks. (P-1)

CalGrid described its approach to project management execution which includes project controls, project communication, quality management, risk management, procurement coordination and safety management. (P-1)

CalGrid also described its approach for developing the project schedule. CalGrid indicated that the project director would have responsibility for maintaining the master schedule from award to commercial operation. (P-1)

CalGrid further indicated that the master project schedule would be progressed weekly and updated monthly and would be developed to ensure delivery of the project within the required commitments made by CalGrid. (P-1)

CalGrid indicated that the project would be executed by the project management team with a single point of contact, the project director. CalGrid indicated that it has assembled a project team with relevant experience in all areas of project execution to provide certainty to the ISO that the project would be delivered on schedule and on budget. (P-1)

CalGrid indicated that its project management leadership team collectively brings decades of experience in the management of projects. (P-2)

CalGrid indicated that its leadership team is supported by contractors that would support CalGrid every step of the way through development, planning, permitting, construction, rights-of-way acquisition, public engagement, operations, and maintenance. (P-2)

In addition, CalGrid indicated that it has formed a project advisory team that is available to provide additional support and guidance as necessary throughout the project development, permitting, financing and construction phases of execution. (P-2)

CalGrid provided organization charts depicting the structure of the project management leadership team, supporting third-party contractors, and the CalGrid advisory team and

provided resumes and supporting background information of all individuals in the organization charts. (A-5)

CalGrid also indicated that it has identified a resource for providing regional and local awareness along with situational support, particularly in the mountainous and forest regions of the project. (P-2)

### **Risk Management**

CalGrid provided measures that it could take if faced with unanticipated delays such as (1) utilizing price escalation strategies and eminent domain for rights-of-way acquisition, (2) utilizing the recent provisions streamlining the application of CEQA and the Transmission Siting and Economic Development grant program to expedite permitting activities, (3) expediting construction and procurement activities by releasing the procurement of long-lead time materials at an earlier date, and (4) increasing work crews and work hours. CalGrid also indicated that its schedule has nine months of float. (P-3)

CalGrid provided a risk log that included 71 risk items grouped into several risk categories (permitting, procurement, construction, rights-of-way, operations etc.), the risk consequence (cost, schedule), and the likelihood of the risk (low, medium, high). The risk log also includes the owner of each risk (CalGrid, ISO), as well as the mitigation measure for each risk item. CalGrid indicated that this risk log captures the collective history of the project team and identifies both anticipated and unanticipated risks and the appropriate mitigation measures. (P-4)

Regarding wildfire risks and mitigation measures, CalGrid indicated that its construction and operations and maintenance (O&M) contractors have experience mitigating wildfire risk while constructing, maintaining and operating transmission lines in regions prone to wildfires. (P-5)

CalGrid indicated that if it were selected as the approved project sponsor for one or more of its proposals by the ISO, CalGrid would take the following steps to ensure that projected in-service dates would not change due to the increased workloads: (1) utilize other key staff members with long histories of project management and development experience to take lead project director roles, and (2) bid project work out to other capable and qualified contractors to ensure resource availability and timely project execution. (P-4)

### **Financial Incentive**

CalGrid's proposal also includes a schedule completion incentive penalty that would lower the project's return on equity (ROE) by 2.5 basis points for every full calendar month that the project's energization is delayed beyond June 1, 2034, up to a total of 30 basis points. (CC-1)

## **3.6.4 Information Provided by LS Power (CAL GRID)**

### **Past Performance**

LS Power (CAL GRID) provided schedule performance for nine 200 kV or above transmission line and reactive compensation projects that were completed in the past ten years in the U.S., along with their planned and actual in-service dates. The information provided by LS Power (CAL GRID) indicated that six of the nine projects were completed on or before the planned in-service date. LS Power (CAL GRID) indicated that three of the nine projects were delayed by an average of approximately

five and a half months. LS Power (CAL GRID) indicated that two projects were delayed due to force majeure claimed by the interconnecting transmission owner related to completion of transmission owner's facilities; however, LS Power (CAL GRID) indicated that its affiliate completed its scope of work for these projects on schedule and met its obligations to the ISO. LS Power (CAL GRID) did not provide an explanation for the schedule delays of the other delayed project. (Prior Projects and Experience Workbook)

### **Project Management and Team**

LS Power (CAL GRID) provided information for its project management plan which included risk management, schedule management, cost management, project communication, quality management, issues management, and safety management. (P-1)

Regarding risk management, LS Power (CAL GRID) indicated that its risk management process is an iterative cycle of identification, assessment, mitigation, and monitoring and that every member of the project team is responsible for recognizing and reporting risks. (P-1)

Regarding schedule management, LS Power (CAL GRID) indicated that the master schedule it has developed includes schedule dependencies, critical path activities, and incorporates the schedules of the project team and subcontractors. LS Power (CAL GRID) indicated that members of the project team would meet regularly to provide schedule updates, review the master schedule, and determine if tasks need to be accelerated or decelerated. (P-1)

Regarding cost management, LS Power (CAL GRID) indicated that the project director would be responsible for managing the detailed budget, which would be updated and re-forecasted on a monthly basis. LS Power (CAL GRID) also indicated that active management of the budget and early identification of variance trends would enable the project team to resolve budget issues before they become substantial. (P-1)

Regarding project communication, LS Power (CAL GRID) indicated that the project team would rely on a number of communication tools including meetings, written reports, electronic data sharing sites, open houses, planning sessions, project specific website, social media, and media releases. (P-1)

Regarding quality management LS Power (CAL GRID) indicated that it covers all aspects of the project and ensures the project meets all requirements of the solicitation, industry codes, and complies with all applicable laws, regulations, standards, guidelines, criteria, permits, and approvals. (P-1)

Regarding issues management, LS Power (CAL GRID) indicated that it follows a seven-step process for the management of issues from recognition and resolution. (P-1)

Regarding safety management, LS Power (CAL GRID) indicated that its Health & Safety manager would conduct regular safety audits and that all contractors would be required to provide site-specific safety orientation for each employee, subcontractor, and guest before granting access to any construction site. (P-1)

LS Power (CAL GRID) indicated that it has assembled a team with relevant experience in all areas of project execution and the technical and financial capabilities to design, construct, operate and maintain the project. (A-5)

LS Power (CAL GRID) indicated that it has retained specialized firms to (1) assist with routing, environmental permitting, and regulatory approvals; (2) support rights-of-way and land acquisition activities; (3) provide engineering services; (4) construct the transmission line; and (5) provide maintenance and emergency response services. (A-5)

LS Power (CAL GRID) indicated that the project's governance structure would utilize a project director, who is the overall lead, supported by a team of experts organized based on their area of expertise. (P-2)

LS Power (CAL GRID) indicated that the project director would be the primary point of contact for the ISO, is responsible for guiding LS Power (CAL GRID)'s day-to-day activities, and oversees all deliverables from selection as the Approved project Sponsor until the beginning of operations. (P-2)

LS Power (CAL GRID) further indicated that the project director would be dedicated to the project and would be supported by a highly qualified team of managers and subject matter experts with responsibilities for project execution in project development, engineering & procurement, and construction. (P-2)

LS Power (CAL GRID) provided an organization chart depicting the entire project team and areas of responsibility including the responsibilities of all contractors and also provided the resumes of the lead individuals, including the project director for this project. (A-5)

### **Risk Management**

LS Power (CAL GRID) indicated in the event of an up to three months delay related to land acquisition, permitting, or construction, its project schedule includes a float that could be used to meet the required in-service date of June 1, 2034. LS Power (CAL GRID) also provided additional measures it could take in the event of a six-month delay related to land acquisition, permitting, or construction. (P-3)

LS Power (CAL GRID) provided a project risk register that included 73 risk items in six risk categories - cost containment, project management and schedule, environmental permitting and public process, land acquisition, engineering & design, and construction. Each risk item included a rating for risk likelihood, risk consequence, risk level to the ISO/ratepayers and risk level to LS Power (CAL GRID) and each risk item also included a mitigation measure. (P-4)

LS Power (CAL GRID) identified major risks to the project, which include (1) equipment and material cost increases, (2) regulatory mandated deviations, (3) interest rate increases, (4) wildfire risk, and (5) land acquisition costs. (P-4)

Regarding wildfire risks and mitigation measures, LS Power (CAL GRID) indicated that since the parts of the project are in areas identified by Cal Fire as high fire hazard severity zones, it would develop a wildfire mitigation plan and its construction contractor would also establish a construction fire prevention plan. (P-4)

LS Power (CAL GRID) indicated that if it is selected as the approved project sponsor by the ISO for multiple projects, it has the resources to complete the projects on schedule and budget. (P-4)

### **Financial Incentive**

LS Power (CAL GRID) indicated that its proposal includes a schedule completion incentive penalty that would provide an incentive for LS Power (CAL GRID) to meet an in-service date of June 1, 2034, with a reduction in ROE of 2.5 basis points for every full calendar month that the project is delayed beyond June 1, 2034, up to a total of 30 basis points. (CC-1)

### **3.6.5 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.

Both CalGrid's and LS Power (CAL GRID)'s proposals include schedules that meet the required in-service date of June 1, 2034, specified in the ISO Functional Specifications.

Both CalGrid's and LS Power (CAL GRID)'s proposals indicate that they could complete their proposed project by the required in-service date in the ISO Functional Specifications if the start of construction were to be delayed by six months.

LS Power (CAL GRID) proposes an in-service date earlier than the required in-service date. However, the ISO stated in the ISO Functional Specifications for this project that it will not attribute any value to an in-service date earlier than the required in-service date. With this in mind, the ISO has chosen to evaluate the proposed project based on the project's ability or likelihood of achieving the required in-service date specified in the ISO Functional Specifications.

The ISO considers that both CalGrid's and LS Power (CAL GRID)'s schedules contain all the 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 both project sponsors' proposed schedule delay mitigation measures to be comparable. As a result, the ISO considers that both CalGrid's and LS Power (CAL GRID)'s proposed schedules meet the required in-service date specified in the ISO Functional Specifications and both of these project sponsors propose reasonable measures to meet the required in-service date if the project start date were to be delayed by six months.

Based on the forgoing 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 between the proposals of CalGrid and LS Power (CAL GRID) regarding this component of the factor.

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

The ISO's analysis for this component of the factor focused primarily on the ability of the project sponsors to complete the project by the latest in-service date specified in the ISO Functional Specifications and any potential risks associated with each project sponsor's

proposal that might affect 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 their experience, including but not limited to the information in their proposed schedules and 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.

### **Previous Experience**

Both CalGrid and LS Power (CAL GRID) and their team members have different levels of experience with previous transmission line and reactive compensation projects. CalGrid provided information on 17 projects and LS Power (CAL GRID) provided information for nine projects that were at voltage levels 200 kV or above and completed in the past ten years.

Regarding completing projects on schedule, the ISO considers that CalGrid and LS Power (CAL GRID) have demonstrated a reasonable degree of success in meeting previous project schedules. The schedule performance information provided by these two project sponsors showed that 94% of CalGrid's projects and 66% of LS Power (CAL GRID)'s projects were completed on or ahead of schedule.

The schedule performance information provided LS Power (CAL GRID) show an average delay of under six months for prior projects that were not completed on schedule. The schedule information provided by CalGrid indicate that one project was delayed by nearly 33 months due to the extended CPUC regulatory process. For projects that were delayed, the ISO considers the reasons provided by these two project sponsors to be reasonable and, for the most part, outside of the project sponsor's control.

The ISO considers that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding completing previous projects on schedule.

### **Project Management and Team**

Both CalGrid and LS Power (CAL GRID) describe a reasonable approach to professional project management. Both of these sponsors lay out detailed project management programs, as well as identify the teams that would be working on each task of the project.

The ISO considers that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding project management and team.

### **Project Risk and Management**

Both CalGrid's and LS Power (CAL GRID)'s proposals include a thorough approach to identify risks to the project schedule and possible mitigations for those risks. These two project sponsors confirm their ability to work on multiple projects simultaneously, if awarded more than one. These two project sponsors indicate that they have taken steps to reduce schedule risk and that they can meet the in-service date in case of a six-month delay in land acquisition, permitting, and construction.

As discussed in Section 3.4 of this report, both CalGrid and LS Power (CAL GRID) propose roughly similar yet distinct routes for their transmission line proposals, with both paralleling existing corridors for significant portions of the identified routes. However, the proposal from LS Power (CAL GRID) identifies a need for greater infrastructure to

access the proposed transmission line during both development and construction and operations than the proposal from CalGrid. The ISO considers the minimization of the need for new access roads and lay down areas to decrease project risk during development and construction and operations. The ISO has concluded that the challenges ultimately should not prevent LS Power (CAL GRID) from acquiring the necessary land rights for the project and complete the project on schedule, given the significant amount of float included in LS Power (CAL GRID)'s proposed schedule and the availability of alternate routes and substation sites in the event some of the land rights cannot be obtained for the primary proposed route or site.

The ISO considers there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding project risk and management, due to the significant amount of float identified in each of the proposals and that none of the foregoing risks to the proposed schedules of the project sponsors is significant enough to pose a risk that the project could not be completed by the required in-service date in the ISO Functional Specifications.

### **Financial Incentive**

Regarding a financial incentive to complete the project by the required in-service date in the ISO Functional Specifications, CalGrid's proposal includes a financial incentive that would reduce the project ROE by 2.5 basis points for each full calendar month that the project is delayed beyond June 1, 2034, up to a total of 30 basis points. LS Power (CAL GRID)'s proposal also includes a financial incentive consisting of a reduction in ROE by 2.5 basis points for every full calendar month that the project is delayed beyond June 1, 2034, up to a total of 30 basis points.

The ISO considers that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding financial incentives.

### **Overall Component**

The ISO considers that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding previous experience, project management and team, project risk and management approaches, and financial incentive to complete the project on schedule.

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 has determined that, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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 between the proposals of CalGrid and LS Power (CAL GRID) regarding the first component (proposed schedule) of the factor.

Regarding the second component (demonstrated ability to meet the proposed schedule), the ISO has determined that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding this component of the factor.

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, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding this factor overall.

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

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.

As discussed in Section 2.1, the ISO has identified this selection factor as a key selection factor because the New Humboldt to Fern Road 500 kV Line project will require significant financial resources because it is a costly project.

Due to the size and cost of this project, the ISO also commissioned an outside consultant that performed an independent financial review of project sponsor financial capabilities.

Project sponsors provided information regarding 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.

Although 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, where possible, the ISO relies on tangible net worth<sup>8</sup>, which removes certain assets and

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<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).

<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 as assets) minus intangible assets (*i.e.*, those assets not having a physical existence such as patents,

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

### **3.7.1 Information Provided by CalGrid**

#### **Project Financing Experience**

CalGrid provided a list of several transmission and substation projects that its parent company and affiliated entities have financed in the past ten years. (Prior Projects and Experience Workbook)

CalGrid provided information regarding financing of representative projects through its parent and affiliated entities that were similar in type but slightly less than the expected cost of this project. CalGrid indicated that the representative projects were financed using a project-level financing approach. CalGrid indicated that construction financing would be funded by financial institutions and converted to long-term debt after completion. (F-11, F-12)

#### **Project Financing Proposal**

CalGrid indicated that it proposes to create a special purpose entity that would own the assets and facilitate project-level financing to support the construction and operations of

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trademarks, franchises, intellectual property, and goodwill) minus derivative assets (net of any matching liabilities, assuming the result is a positive value) minus total liabilities.

the project. CalGrid indicated that it would rely on BETP IV, and its ultimate parent Blackstone, to provide financial support and guarantees for this project. (F-2, F-5)

CalGrid indicated the project would be financed using a combination of debt and equity. CalGrid indicated that Viridon, acting through CalGrid and with the support of the majority owner BETP IV, would invest 100% of the equity required to finance the project and anticipates using debt and equity throughout the project's life. (F-1, F-5).

CalGrid indicated that Viridon and SCE have entered into an agreement pursuant to which SCE upon, commercial operation, would be able to acquire from Viridon a twenty percent (20%) minority interest in the special purpose entity owning the project while Viridon retained the remaining eighty percent (80%) in accordance with the agreement (A-5).

CalGrid indicated that it would act on behalf of Viridon and BETP IV to invest any required equity in the project, would be responsible for arranging the debt associated with the construction of the project, and would service the debt after placing the project in service. CalGrid indicated that it proposes to access the debt markets to lead placement of limited-recourse financing at the project level to support the construction and long-term operation of the project. (F-2, F-5)

CalGrid indicated that BETP IV intends to make a financial commitment to lenders upon financial closing to support the equity requirements of the project and would provide the appropriate assurances that capital would be sufficient to complete all phases of the construction program account upfront. (F-12)

CalGrid also indicated that it is investigating the possibility of securing project financing through WAPA Transmission Infrastructure Program and various Department of Energy (DOE) programs. (F-12)

To provide further evidence of financial support for the project, CalGrid provided letters of support from three commercial banks. The letters state that they are non-binding and should not be construed as a commitment to finance the project. (F-12)

### **Financial Resources**

CalGrid provided a letter of financial support for the project sponsor financial obligations signed by an officer of BETP IV indicating that appropriate financial assurance instruments would be provided prior to the close of the project's financings and as required by lenders pursuant to the financings of the project. (F-2)

CalGrid's proposal included a parent support letter signed by an officer from Blackstone indicating support for the project by Blackstone, the ultimate parent of the project's majority owner BETP IV, and that BETP IV would benefit from Blackstone's strong reputation in the financial community. (F-2)

CalGrid provided pro forma financial assurance instruments to support the equity funding requirements of the project, which would be effective conditional upon selection of CalGrid as the approved project sponsor and closing of the financing. (F-2)

CalGrid indicated that CalGrid and the special purpose entity, as wholly owned subsidiaries of Viridon and affiliates of Viridon's majority owner BETP IV, ultimate parent Blackstone, and other Blackstone entities, would benefit from all relevant capabilities and resources of the combined Viridon and Blackstone organizations. (F-5)

CalGrid provided Blackstone, Inc.’s annual audited financial statements for 2019-2023 and quarterly unaudited financial statements for 2024. (F-3, F-4)

CalGrid provided the following information from Blackstone, Inc.’s latest audited financial statements:

Total assets  
Total liabilities  
Net worth

### **Credit Ratings**

CalGrid indicated that Blackstone, Inc. is a public company and has been rated investment grade by two of the three credit rating agencies. CalGrid provided the following credit ratings and associated credit rating reports for Blackstone, Inc.: (F-6)

Moody’s: NR  
S&P: A+  
Fitch: A+

### **Financial Ratio Analysis**

CalGrid provided the following financial ratios based on Blackstone, Inc.’s audited financial statements: (F-9, F-10)

Funds from operations (FFO)/interest coverage  
FFO/total debt  
Total debt/total capital  
Total assets/total projected capital costs

## **3.7.2 Information Provided by LS Power (CAL GRID)**

### **Project Financing Experience**

LS Power (CAL GRID) provided a list of several transmission and substation projects that its parent, LS Power, financed in the past ten years. (Prior Projects and Experience Workbook)

LS Power (CAL GRID) provided information regarding LS Power’s financing of representative projects that were similar in type to, but lower in cost than the expected cost of this project. LS power (CAL GRID) indicated that the representative projects were financed with equity-to-debt contributions using a variety of debt sources, including project-specific financing through a number of commercial banks. (F-11)

LS Power (CAL GRID) also provided information regarding LS Power’s previous debt financings and a history of its ability and experience in utilizing the debt markets to consistently raise increasing amounts of capital for financing projects. (F-6)

### **Project Financing Proposal**

LS Power (CAL GRID) indicated it is relying on its parent LS Power to satisfy the financial criterion for this project. LS Power (CAL GRID) indicated that LS Power intends to access the debt markets to lead placement of limited-recourse financing at LS Power (CAL GRID) to support the construction and long-term operation of the project. LS Power (CAL GRID) indicated that it would own the assets of the project, would be

responsible for arranging the debt associated with construction of the project, and would service the debt after placing the project into service. (F-1)

LS Power (CAL GRID) indicated that under the terms of the limited-recourse financing, LS Power (CAL GRID)'s lenders would not have recourse to LS Power (CAL GRID)'s parent company, LS Power, but lenders would have access to LS Power (CAL GRID)'s specific assets, and under an irrevocable equity commitment, they would have recourse to LS Power (CAL GRID)'s committed equity. LS Power (CAL GRID) indicated that LS Power intends to make a financial commitment to the lenders upon financial closing in the form of a letter of credit or other credit support deemed satisfactory by the lenders to support the equity requirements of the project. LS Power (CAL GRID) indicated that this equity commitment to lenders would be irrevocable, thereby providing assurances that capital is sufficient to complete all phases of the construction program account upfront. (F-2)

LS Power (CAL GRID) indicated that it would convert debt used during development and construction or issue new long-term financing to support operations. (F-5)

LS Power (CAL GRID) provided evidence of LS Power's financial assurances to LS Power (CAL GRID) in the form of a written guarantee. (F-2)

LS Power (CAL GRID) also indicated that it plans to explore federal funding opportunities to obtain lower cost debt for the project and that its parent company, LS Power, has experience in obtaining funding from the DOE. (F-13)

### **Financial Resources**

LS Power (CAL GRID) provided a written financial guarantee from LS Power, signed by an officer of LS Power's general partner, indicating LS Power's financial assurance for the project. (F-2)

LS Power (CAL GRID) also provided an equity financing commitment letter, signed by an officer of the general partner of LS Power's management company, indicating the majority owner's commitment to provide funding to LS Power for the project. (F-2)

LS Power (CAL GRID) provided LS Power's annual audited financial statements for 2019-2023 and quarterly unaudited financial statements for 2024. (F-3, F-4)

Total assets  
Total liabilities  
Net worth

### **Credit Ratings**

LS Power (CAL GRID) indicated that LS Power (CAL GRID) and LS Power are privately held companies that are not rated by credit rating agencies. (F-6)

### **Financial Ratio Analysis**

LS Power (CAL GRID) provided the following financial ratios based on LS Power's audited financial statements: (F-9, F-10)

FFO/interest coverage  
FFO/total debt  
Total debt/total capital  
Total assets/total projected capital costs

### **3.7.3 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 financial resources and creditworthiness to finance the project and whether constructing, operating, and maintaining the facilities would significantly impair the project sponsor's creditworthiness or financial condition. In addition, the ISO commissioned a consultant to evaluate the financial qualifications of each of the proposals.

For purposes of the comparative analysis for this factor, the ISO has primarily considered the project sponsors' representations and the results of the consultant's financial review. In addition, the ISO considered each project sponsor's audited financial statements, 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., a corporate parent) for financial support on the project, the ISO 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.

Although there are slight differences between project sponsors regarding some of the components considered, including 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 project, considering the project cost estimates. Consequently, this comparative analysis relies in large part on minor degrees of difference.

#### **Project Financing Experience**

CalGrid provided information showing financing of multiple projects of similar type but primarily lower in cost than the expected cost of this project. LS Power (CAL GRID) provided information showing financing of multiple projects of similar type but primarily lower in cost than the expected cost of this project. Based on the information provided and representations by these two project sponsors, the ISO considers that over the past ten years CalGrid identified more financing experience than LS Power (CAL GRID).

Although CalGrid demonstrated more transmission project financing experience than LS Power (CAL GRID) in the past ten years, the ISO considers that CalGrid and LS Power (CAL GRID) have sufficiently demonstrated their ability to secure project financing for this project. Consequently, the ISO considers the project financing experience of these two project sponsors for their proposals to be sufficient such that there is no material

difference between them regarding the extent to which their project financing experience has a bearing on their ability to finance this particular project.

### **Project Financing Proposal**

Based on the financial proposals provided by each of the project sponsors, both CalGrid and LS Power (CAL GRID) would finance the project using a combination of both equity and debt. Equity for the project would be provided by the parent or an affiliate company of the project sponsor. Debt would be provided directly through the existing capital and/or credit facilities of the parent or through capital markets or financial institutions by either the project sponsor or the parent company. Debt provided during construction by the parent company may be converted into long-term debt once the project goes into operation. CalGrid and LS Power (CAL GRID) each intend to use limited-recourse debt financing with lenders. Both CalGrid's and LS Power (CAL GRID)'s capital structures are generally within a close range of each other regarding debt and equity.

CalGrid and LS Power (CAL GRID) each provided either a letter of financial assurance or guarantee from its parent company or affiliate for the financial obligations of the project.

As an alternative to sourcing financing from the capital markets, CalGrid and LS Power (CAL GRID) indicated they are investigating the possibility of securing project financing through either WAPA's Transmission Infrastructure Program or one or more of the DOE's programs. CalGrid received a letter of interest and support confirming WAPA's interest in leading a financing to support bids by CalGrid for the project, but the letter of interest and support is clear that it is not a commitment to fund the project.

Based on CalGrid's and LS Power (CAL GRID)'s reliance on parent funding and access to the capital markets, the ISO considers that there is no material difference in their funding proposals.

### **Financial Resources**

Both CalGrid and LS Power (CAL GRID) indicate they have access to a parent or an affiliate and the capital markets and financial institutions for financing this project. Each of the parent or affiliate companies of these two project sponsors would provide equity for the project based on equity to total capital ratios that are in accordance with industry practice. Both of the project sponsors have debt financing experience with the capital markets or financial institutions, and both CalGrid and LS Power (CAL GRID) have access to parent or affiliate funding to fulfill the balance of debt required to cover the cost of the project. The parent or affiliate companies of both CalGrid and LS Power (CAL GRID) also provided either a letter of guarantee or financial assurance to support the financial obligations of the project.

Based on the information provided by the project sponsors, the ISO considers that CalGrid's parent company, Blackstone is stronger regarding its ability to provide financing for this project than LS Power (CAL GRID)'s parent company, LS Power. Strength in this factor can help minimize the financial risk that a project may not be completed.

The ISO also calculated the tangible net worth for the parent companies of each of the project sponsors, and has concluded that for both the development and construction phase of the project and the operations phase of the project the parent of CalGrid has a higher tangible net worth than the parent of LS Power (CAL GRID) over the past five years.

Having the financial capacity to continue to bid on, win, and finance projects, although dependent in part on the financial resources of a company, also depends on the breadth and strength of a company's partners and banking relationships. Based on the foregoing analysis of the financial resources of the project sponsors, including their tangible net worth and the assets of their parents or affiliates, the ISO considers that the proposal of CalGrid is stronger in this regard than LS Power (CAL GRID)'s proposal. The ISO considers LS Power (CAL GRID) to have sufficient financial resources to complete this project, although CalGrid, for its proposal, is stronger regarding this consideration.

### **Credit Ratings and Estimated Default Frequency**

Public companies are typically rated by three major credit rating agencies, Moody's, S&P, and Fitch. Credit ratings are opinions about a company's relative creditworthiness. They provide a common standard for lenders to determine whether or not a company would pay its debts on time and in full.

CalGrid has a parent company that is public and has investment grade ratings from each of the credit agencies for the past five years. The parent company of LS Power (CAL GRID) is private. Investment grade ratings are an indication that the company is at low risk of default for creditworthiness purposes.

CalGrid is backed by an independently rated, investment grade parent company. LS Power (CAL GRID)'s parent is not independently rated by any of the three major credit rating agencies. The lack of a credit rating is not unusual, and the ISO has not considered it an adverse factor in this analysis or prior analyses.

In addition to available credit ratings, the ISO also used Moody's Analytics EDF report and equivalent credit ratings to assess whether a company is likely to default on its loan payments over a given period where the assets of a company go below its outstanding debt obligations that need to be paid. EDF reports were available for one of the two parent or affiliate companies of the project sponsors, for each of the past five years.

The EDF scores and equivalent ratings of the parent companies of CalGrid were better than LS Power (CAL GRID)'s parent company's EDF scores and equivalent ratings for each of the past five years.

Additionally, both CalGrid and LS Power (CAL GRID) declared that neither it nor its parent or affiliate company had a history of payment default or bankruptcy in the past five years.

The ISO relies on the EDF report and equivalent ratings as an additional financial metric to assess the probability that a company would default on its payments within a specified period of time. None of the EDF scores and equivalent ratings were unacceptable, but the EDF scores and equivalent ratings of CalGrid are better than those of LS Power (CAL GRID), as discussed above.

As a result of the foregoing analysis regarding credit ratings and EDF scores, the ISO considers the proposal of CalGrid to be stronger than LS Power (CAL GRID)'s proposal, regarding this consideration.

### **Financial Ratio Analysis**

CalGrid and LS Power (CAL GRID) provided audited financial statements for the past five years for their parent companies. Based on this information, CalGrid and LS Power (CAL GRID) provided interest and debt coverage, debt to capital, and total assets to projected capital costs of the project ratios in their proposals. These financial ratios provide insight into the operational trends of the parent companies of these two project sponsors over the past five years.

Financial ratios provide the ISO insight into a project sponsor's ability to pay interest and service debt out of funds from its operating activities as well as how leveraged a company is in terms of its total debt obligations. The interest and debt coverage ratios are an indicator of how many times interest and debt are covered by the parent company's operating income in each of the past five years.

The coverage ratios vary depending on industry and the capital-intensity of a company's operations. Based on the prior project and financing experience and other information provided in the proposals of CalGrid and LS Power (CAL GRID), their parents are involved with large infrastructure projects, and the timing of cash flows of certain projects may be unpredictable and thus should not by itself affect their ability to finance the project.

The total debt to capital ratio of each of CalGrid's and LS Power (CAL GRID)'s parent companies for each of the past five years indicated no risk of extensive financial leverage because the company's debt obligations do not exceed its capital balance.

Based on a comparison of the CalGrid's and LS Power (CAL GRID)'s financial ratios, the ISO considers the interest and debt coverage ratios and debt to capital ratios of CalGrid to be better than LS Power (CAL GRID)'s financial ratios for those measures.

As a result, the ISO considers the proposal of CalGrid to be stronger than LS Power (CAL GRID)'s proposal regarding this consideration.

### **Overall Analysis**

In performing the comparative analysis for this factor, the ISO 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.). This comparative analysis relies in large part on minor degrees of difference.

Based on the information provided by the project sponsors, the ISO has concluded that both CalGrid and LS Power (CAL GRID) and their parent or affiliate company has sufficiently demonstrated the experience and financial resources to undertake a project of this scope and cost. Also, as discussed above, the ISO considers there to be no material differences between these two project sponsors and their proposals regarding project financing experience and project financing proposals, especially when compared to the other differences between the project sponsors and their proposals. As discussed in detail above, the ISO considers CalGrid to have an advantage over LS Power (CAL GRID), in the area of financial resources. The ISO also considers CalGrid to have an

advantage over LS Power (CAL GRID) in the area of credit ratings and EDF and the area of financial ratio analysis.

Based on the foregoing, in conjunction with the independent financial review and all the other considerations included in the ISO's analysis for this factor, the ISO has determined that, based on the scope of this particular project, CalGrid and its proposal is better than LS Power (CAL GRID) and its proposal regarding this factor overall.

### **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**

##### **3.8.1 Information Provided by CalGrid**

CalGrid indicated it would submit permit applications to the following agencies for its proposed project: (E-1, E-2, E-3, E-4)

Expected federal permits:

- USFS Special Use Permit
- BLM Right of Way Grant
- USFS National Environmental Protection Act (NEPA) Environmental Impact Statement (EIS) and Record of Decision
- U.S. Fish and Wildlife Service (USFWS) Endangered Species Act (ESA), Section 7 Biological Opinion
- U.S. Army Corp of Engineers (USACE)-Rivers and Harbors Act, Section 10 permit
- USACE Clean Water Act, Section 404, Nationwide Permit (NWP) 57
- USFS National Historic Preservation Act (NHPA), Section 106 consultation
- USFS Archeological Resources Act, Permit

Expected California permits:

- CPUC Certificate of Public Convenience and Necessity (CPCN) and CEQA Review
- California Department of Fish and Wildlife (CDFW) California Endangered Species Act (CESA), Section 2081 Incidental Take Permit (ITP)
- CDFW California Fish and Game Code (CFGF) Section 1600 Lake or Streambed Alteration Agreement (LSAA)
- State Water Resources Control Board- (SWRCB) CWA Section 401

- SWRCB CWA Section 301 and 402(p) and National Pollution Discharge Elimination System (NPDES) Construction General Permit and Storm Water Pollution Prevention Plan (SWPPP)

CalGrid provided a list of its experience and the experience of its contractors obtaining permits for reactive compensation and transmission line projects. Regarding projects that are ongoing or have been completed in the past ten years, and are located in the U.S., the information provided included 44 transmission line projects with 34 projects in California, and four reactive compensation projects, with one project in California. (Prior Projects and Experience Workbook)

CalGrid indicated that its team has faced comparable environmental permitting risks similar to those foreseen for the project such as: (1) going through the CPCN/CEQA process, (2) NEPA process, (3i) permitting under Federal Endangered Species Act (FESA) and USFWS Designated Critical Habitat, and species listed under the CESA, (4) USFS Special Use Permit, and (5) challenges related to unanticipated discoveries, storm water pollution prevention plants and nesting bird buffers, and provided specific project examples where it faced these challenges. (P-5)

### **3.8.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated it would submit permit applications to the following agencies for its proposed project: (E-1, E-2, E-3, E-4)

Expected federal permits:

- USFS ROW and Special Use Permit
- BLM ROW Grant
- USFS NEPA EIS and Record of Decision
- USFWS ESA, Section 7 Biological Opinion
- National Marine Fisheries Service Section 7 Biological Opinion
- USFWS ESA Section 10 Habitat Conservation Plan
- USACE CWA Section 404, NWP 57
- USFS NHPA Section 106 Consultation

Expected California permits:

- CPUC CPCN and CEQA Review.
- CDFW CESA Section 2081 ITP
- CDFW CFGC Section 1600 LSAA
- SWRCB CWA Section 401 Water Quality Certification
- California Coastal Commission (CCC) Federal Coastal Consistency Certification
- California State Lands Commission (CSLC) Lease for crossing state lands.
- Caltrans Encroachment permit
- Central Valley Flood Protection Board Encroachment permit

LS Power (CAL GRID) provided a list of its experience and the experience of its contractors with obtaining permits for reactive compensation and transmission line projects. Regarding projects that are ongoing or have been completed in the past ten years, and are located in the U.S., the information provided included 17 transmission line projects with eight projects in California, and eight reactive compensation projects with two projects in California. (Prior Projects and Experience Workbook)

LS Power (CAL GRID) indicated that it has the experience of working with CPUC on the CEQA process for two projects in California. LS Power (CAL GRID) indicated that it also has experience with federal review and permitting processes including NEPA reviews, BLM ROW Grant, ESA compliance, USFWS Biological Opinions, BLM cultural and paleontological approvals, and various other federal and state agency approvals. (P-5)

## **Engineering Qualifications and Experience**

### **3.8.3 Information Provided by CalGrid**

CalGrid provided a list of its experience and the experience of its contractors with the design of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, ongoing or have been completed in the past ten years, and are located in the U.S., the information provided included 34 transmission line projects with seven projects in California, and nine reactive compensation projects with one project in California. (Prior Projects and Experience Workbook)

CalGrid indicated that its proposed transmission line design is consistent with the ISO Functional Specifications and either meets or exceeds the specifications related to line voltage (nominal phase to phase voltage of 525 kV), basic insulation level rating, ampacity, design temperature, line impedance, reactive compensation, shield wire, communications, and other requirements provided by the ISO. (QP-1)

CalGrid indicated that its proposed design satisfies applicable reliability criteria and ISO planning standards. CalGrid indicated that the transmission line would be designed with two diverse telecommunication paths to meet the Western Electricity Coordinating Council (WECC) Guidelines. (QP-2)

CalGrid indicated that its team has faced engineering risks and challenges similar to those foreseen for the project such as: (1) challenging geotechnical conditions, (2) coordination with interconnecting utilities, (3) multiple utility crossings, (4) complex structural analysis with CA codes, (5) high elevation and mountainous terrain, and (6) seismic design of substation facilities and provided project examples where it faced these challenges. (P-5)

CalGrid provided the detailed design criteria that it would use in the design of the New Humboldt-Fern Road 500 kV transmission line and two series compensation stations. (T-4)

CalGrid indicated that one series compensation station would be co-located with New Humboldt Substation and the second series compensation station located near the Fern Road Substation and that each facility would include two banks of series capacitors and a shunt reactor. (S-1)

CalGrid provided detailed design criteria that identified a list of codes, standards and requirements that it would use in the design of the series compensation stations, including General Order (GO) 95, National Electric Safety Code (NESC) requirements, detailed engineering routing, and California and local requirements. CalGrid provided a description of the major electrical equipment, dual protection scheme, line terminations, supervisory control and data acquisition (SCADA), and security. CalGrid indicated that the dual communication paths may include single mode fiber, leased phone line, cellular, radio or copper. (S-1 to S-8)

CalGrid provided detailed design criteria for transmission line design that included codes and standards, CPUC General Order 95 – Overhead Electric Line Construction (GO 95) and NESC requirements, and detailed engineering routing criteria. CalGrid indicated that the design includes two bundle 2156 kcmil ACSR Bluebird conductor, structures designed for GO 95 grade B and provided a list of crossings that would require GO 95 grade A design, lattice tower as the primary structure type with an average span length of 1,210 feet. CalGrid indicated that an optical ground wire would be installed on the New Humboldt to Fern Road transmission line with a secondary communications path provided on the line using power-line carrier communication and wave traps co-located on the Fern Road and New Humboldt Substation termination structures. CalGrid indicated its approach for achieving redundant and diverse communication paths is consistent with the guidance provided in the WECC documents. CalGrid indicated that it would also engage interconnecting utilities (PG&E and LSPGC) to leverage existing communications infrastructure where possible for a secondary or tertiary path. CalGrid indicated that a meteorological study would review historical data to understand the past wind and ice conditions and for segments of the line where more severe microclimates are anticipated focused weather modeling may be required. CalGrid indicated that the design criteria would be modified to address more stringent criteria, if needed, to support structure and line design. CalGrid also provided information on transmission line crossings, right-of-way width, ampacity for an ambient temperature of 50°C, insulation, and line impedance. (T-1 to-T-10)

CalGrid indicated that its routing criteria minimized impacts to the facilities from risk from natural disasters such as wildfire, by avoiding and minimizing exposure to CPUC designated High Fire Threat Districts, tsunamis and floods, by siting outside of tsunami hazard zones and floodplains to the extent practicable, and earthquakes, through consideration of geotechnical conditions. CalGrid indicated that additional rights-of-way width requirements have been included in the design in the forest area to meet vegetation clearance requirements under GO 95 Rule 35 for 500 kV transmission lines in the CPUC designated High Fire Threat Districts, as well as clearances to vegetation listed in North American Electric Reliability Corporation (NERC) reliability standard NERC FAC-003-4 Transmission Vegetation Management. CalGrid indicated that the line would terminate on a dead-end tower installed and owned by the New Humboldt Substation owner and on a dead-end tower at Fern Road installed and owned by LSPGC. (T-1 to T-10)

### **3.8.4 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) provided a list of its experience and the experience of its contractors with the design of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, ongoing or have been completed in the past ten years, and are located in the U.S., the information provided included 11 transmission line projects with three projects in California, and two reactive compensation projects with one project in California. (Prior Projects and Experience Workbook)

LS Power (CAL GRID) indicated that its design for the series compensation and transmission line meet or exceed the needs identified in the ISO transmission plan, including the ISO Functional Specifications and all applicable standards, and that all transmission components meet or exceed the requirements of GO 95 Grade B (Grade A where required) requirements, the NESC, and the requirements identified in the ISO Functional Specifications. (QP-1)

LS Power (CAL GRID) indicated that the series compensation and transmission line designs meet or exceed applicable Institute of Electrical and Electronic Engineers (IEEE), American Society of Civil Engineers (ASCE), GO 95, and NESC requirements associated with electrical clearances, load factors, and strength factors. LS Power (CAL GRID) indicated that project structures and buildings are designed in accordance with ASCE, GO-95, and NESC wind maps. (QP-2)

LS Power (CAL GRID) indicated that design and engineering risks include detailed engineering requires design changes, unforeseen soil conditions requiring larger or different foundations, first implementation of new technology that does not perform as designed, errors and omissions in the design, and that final electrical studies may require modifications to design. LS Power (CAL GRID) indicated that it has removed or mitigated many of the major risks factors and has the resources to complete the project on schedule and within budget, without impacting other projects (P-4)

LS Power (CAL GRID) indicated that it has demonstrated experience of successfully designing and engineering projects with facilities similar to those included in the project design. LS Power (CAL GRID) indicated that it has completed a transmission line project using guyed lattice, self-supported lattice, and tubular steel structures and provided examples of projects where it used lattice structures. (P-5)

LS Power (CAL GRID) indicated that one series compensation station would be located on the proposed New Humboldt Substation parcel and that the second series compensation station would be located adjacent to the Fern Road Substation. (S-1)

LS Power (CAL GRID) provided the detailed design of the series compensation stations including GO 95 and NESC requirements and California and local requirements. LS Power (CAL GRID) provided descriptions of the major electrical equipment, dual protection scheme, line terminations, SCADA, and security. (S-1 to S-8)

LS Power (CAL GRID) indicated that the primary communication path would be optical ground wire on the New Humboldt-Fern Road 500 kV transmission line and that the secondary path would utilize the PG&E communication system.

LS Power (CAL GRID) provided the detailed design of the New Humboldt-Fern Road 500 kV transmission line that included GO 95 and NESC requirements, detailed engineering routing criteria, right-of-way width, transmission line crossings, ampacity for an ambient temperature of 50°C, insulation, and total impedance. LS Power (CAL GRID) indicated that transmission line design utilizes a three conductor bundle of 954 54/7 kcmil ACSS conductor and the primary structure type would be lattice tower with an average span length of 1,280 feet. LS Power (CAL GRID) indicated that the transmission line structures are designed to GO 95 Grade B and provided a list of crossings that would require GO 95 Grade A design. LS Power (CAL GRID) indicated that it would conduct comprehensive wind and ice loading studies to determine the maximum wind and ice load, and, if the meteorological studies identify higher loadings than those specified by GO 95 and NESC, that it would update the design criteria accordingly and ensure structures are engineered to withstand the increased loading. (T-1 to T-10)

LS Power (CAL GRID) indicated that the rights-of-way would meet all the electrical code clearance requirements to the edge of the rights-of-way and that in all cases, clearances to vegetation would be maintained in accordance with NERC FAC-003-4 'Transmission

Vegetation Management’. LS Power (CAL GRID) indicated that rights would be obtained to trim or clear danger trees outside the rights-of-way if necessary. LS Power (CAL GRID) indicated that the right-of-way width for each segment of the project would generally be 150 feet to 200 feet, with exceptions for special circumstances (crossings, constrained areas) and that the corridor width is influenced by conductor blowout under extreme wind plus electrical clearances to the boundary of the right-of-way and sufficient space to complete maintenance activities. LS Power (CAL GRID) indicated that to reduce the risk of damage to the project from wildfires, the right-of-way width would be widened to generally 200 feet or more in areas with high vegetation density and elevated fire risk. LS Power (CAL GRID) indicated that the line would terminate at the first structure outside the substation property line, and that the approved project sponsor of the New Humboldt Substation would install and own the dead-end structure. (T-7)

### **3.8.5 ISO Comparative Analysis**

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

For purposes of comparative analysis of 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 line and reactive compensation projects with voltage greater than 200 kV. This includes but is not limited to (1) the permitting experience of the project sponsor and its team for projects that 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 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 California. For example, compliance with the CEQA is particularly unique to the state of California.

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

Both CalGrid’s and LS Power (CAL GRID)’s teams have experience in permitting projects in the U.S. and California including experience with the environmental permitting process for transmission line and reactive compensation projects in California although the amount of experience varied between projects sponsors and their proposed teams.

Regarding its analysis of this component of the factor, the ISO considers the environmental permitting teams identified by CalGrid and LS Power (CAL GRID) as part of their teams to be qualified and fully capable of handling the environmental permitting work associated with their proposed projects.

The ISO considers that regarding environmental permitting experience in the U.S. and California that there is no material difference between CalGrid’s and LS Power (CAL

GRID)'s proposals because both proposals include substantial project experience in the U.S. and California.

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 has determined that, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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 line and reactive compensation projects, including but not limited to (1) the engineering experience for similar projects of the project sponsor and its team member or members who have been designated as having responsibility for project engineering, and (2) 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 transmission line and reactive compensation engineering and design experience in other countries because the project is 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 NESC published by the IEEE. In addition, the process that must be followed for engineering and design of transmission lines and reactive compensation in California includes adherence to requirements of the California Building Standards Commission, the California Energy Commission, the California Environmental Protection Agency, California Occupational Safety and Health Administration (OSHA), California High Voltage Electrical Safety Orders, California Building Code Title 24, CPUC, and county and city planning and permitting requirements.

Both CalGrid's and LS Power (CAL GRID)'s technical design of the series compensation and transmission line meet the ISO Functional Specifications for the project.

The ISO has considered the engineering and design qualifications and experience of the project sponsor and its team. The ISO considers the engineering teams identified by CalGrid and LS Power (CAL GRID) to be highly qualified and have substantial experience.

Based on the foregoing considerations, in conjunction with all the other considerations included in the ISO's analysis of this component of the factor, the ISO has determined

that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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 regarding the first component (environmental permitting experience) of the factor there is no material difference between the proposals of CalGrid and LS Power (CAL GRID).

As discussed above, the ISO has determined that regarding the second component (engineering and design experience) of the factor there is no material difference between the proposals of CalGrid and LS Power (CAL GRID).

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, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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**

### **3.9.1 Information Provided by CalGrid**

CalGrid provided a list of its experience and the experience of its contractors with the construction of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, have been completed in the past ten years, and are located in the U.S., the information provided included 22 transmission line projects with one project in California, and three reactive compensation projects with one in California. (Prior Projects and Experience Workbook)

CalGrid indicated that its team has faced construction risks and challenges similar to those foreseen for the project such as landowner concerns; construction access challenges; geotechnical and environmental issues; seismic considerations; protected wildlife species; crossings including bodies of water, critical species habitats, railroads, major highways and electrical infrastructure; coordinating with permitting personnel to

fully characterize the location and nature of cultural significant areas; mitigating supply chain delays; and mitigating wildfire risk and provided project examples where it faced these challenges. (P-5)

CalGrid indicated that its selected construction contractors have experience complying with a California utility's wildfire standard for preventing and mitigating fires while performing work in California. (C-7)

CalGrid indicated that it has not received any construction-related notice of violations (NOVs), nor has any member of its team received any such NOVs regarding any function they would perform for CalGrid. CalGrid indicated that it and its project teams have not had any construction-related fines levied. (C-8)

### **3.9.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) provided a list of its experience and the experience of its contractors with the construction of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, have been completed in the past ten years, and are located in the U.S., the information provided included ten transmission line projects with four projects in California, and no reactive compensation projects. (Prior Projects and Experience Workbook)

LS Power (CAL GRID) indicated that it has faced construction-related risks and challenges similar to those foreseen for the project such constructing high-voltage transmission lines on rugged, difficult to access lands with multiple line and highway crossings and provided a few examples of projects where the conditions were similar. (P-5)

LS Power (CAL GRID) indicated that it has not been subject to any violations or fines in the last ten years related to construction. LS Power (CAL GRID) indicated that it has not been subject to any fines or investigation in the past ten years or is a defendant in any legal proceeding for violation of any construction-related law. (C-8)

## **Maintenance Record**

### **3.9.3 Information Provided by CalGrid**

CalGrid provided a list of the experience of its contractor with the maintenance of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, have been maintained in the past ten years, and are located in the U.S., the information provided included 4,869 miles of transmission lines with most in California, and 13 reactive compensation projects with most in California. (Prior Projects and Experience Workbook)

CalGrid indicated that its O&M contractor has faced maintenance risks and challenges similar to those foreseen for its proposed project such as wildfire risks; environment impact including endangered species; use of helicopters and drones in areas inaccessible by ground; and weather challenges including high winds, heavy rains, thunderstorms, and occasionally snow. (P-5)

CalGrid indicated that its O&M contractor currently operates and maintains a total of 13,000 miles of transmission lines subject to the jurisdiction of the NERC, WECC, and the ISO. (M-1)

CalGrid indicated that while its O&M contractor's extensive maintenance network enables rapid maintenance activities, the organization is also experienced in servicing lines that lie outside of its service area. CalGrid provided a list of lines it maintains in desert and mountain regions that included their lengths. CalGrid indicated that its O&M contractor also maintains several series capacitor projects located in its system. (M-1)

CalGrid indicated that since 1998, all of its O&M contractor's facilities under the operational control of the ISO have been subject to all aspects of the Transmission Control Agreement (TCA) Appendix C. CalGrid indicated that its O&M contractor is compliant with the elements listed in the TCA Appendix C, Section 5.2.1. (Transmission Line Maintenance) and 5.2.2 (Substation Maintenance). (M-4)

CalGrid provided a copy of its O&M contractor's 2023-2025 wildfire mitigation plan which indicated that its O&M contractor maintains more than 82,000 circuit miles of overhead and underground for distribution and transmission lines and that approximately 13,925 circuit miles of its transmission and distribution of overhead conductor are in its O&M contractors identified high fire risk areas. This plan indicated that CalGrid's O&M contractor's execution of its 2020-2022 wildfire mitigation plan helped make meaningful progress in reducing a large portion of wildfire risk and public safety power shutoff impacts on its system. This plan further indicated that while CalGrid's O&M contractor was already implementing a myriad of wildfire mitigation initiatives in the years before 2020, over the 2020-2022 wildfire mitigation plan period CalGrid's O&M contractor made even more progress in hardening its system and improving its capabilities in risk and weather modeling, asset inspections, vegetation management, situational awareness, and community outreach. This plan also indicated that CalGrid's O&M contractor achieved 136 of the 147 (~93%) annual goals in the years they were established and completed nearly all the remaining goals within the 2020-2022 wildfire mitigation plan period, resulting in significant reductions to wildfire and public safety power shutoff risk. (M-4)

CalGrid indicated that the most recent ISO annual review (draft) of its O&M contractor, conducted April 23–25, 2024, noted one "concern" and three "observations" for substation; and one "findings" and three "concerns" for transmission. CalGrid provided a copy of the 2024 ISO maintenance review. (M-6)

CalGrid indicated that its O&M contractor is periodically audited by the CPUC, for compliance of its inspection and maintenance activities on transmission facilities, both those controlled by the ISO and those under CPUC jurisdiction. CalGrid indicated that the CPUC also audits its O&M contractor's substation facilities for compliance with CPUC GO 174. CalGrid provided the most recent transmission and substation audit reports. (M-6)

CalGrid indicated that on an annual basis its O&M contractor submits a self-certification to the WECC to certify compliance with NERC reliability standards. In 2023, its O&M contractor self-certified as fully compliant to all NERC reliability standards. (M-6)

CalGrid indicated that since 1998, all of its O&M contractor's facilities under the operational control of the ISO have been subject to all aspects of the TCA Appendix C

and that its O&M contractor is compliant with the elements listed in the TCA Appendix C, Section 4.3 (Targets for Availability Performance). (M-7)

CalGrid indicated that the combined experience of CalGrid and its O&M contractor demonstrates the capabilities and experience to provide its Availability Measures in accordance with TCA Appendix C 4.3. (M-7)

### **3.9.4 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) provided a list of its experience and the experience of its contractors with the maintenance of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, have been maintained in the past ten years, and are located in the U.S., the information provided included 17 transmission projects totaling 900 miles of transmission lines with eight transmission line projects in California, and five reactive compensation projects with two projects in California. (Prior Projects and Experience Workbook)

LS Power (CAL GRID) indicated that it has faced maintenance-related risks and challenges similar to those foreseen for its proposed project that includes operating and maintaining a line across rugged, difficult to access lands and provided an example. LS Power (CAL GRID) also indicated that it would be maintaining extra high voltage transmission lines in California associated with the Manning, Collinsville, Metcalf, and Newark facilities prior to energization of its project. (P-5)

LS Power (CAL GRID) indicated that DesertLink currently complies with the provisions of TCA Appendix C Sections 5.2.1 (Transmission Line Circuit Maintenance) and 5.2.2 (Station Maintenance). (M-4)

LS Power (CAL GRID) indicated that LSPGC filed its 2023-2025 wildfire mitigation plan with the Office of Energy Infrastructure Safety which includes the Orchard and Fern Road STATCOM projects. This plan indicated that LSPG-CA was not a California electrical corporation prior to 2023 and thus did not have a wildfire mitigation plan in the 2020–2022 cycle. (M-5)

LS Power (CAL GRID) indicated that LS Power currently complies with ISO standards for inspection, maintenance, repair, and replacement set forth in TCA Appendix C. LS Power (CAL GRID) indicated that DesertLink maintains an ISO approved maintenance plan per the TCA and provides maintenance reports to the ISO in compliance with TCA Appendix C Section 6 (Maintenance Record Keeping and Reporting). LS Power (CAL GRID) provided a recent maintenance report that was submitted to the ISO by DesertLink showing planned vs. actual activity. (M-6)

LS Power (CAL GRID) provided sample LS Power inspection reports for substations and vegetation management. LS Power (CAL GRID) provided a five-year maintenance report for the Cross Texas Transmission system describing work performed and test results. (M-6)

LS Power (CAL GRID) indicated that in 2022, Texas Reliability Entity in coordination with Reliability First Corporation conducted a compliance audit of certain LS Power utilities. The LS Power utilities were found to have no findings of non-compliance with all the NERC reliability standards that were included in the scope of this audit. (M-6)

LS Power (CAL GRID) indicated that LS Power currently complies with the requirements of TCA Appendix C Section 4.3 (Targets for Availability Performance). LS Power (CAL GRID) provided DesertLink's 2023 availability measures report. (M-7)

LS Power (CAL GRID) provided a summary of annual availability data from 2019 through 2023 for all LS Power Grid transmission facilities considering only forced outages which showed a range of annual availability from 99.43% in 2020 to 100% in 2019. LS Power (CAL GRID) indicated that LS Power's availability in 2020 was impacted from a major ice storm in Texas that caused significant damage to transmission facilities across the region. (M-7)

### **3.9.5 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 both the project sponsor and its team members in constructing reactive compensation and transmission line projects, 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 transmission line, and reactive station construction experience in other jurisdictions because the project is 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 requirements of Cal OSHA, 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 USFS and USFWS requirements, Fair Labor Standards Act regulations, and NESC standards.

The ISO has considered the construction qualifications and experience of the project sponsors and their teams. Regarding its analysis of this component of the factor, the ISO considers the teams identified by CalGrid and LS Power (CAL GRID) to be qualified, experienced, and capable of handling the construction work associated with their projects. Both of these project sponsors' teams have faced construction risks similar to those foreseen for the project and have relevant experience in the construction of transmission line projects in the U.S. Both CalGrid and LS Power (CAL GRID) conveyed that their proposed construction team has not had any safety, litigation, or environmental legal violations, fines, or other notices of violations in the past ten years.

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 has determined that, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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.

Regarding its analysis of this component of the factor, the ISO considers the teams identified by CalGrid and LS Power (CAL GRID) to be qualified, experienced, and capable of handling the maintenance of the project. Each of these two project sponsors provided examples of relevant U.S. and California experience with the maintenance of substations and transmission lines, including vegetation management, and have faced maintenance risks similar to those foreseen for the project.

Both CalGrid's and LS Power (CAL GRID)'s teams have experience in maintaining transmission facilities as ISO PTOs in accordance with the TCA although the amount of experience varied between the project sponsors and their proposed teams. The team of CalGrid has more experience maintaining transmission assets located in California and under ISO control than the team of LS Power (CAL GRID).

Both CalGrid and LS Power (CAL GRID) propose transmission line routes that run through CPUC designated High Fire Threat Districts, therefore the ISO considers past experience in maintaining transmission lines in high fire threat areas and in developing CPUC approved wildfire mitigation plans to be an advantage. Both of these project sponsors have experience with developing wildfire mitigation plans and have existing CPUC approved wildfire mitigation plans. However, CalGrid's team currently maintains transmission lines in CPUC-designated High Fire Threat Districts under a wildfire mitigation plan while LS Power (CAL GRID) has no experience with the maintenance of transmission lines under a wildfire mitigation plan.

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 has determined that, based on the specific scope of this project, the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding 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.

Regarding the first component (previous record regarding construction of transmission facilities) of the factor, the ISO has determined that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID).

Regarding the second component (previous record regarding maintenance) of the factor, the ISO has determined that the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal.

Based on the forgoing considerations, in conjunction with all the other considerations included in the ISO's analyses for this factor, the ISO has determined, based on the

specific scope of this project, that the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding this factor overall.

### **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 of the Project Sponsor and its team.”

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**

### **3.10.1 Information Provided by CalGrid**

CalGrid indicated that its team has faced construction risks and challenges similar to those foreseen for the project such as landowner concerns; construction access challenges; geotechnical and environmental issues; seismic considerations; protected wildlife species; crossings including bodies of water, critical species habitats, railroads, major highways and electrical infrastructure; coordinating with permitting personnel to fully characterize the location and nature of cultural significant areas; mitigating supply chain delays; and mitigating wildfire risk and provided project examples where it faced these challenges. (P-5)

CalGrid indicated that it has selected two contractors - one for the construction of the transmission line and the other for construction of the series compensation facilities. CalGrid indicated it would engage a construction management team to assist in monitoring the contractors' processes, procedures, and control. (C-1)

CalGrid provided a list of construction activities and associated inspections that would be required and the key personnel and their role in the required inspections. (C-1)

CalGrid indicated that it and its construction contractor would be responsible for establishing material yards, sequencing and receiving material to provide material to subcontractors, quality and expediting. (C-2)

CalGrid indicated that multiple material yards would be established throughout the 142 miles of transmission corridor with the main material yard located central to the length of the transmission corridor which would have access to main freeways and highways to streamline truck deliveries. CalGrid indicated that material laydown yards located in the mountainous region would include space reserved for helicopter operations. CalGrid also indicated that the laydown yard would be fenced for security purposes. (C-2)

CalGrid provided detailed information on the process and procedures used by CalGrid's engineering and procurement teams and the construction contractor to finalize and purchase the materials, receive and stockpile it in the yards. (C-2)

CalGrid indicated that it, along with the representatives from the construction contractors, would perform factory and on-site visual inspections of the equipment and materials. (C-2)

CalGrid indicated that it does not expect procurement to have an impact on the construction schedule or the substantial completion dates of the project. CalGrid indicated in the event material expediting might be required, it and its construction contractors' procurement team would work with the specific vendor to find an acceptable solution to the encountered delay. (C-2)

CalGrid indicated that the construction contractors would be responsible for coordination of the duration and timing of any clearances of existing circuits necessary during construction. CalGrid provided details of the planning and coordinating activities for coordinating outages and clearances. (C-3)

CalGrid provided a list of utility crossings, the estimated outage duration and an outage window for scheduling outages. (C-3)

CalGrid indicated that constructability reviews of engineering drawings would occur at three different design completion milestones – 60%, 90% and job issued for construction. CalGrid provided detailed information on the activities that would be performed in the three constructability reviews. (C-4)

CalGrid indicated that its teams would prepare construction bid specifications for the project consistent with the final engineering drawings which would include any identified methods for construction, temporary land use required, material storage, material management, assembly locations and a proposed schedule of construction activities. (C-4)

CalGrid indicated that its project manager, with the support of the owner's engineer, would implement processes, procedures, and checklists to track construction activities, environmental compliance during construction, inspection activities, and other critical work. (C-4)

CalGrid indicated that it does not currently possess any easements, orders of possession or permits for the project. (C-5)

CalGrid indicated that the schedule would be managed using industry standard software, Primavera P6 and would include the timing of key activities and resources required (i.e., resource loading). CalGrid indicated that the project's master schedule would be prepared and maintained by the construction management team and would serve as the basis for the detailed construction schedule. CalGrid indicated that this schedule would drive project execution planning, progress reporting, cost planning and reporting, forecasting, and any necessary progress payments to contractors. (C-6)

CalGrid indicated that it proposes utilizing a suite of modern technologies such as drones for inspections and wire stringing, infrared and corona scanning technology during testing and commissioning, and low-emission vehicles for crew transportation. (C-7)

CalGrid indicated that helicopters would be utilized for the placement and installation of over 120 towers of the overhead portion of transmission line and would also expect to

support wire stringing operations along with conventional methods using a puller and tensioner from the ground. (C-7)

CalGrid indicated that it plans to utilize existing PG&E and WAPA access roads to reduce the quantity of new access roads required to safely construct, operate and maintain the electric infrastructure located in CPUC designated Tier 2 High Fire Threat Districts. (C-7)

CalGrid indicated it has implemented the following measures to reduce the risk and severity of wildfire during construction: (1) each construction crew would be staffed with one team member who is solely responsible for wildfire detection and mitigation, (2) all vehicles would be equipped with fire mitigation tools, (3) water delivery and propulsion is part of each crew's equipment inventory, (4) the construction schedule would be modified to stop work when conditions are particularly hazardous from a wildfire perspective, such as during red flag warning days, (5) signage would be posted at each job site to denote wildfire risk, (6) mandatory wildfire training would be part of the craft onboarding process and ongoing wildfire training would be required monthly, and (7) equipment telematics would be programmed to report wildfire risks. CalGrid indicated that its selected construction contractors also have experience complying with a California utility's wildfire standard for preventing and mitigating fires while performing work in California. (C-7)

CalGrid indicated that it would work with the contractors to develop a fire safety plan specific to the forest area and portions of the north valley area that are CPUC designated High Fire Threat Districts and that the plan would cover three phases: preconstruction, construction and post construction restoration activities. CalGrid also provided a detailed list of areas the plan would cover. (C-7)

### **3.10.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated that it has faced construction-related risks and challenges similar to those foreseen for the project such constructing high-voltage transmission lines on rugged, difficult to access lands with multiple line and highway crossings and provided a few examples of projects where the conditions were similar. (P-5)

LS Power (CAL GRID) indicated that it would require each of its construction contractors to prepare a QA/QC plan, which would detail the inspection program to be used by the contractor for the specific scope of work being performed and cover inspections for all construction activities including rights-of-way, excavation, foundation, structure assembly and erection, conductor and optical ground wire installation. (C-1)

LS Power (CAL GRID) indicated that it would oversee activities performed by the construction contractor to ensure compliance with applicable permits, approvals, contracts, and design requirements. LS Power (CAL GRID) indicated that its construction director and field manager would have the primary responsibility of ensuring quality during the construction process. (C-1)

LS Power (CAL GRID) provided a list of general activities to ensure quality during construction which included environmental compliance requirements, safety requirements, landowner/community compliance, and specific tests to be performed to series compensation and transmission line components. (C-1)

LS Power (CAL GRID) indicated that its construction director and field manager would oversee the construction contractor and inspections performed on materials upon receipt at the material yard and during construction. LS Power (CAL GRID) indicated that it would also contract with additional third-party firms to oversee the material procurement activities. (C-2)

LS Power (CAL GRID) indicated that its construction contractor would establish up to five material yards located along the project rights-of-way to support construction activities and that each yard would be managed by a yard manager. (C-2)

LS Power (CAL GRID) indicated that all materials within the material yards and in the field would be tracked and documented within the inventory management program and would be secured at the sites using local security firms or off-duty officers to patrol the material yard outside of working hours. (C-2)

LS Power (CAL GRID) indicated that it and the construction contractor would oversee suppliers to confirm that equipment and materials are fabricated in accordance with contract documents including all internal quality requirements and project-specific inspection and test plans. (C-2)

LS Power (CAL GRID) also provided the process that the construction contractor would use to deliver materials to the field for construction of the transmission line from its material yards from the time the material requisition is received to the time the materials are loaded for delivery. (C-2)

LS Power (CAL GRID) indicated that it would coordinate with the impacted transmission owners with the negotiation of interconnection and crossing agreements. (C-3)

LS Power (CAL GRID) estimated a three-day outage would be necessary to facilitate construction at each crossing location and that if mutually agreeable outage windows cannot be identified, its construction contractor is highly experienced at installing conductors near and crossing energized transmission lines up to 500 kV. (C-3)

LS Power (CAL GRID) indicated that it has completed an advanced design of the project including a routing study including field reconnaissance; consultation with regulatory and permitting agencies; identification of all rights-of-way and land rights; detailed engineering including PLS-CADD models; and a detailed implementation schedule and risk register. (C-4)

LS Power (CAL GRID) indicated that all designs and specifications go through a rigorous series of QA/QC checks before being implemented on the project and provided information about the QA/QC process that it uses for developing construction specifications. (C-4)

LS Power (CAL GRID) indicated that its procurement manager would compile bid packages for the material and equipment to be procured for the project and would conduct a comprehensive evaluation of each supplier's proposed terms and conditions, design, schedule, and price. (C-4)

LS Power (CAL GRID) also provided the process that the construction contractor would use if a need for a change during installation was identified. (C-4)

LS Power indicated it does not have any existing rights-of-way for the transmission portion of the project. (C-5)

LS Power (CAL GRID) indicated that the construction contractor would prepare and maintain a detailed Primavera project Planner (“P6”) (or other equivalent program) schedule documenting the engineering, procurement, construction, and commissioning scopes of work. (C-6)

LS Power (CAL GRID) indicated that the construction contractor would roll up vendor and subcontractor schedules into its construction schedule and issue periodic reports. LS Power (CAL GRID) further indicated that the construction contractor’s schedule would be reviewed during the kick-off, weekly, and monthly meetings and the construction contractor’s project controls would be continuously updated to show schedule progress, earned value and trending, and project status at the conclusion of work (estimate at completion), and any variances to the schedule and plans to mitigate variances. (C-6)

LS Power (CAL GRID) provided a description of the methods used for clearing in different sections of the project that have mountainous terrain, plateaus, and isolated flat areas. (C-7)

LS Power (CAL GRID) indicated that helicopters would be required to complete wire stringing activities. (C-7)

LS Power (CAL GRID) indicated that it would have a wildfire mitigation plan to govern the construction, maintenance, and operations of its facilities to minimize the risk of catastrophic wildfire while maintaining compliance with all reliability standards and code requirements. LS Power (CAL GRID) indicated that it would also formalize an emergency preparedness plan for the project. In addition, LS Power (CAL GRID) indicated that fire prevention measures would be established by the construction contractor in a wildland fire prevention and emergency response plan and reviewed at each daily and weekly safety meeting and provided an example of this plan. (C-7)

LS Power (CAL GRID) indicated that the construction contractor would appoint at least one full-time on-site fire risk manager who would be responsible for implementing the wildland fire prevention and emergency response plan, as well as providing training for construction personnel. LS Power (CAL GRID) also indicated that the construction contractor would have the responsibility of monitoring the fire prevention activities. (C-7) LS Power (CAL GRID) provided a description of the fire protection equipment in central mobilization areas and work areas and additional fire prevention measures required for red flag warnings. (C-7)

LS Power (CAL GRID) provided the firefighting steps that it would take in case of a fire and indicated that only appropriately certified, trained and approved equipped vehicles with proper fire personal protective equipment would participate in firefighting operations. (C-7)

LS Power (CAL GRID) indicated additional fire prevention measures are required during red flag warnings and as a result of the elevated risk, hot work would not be performed during red flag warnings. In addition, LS Power (CALGRID) indicated that work in high fire areas would only be performed if approved by the fire risk manager and all of the following are validated: the crew is under direct supervision of a crew foreman or site lead; the crew maintains adequate communications (900Mhz, cellular, satellite phone,

etc.); the crew has required fire suppression equipment deployed in the immediate area of the work being performed (shovels, water backpack and ABC fire extinguisher); and, weather conditions, terrain and surrounding vegetation would permit the crew to extinguish a fire resulting from the work being performed. (C-7)

## **Maintenance Practices**

### **3.10.3 Information Provided by CalGrid**

CalGrid indicated that its O&M contractor has a leading wildfire mitigation program in place and is a leader in the field of risk identification and mitigation. (P-5)

CalGrid indicated that its O&M contractor plans to proactively develop a risk model to quantify CalGrid's enterprise-level risks and evaluate mitigation options of wildfire. (M-1)

CalGrid indicated that its O&M contractor is committed to wildfire safety for projects under its maintenance control and that this is evidenced by its commitment to plan, schedule and execute maintenance work focused specifically on transmission and distribution wildfire preparedness. CalGrid indicated that this is demonstrated within its O&M contractor identified high fire risk areas, in which its O&M contractor would perform over 6,000 transmission structure boots-on-the-ground inspections and over 2,500 transmission aerial structure inspections between 2025-2028. CalGrid indicated that this is only a small portion of all inspection initiatives, demonstrating its O&M contractor's strong maintenance capabilities and ability to scale to meet wildfire safety needs of customers. CalGrid provided its O&M contractor's wildfire mitigation plan which includes more details regarding its O&M contractor identified high fire risk areas maintenance activities. (M-4)

The Wildfire Mitigation Plan submitted indicated that its O&M contractor works to ensure that enough troublemen are assigned to cover each area to lower response times. (O-13, Validation Response to O-13)

CalGrid provided summary descriptions of its O&M contractor's proposed maintenance activities and associated frequencies for the transmission and series compensation facilities. The series compensation maintenance practices included the procedures for scheduled and unscheduled maintenance and a list of equipment that would be tested. The transmission line maintenance practices included a description of patrols and inspections and the frequency of equipment maintenance. (CC-3)

CalGrid indicated its general manager for O&M, and a technician assigned to the project, would work alongside its O&M contractor. CalGrid indicated that it estimates 11 CalGrid employees would be partially allocated to its project's administrative and general support. (CC-4)

CalGrid indicated that its O&M contractor has 442 transmission lineman and 968 substation qualified electrical workers. (M-1)

CalGrid indicated that for this project, its O&M contractor intends to have an O&M crew stationed in close proximity to the New Humboldt Fern Road 500 kV line to patrol and maintain these electric facilities in accordance with expected and required standards. CalGrid indicated that this crew allows personnel to reach locations within a short time after detecting a system disturbance, with reinforcements within a few hours. (M-1)

CalGrid indicated that its O&M contractor would have four trained personnel dedicated to the project that would be situated in a location to be determined to best manage the project facilities. CalGrid indicated that in the event of a major problem with the project, its O&M contractor would dispatch additional crews of various makeups to meet the specific needs and demands of the project's facilities. (O-13)

CalGrid also indicated that in the normal course of business on these facilities, its O&M contractor plans to utilize a crew of two to five to handle large maintenance needs. (M-1)

CalGrid indicated that the addition of the project to its O&M contractor's overall operations would not require any structural changes to its organization and framework. CalGrid indicated that its O&M contractor does not currently contract maintenance and inspection services in their entirety, nor does it plan to as a result of the maintenance and inspection of the project, but its O&M contractor does utilize contractors to augment its construction and repair workforce when workload requires it. (M-1)

CalGrid indicated that its O&M contractor has mature processes in place to hire employees with the requisite qualifications and experience to operate and maintain its electrical system. (M-2)

CalGrid indicated that its O&M contractor also has a mature safety, environmental services, craft skills, and technical training program for new hires as well as advanced training programs for its existing employees. CalGrid provided information on its O&M contractor's substation electrician and T&D apprentice lineman programs. (M-3)

CalGrid indicated that its O&M contractor's maintenance practices address all the requirements of TCA Appendix C, Sections 5.2.1 (Transmission Line Circuit Maintenance) and 5.2.2 (Station Maintenance). CalGrid described its O&M contractor's maintenance practices for substations and transmission facilities. (M-4)

CalGrid indicated its proposed route minimizes wildfire impacts with zero miles of its proposed route being within CPUC designated Tier 3 High Fire Threat Districts and approximately 111 miles in Tier 2 High Fire Threat Districts. (L-1)

CalGrid indicated that it plans to utilize its O&M contractor's transmission vegetation management plan that describes how vegetation management is performed on and adjacent to rights-of-way. (M-5)

CalGrid indicated that for tree trimming, its O&M contractor has expanded the standard for clearance distance in high fire areas at time of maintenance to 30 feet for power lines 115 kV and above. (M-1)

CalGrid indicated that its O&M contractor plans to conduct light detection and ranging (LiDAR) inspections on bulk and sub-transmission conductor miles in its O&M contractor identified high fire resource areas to help maintain minimum clearance distances, and to identify potential subject trees for assessment under its O&M contractor's hazard tree management program, including on the project. (M-1)

CalGrid indicated that vegetation activities scoped for 2025-2028 within its O&M contractor identified high fire resource risk areas for T&D include: hazard tree mitigation program scoped to remove over 59,000 trees; pole brushing of over 450,000 structures;

removal of dead and dying trees from 66,000 structures; expanded line clearing on over 660,000 structures. (M-5)

CalGrid indicated that it does not anticipate that adding the project to the ISO controlled grid would require any changes or exceptions to the provisions of the TCA as they relate to maintenance. (M-8)

CalGrid indicated that all its O&M contractor's facilities under the operational control of the ISO are maintained in accordance with activities and requirements listed in the TCA Sections 6.1 (Physical Operations of Facilities), 6.3 (Other Responsibilities) and 7 (System Operations and Maintenance). CalGrid indicated that it would be a PTO prior to project energization, would be a signatory to the TCA and has been responsible for utilities who have complied with the TCA standards. (M-9)

CalGrid indicated that in accordance with the requirements of the CPUC, its O&M contractor has developed a corporate emergency response & recovery plan. CalGrid provided copies of its O&M contractor's transmission line and substation continuity plans describing normal and off-hours response procedures. CalGrid also provided copies of its O&M contractor's grid control center emergency relocation plan, system disturbance and event reporting procedure, and substation emergency equipment program. (O-13)

CalGrid indicated that its O&M contractor is a member of various mutual aid organizations and, if necessary, could seek assistance from other members of those organizations. (O-13)

CalGrid indicated that its O&M contractor has 16 crews, wire stringing equipment, cranes, digger derricks, and bucket trucks and access to its helicopter fleet to support emergency transmission work. CalGrid indicated that its O&M contractor stocks the following structures that can facilitate various terrains, voltages, and other constraints: guy wired temporary replacement towers, emergency steel poles, and lattice structures and various types of conductors. (O-15)

CalGrid indicated that its O&M contractor maintains a reserve inventory of major substation equipment such as circuit breakers and disconnect switches. (M-1)

CalGrid indicated that because its O&M contractor has an existing 500kV series compensation facility equipment and maintains an inventory of the same equipment as the project, the O&M contractor and CalGrid would realize operational efficiencies and be prepared in the event of emergent conditions. (M-1)

### **3.10.4 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated that it would be responsible for completing all maintenance activities for its proposed project. LS Power (CAL GRID) indicated that internal personnel would perform planned, as well as routine inspection and maintenance activities, and third-party contractors would be utilized for unplanned, larger scope, or specialized maintenance activities. (M-1)

LS Power (CAL GRID) provided a maintenance plan for transmission lines in an attachment. LS Power (CAL GRID) indicated that inspection types and frequencies may vary from asset to asset and depend on the type of information being collected. LS

Power also provided a detailed list of transmission line maintenance tasks along with their frequencies. (CC-3)

LS Power (CAL GRID) indicated that maintenance activities would be performed through a combination of internal resources and outside contractors. LS Power (CAL GRID) provided the estimated number of full-time equivalent employees (FTEs) for maintenance and administrative and general, as well as a breakdown of these FTEs by job function. LS Power (CAL GRID) also provided the general roles and responsibilities of each job function. LS Power (CAL GRID) indicated that the number of FTEs for maintenance and A&G would be 5.4 and 5 respectively. (CC-4)

LS Power (CAL GRID) indicated that at all times, LS Power personnel would be onsite to manage and oversee maintenance activities performed by contractors. (M-1)

LS Power (CAL GRID) indicated that LS Power would hire one field technician to be located in close proximity to the project to perform routine maintenance and inspections and oversee the outside contractors for the project. LS Power (CAL GRID) indicated that LS Power would also be able to leverage five additional technicians located in California to support maintenance of the projects previously awarded to LS Power (CAL GRID) affiliate, LSPGC. LS Power (CAL GRID) indicated that the California-based technicians would be supported by the existing LS Power maintenance staff located in Texas as well as asset management and engineering staff located in Texas and Missouri. (M-1)

LS Power (CAL GRID) indicated that contractors would provide support on an as needed basis. LS Power (CAL GRID) indicated that LS Power has qualified four contractors to conduct preventative and predictive maintenance, support forced outage response, perform emergency repair, and complete major facility rebuilds. LS Power (CAL GRID) indicated that its affiliate, LSPGC, has service agreements in place with the three outside contractors and indicated that it would negotiate similar service agreements for the project. LS Power indicated that all of the qualified contractors have offices in California and that one of them had 200 qualified employees in their California offices. (M-1)

LS Power (CAL GRID) listed its requirements for maintenance position including completion of relevant technical or vocational training, five to ten years of relevant experience, and completion of training programs for qualified electrical workers including OSHA safety. (M-2)

LS Power (CAL GRID) indicated that LS Power requires all contractor personnel to be duly qualified, licensed, trained, and experienced to perform maintenance and/or emergency response activities on its facilities. LS Power (CAL GRID) also described its contractor selection methods. (M-2)

LS Power (CAL GRID) indicated that LS Power utilizes internal and external training courses to ensure it has qualified, skilled, and experienced field maintenance personnel. LS Power (CAL GRID) described new employee training topics. (M-3)

LS Power (CAL GRID) indicated that LS Power has an approved apprenticeship program with the Department of Labor that is recommended for Transmission Line Technicians. LS Power (CAL GRID) indicated that technicians complete annual continuing education on maintenance procedures, inspection practices, NERC requirements, and current construction practices. (M-3)

LS Power (CAL GRID) provided information regarding training and certification requirements for its substation maintenance personnel and electrical testing technicians, and indicated that substation technician training would be applicable to the project's reactive sites. (M-3)

LS Power (CAL GRID) also indicated that all vegetation management personnel are required to complete and maintain annual training necessary to be certified vegetation management technicians. (M-3)

LS Power (CAL GRID) indicated that all LS Power field personnel receive continual safety training throughout the year. (M-3)

LS Power (CAL GRID) indicated that it would comply with the provisions of TCA Appendix C Sections 5.2.1 (Transmission Line Maintenance) and 5.2.2 (Station Maintenance) through its existing maintenance policies and procedures. LS Power (CAL GRID) indicated that its affiliate DesertLink currently complies with these provisions. LS Power (CAL GRID) indicated that DesertLink's transmission maintenance and inspection plan was approved by the ISO in 2020. LS Power (CAL GRID) indicated that its affiliate, LSPGC would also have an approved transmission maintenance and inspection plan to comply with the provisions of TCA Appendix C for the Orchard STATCOM, Fern Road GIS/STATCOM, Collinsville, Manning, Power Santa Clara Valley, and Power the South Bay projects. (M-4)

LS Power (CAL GRID) indicated that LS Power's transmission maintenance plan and protection system maintenance program address the elements listed in TCA Appendix C Sections 5.2.1 (Transmission Line Maintenance) and 5.2.2 (Substation Maintenance). LS Power (CAL GRID) indicated that LS Power's transmission maintenance plan includes items such as inspection frequency and type, components to be inspected, qualifications of inspectors, and recordkeeping. LS Power (CAL GRID) indicated that LS Power's protection system maintenance program contains specific maintenance and testing procedures for applicable protection system component types in compliance with NERC Standard PRC-005-6, as well as internal LS Power standards related to system protection. (M-4)

LS Power (CAL GRID) indicated its proposed route minimizes wildfire impacts with zero miles within CPUC designated Tier 3 High Fire Threat Districts and approximately 105 miles in Tier 2 High Fire Threat Districts. (L-1)

LS Power (CAL GRID) indicated that the project would be integrated into LS Power's transmission vegetation management plan and provided a copy of it. (M-5)

LS Power (CAL GRID) indicated that it would leverage the wildfire mitigation plan of its affiliate, LSPGC, to develop one for the project's facilities. LS Power (CAL GRID) indicated that LSPGC filed its 2023-2025 wildfire mitigation plan with the Office of Energy Infrastructure Safety, which includes the Orchard and Fern Road STATCOM projects and provided a copy of the plan. (M-5)

LS Power (CAL GRID) indicated that the wildfire mitigation plan details how the project facilities would be constructed, operated, and maintained in a manner that would keep customers and communities safe by minimizing the risk of catastrophic wildfire. LS Power (CAL GRID) indicated that the wildfire mitigation plan defines the processes to identify potential hazards, and risk scenarios, analyzes the potential hazards and risk

scenarios, evaluates the analysis, and establishes mitigations. LS Power (CAL GRID) indicated that robust vegetation management practices, monitoring, and emergency preparedness are key mitigation measures in the Wildfire Mitigation Plan. LS Power (CAL GRID) indicated that its wildfire mitigation plan would be based upon modeling of the fire hazard severity zones, burn probability, fuel models, flame length, rate of spread, vegetation type, and wildfire history. (M-5)

LS Power (CAL GRID) indicated that it believes the addition of the project to the ISO controlled grid would require a change to Appendix A to identify the project as under the ISO's control. (M-8)

LS Power (CAL GRID) indicated that LS Power would incorporate the project into its existing outage coordination program. LS Power (CAL GRID) indicated that LS Power currently performs planned outage coordination for the transmission lines, substations, and associated facilities it operates. (M-9)

LS Power (CAL GRID) indicated that LS Power would be responsible for responding to all forced outages on the project and that the project would be incorporated into LS Power's outage coordination and emergency response plan. LS Power (CAL GRID) indicated that LS Power would provide system monitoring and initial forced outage response on a 24/7 basis and would notify the ISO of any faults or forced outages as soon as it becomes aware. LS Power (CAL GRID) indicated that LS Power would be able to respond within a few hours with its local staff and the support of its local contractors. (M-9)

LS Power (CAL GRID) indicated that LS Power would have internal staff and maintenance contractors located in California to support the project. LS Power (CAL GRID) indicated that one technician would be stationed near the project area to perform routine substation/reactive site maintenance and inspections, perform minor repairs, and oversee the outside contractors for the project. LS Power (CAL GRID) indicated that LS Power would also have five technicians located near the Fresno and San Francisco Bay areas to support the project as needed. LS Power (CAL GRID) indicated that its pre-qualified maintenance contractors each have resources in multiple locations in California. LS Power (CAL GRID) indicated that LS Power's technician located in the project area would be able to respond to all parts of the project within three hours. LS Power (CAL GRID) indicated that the maintenance contractors would be capable of responding to all parts of the project within six hours. (M-10)

The wildfire mitigation plan submitted by LS Power (CAL GRID) indicated that in the event of a grid emergency, the transmission system operator would notify field personnel who would respond to the substation site within approximately two hours to assess the severity of the event. (M-5)

LS Power (CAL GRID) indicated that the project would be incorporated into the emergency response plans of LS Power and provided copies of the emergency operations plan, emergency response plan, and its system restoration plan. (O-13)

LS Power (CAL GRID) indicated that LS Power maintains master service agreements with transmission line contractors, vegetation management contractors, helicopter services, equipment suppliers, and material suppliers to supplement its staff and resources as may be necessary. LS Power (CAL GRID) indicated that these contracted resources can be quickly mobilized to the project in the event of an emergency. LS

Power (CAL GRID) indicated that it would execute an emergency response and field service agreement with one or more of the construction contractors. (O-13)

LS Power (CAL GRID) indicated that, as a new entity, it has not executed mutual assistance agreements. LS Power (CAL GRID) indicated that it would evaluate mutual assistance alternatives including membership in the California Utilities Emergency Association upon award of the project. (O-13)

LS Power (CAL GRID) indicated that its first responder would be able to respond to the termination points of the project within one hour and to all parts of the project within three hours. LS Power (CAL GRID) indicated that major equipment can be deployed to all parts of the project within 12 hours. (O-13)

LS Power (CAL GRID) provided a list of spare parts available for the project by category including conductor, optical ground wire, insulators, associated hardware, and structures, including emergency restoration structures for transmission lines. The list included spare parts for switchyard equipment, series capacitors, relay/communications equipment, substation service voltage transformers, conductor, insulators, etc. for substations. (O-15)

LS Power (CAL GRID) described its process for completing major repairs, facility replacements or rebuilds and returning the project to service. (O-15)

## **Operating Practices**

### **3.10.5 Information Provided by CalGrid**

CalGrid provided a list of its contractor's experience with the operation of transmission line and reactive compensation projects. Regarding projects that are above 200 kV, have been operated in the past ten years, and are located in the U.S., the information provided included 4,869 miles of transmission lines with most in California, and 13 reactive compensation projects with most in California. (Prior Projects and Experience Workbook)

CalGrid indicated that its O&M contractor operates a total of two control centers, 13 switching centers and coordinates operations across 30 major interconnections with the ISO within Southern California. (O-1)

CalGrid indicated that its O&M contractor has faced operation risks and challenges similar to those foreseen for the project such as wildfire risk and weather challenges including high winds, heavy rains, thunderstorms, and occasionally snow. (P-5)

CalGrid indicated that its general manager for O&M, and a technician assigned to the project, would work alongside its O&M contractor. CalGrid indicated that it estimates 11 CalGrid employees would be partially allocated to the project's administrative and general support. (CC-4)

CalGrid indicated that its O&M contractor would utilize existing internal resources to support project operations and estimates that to be equivalent to one to two FTE's. (CC-5)

CalGrid indicated that its O&M contractor expects to follow well-established operational practices and processes, similar to those practices used today to operate its existing transmission and distribution system. (O-1)

CalGrid indicated that its O&M contractor's grid control center would be the single point of contact for communications with the ISO. (O-1)

CalGrid indicated that no organizational changes are anticipated to be required for its O&M contractor to accommodate the project. CalGrid indicated that its O&M contractor does not have any contracts with third parties to provide operational services. (O-1)

CalGrid indicated that its O&M contractor's grid control center transmission dispatchers are NERC certified system operators at the reliability coordinator-level and complete a system reliability assessment prior to being allowed to perform the role as a transmission dispatcher. (O-2)

CalGrid indicated that its O&M contractor's operators complete a six-month acting operating program prior to being allowed to perform switching operations. (O-2)  
CalGrid indicated that system operators are required to participate in statement of the condition (SOTC) every other year, complete one load shed drill per year, and complete refresh training every other year. (O-3)

CalGrid indicated that grid control center transmissions dispatchers are required to maintain shift qualification status by working at least one shift per month, complete all required reading, obtain 67 continuing education hours per year to maintain their NERC reliability coordinator certification and participate in joint emergency training session, system operator training course and complete at least one load shed drill every year. (O-3)

CalGrid indicated that it does not anticipate that adding the project to the ISO controlled grid would require any changes or exceptions to the provisions of the TCA regarding operations. (O-4)

CalGrid indicated that for the project, its O&M contractor intends to act as the transmission operator (TOP) and CalGrid would register as transmission owner (TO) and transmission planner (TP). (O-5)

CalGrid indicated that both it and its O&M contractor intend to perform all required NERC functions and reporting requirements, as applicable to the entity registration. (O-6)

CalGrid indicated that it would work alongside its O&M contractor to ensure a strong multi-level compliance program is in place to manage compliance with all applicable reliability standards and provided the steps and measures that it would use to ensure compliance. (O-7)

CalGrid indicated that as TOP, its O&M contractor has established an energy regulation compliance program which provides the framework and governance over how it maintains compliance with the applicable reliability standards. (O-7)

CalGrid indicated that temporary waivers of TCA Section 5.1.6 (Waivers) would not be necessary. (O-7)

CalGrid provided tables indicating that its O&M contractor had 5,671 miles of transmission lines and 88 substations subject to NERC compliance. (O-8)

CalGrid provided confidential and non-confidential portions of operations and planning NERC/WECC compliance reports for its O&M contractor for the years 2021, 2018 and 2015 indicating some instances of potential noncompliance and open enforcement items. (O-8)

CalGrid indicated that it would develop a reliability standards agreement with the ISO. CalGrid indicated that this agreement would contain the delegation of responsibilities between CalGrid and other entities in accordance with NERC standards. (O-9)

CalGrid indicated that its O&M contractor divides responsibility for the NERC reliability standards using a coordinated functional registration (CFR) agreement that divides the TOP responsibilities for operating the bulk electric system between the ISO and PTOs. (O-9)

CalGrid provided a list of agreements that define the responsibilities of the transmission operator including CFR Agreement, TCA, Western Interconnection Data Sharing Agreement, Wholesale Distribution Access Tariff (WDAT), and Transmission Owner Tariff. (O-10)

CalGrid indicated that the project, once completed, would have all the SCADA system data and that this information would be made available to its O&M contractor, the ISO and any other requesting entity as needed. CalGrid provided a copy of its O&M contractor's grid control center emergency relocation plan. (O-11)

CalGrid indicated that its O&M contractor currently operates all of its high voltage electric facilities subject to TCA Sections 6.1 (Physical Operation of Facilities) and 6.3 (Other Responsibilities) and this project would be operated in the same manner. (O-12)

CalGrid indicated that its O&M contractor has best-in-class wildfire O&M, supported through modeling capabilities utilizing its comprehensive proprietary model, which is broadly referenced across California for expected wildfire risk associated with different assets. CalGrid indicated that its O&M contractor utilizes a range of data including weather stations, fuel sampling, fire scientist assessments, and live field observations to monitor and minimize wildfire risks to the system. CalGrid indicated that the New Humboldt-Fern Road line has similar terrain and vegetation as projects within its O&M contractor's territory, and application of its wildfire O&M program would lower the risk of wildfires. (M-1)

The wildfire mitigation plan submitted by CalGrid indicated that CalGrid's O&M contractor would deploy an additional 150 weather stations over the 2023-2025 period that would provide more granular weather data to inform CalGrid's situational awareness and forecasting of potentially dangerous winds and elevated fire potential. This plan indicated CalGrid's O&M contractor installed 21 HD cameras, resulting in a total of more than 180 HD cameras installed across its service area since inception; this represents approximately 90% coverage of CalGrid's O&M contractor identified high fire risk areas.

CalGrid indicated that the project would not be subject to any encumbrance that limits ISO operational control in any way. (O-14)

CalGrid provided a summary of NERC NOVs it's O&M contractor had incurred from 2013-2023 related to transmission O&M. The summary listed six NOVs. (O-16)

CalGrid indicated that neither it, nor any member of the proposed project team, has received any operations-related tariff violations or FERC rules violations in the past ten years. (O-17)

CalGrid indicated that neither CalGrid, nor any member of the proposed project team has had any violations of operations-related laws, statutes, rules, or regulations related to their respective transmission O&M in the past ten years. (O-18)

### **3.10.6 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) provided a list of its experience and the experience of its contractors with the operation of transmission lines and reactive compensation projects. Regarding projects that are above 200 kV, have been operated in the past ten years, and are located in the U.S., the information provided included six transmission projects totaling 430 miles of transmission lines with no projects in California, and five reactive compensation projects with two projects in California. (Prior Projects and Experience Workbook)

LS Power (CAL GRID) indicated that its staff would perform all operations for the project. (CC-5)

LS Power (CAL GRID) indicated that it has faced operations -related risks and challenges similar to those foreseen for the project that includes operating a line across rugged, difficult to access lands and provided an example. LSP Power also indicated that it would be operating extra high voltage transmission lines in California associated with the Manning, Collinsville, Metcalf, and Newark facilities prior to energization of the project. (P-5)

LS Power (CAL GRID) indicated that its highly qualified internal staff would perform all operations and compliance activities for the project. (O-1)

LS Power (CAL GRID) provided an estimated number of FTEs for operations and A&G, as well as a breakdown of these FTEs by job function. LS Power (CAL GRID) also provided the general roles and responsibilities of each job function. LS Power (CAL GRID) indicated that the number of FTEs for operations, and administrative and general would be 6.5 and 2.9, respectively. (CC-4)

LS Power (CAL GRID) indicated that LS Power would have extensive real-time monitoring capabilities for the project via its control centers. (M-7)

LS Power (CAL GRID) indicated that LS Power plans to operate the project from its control centers located in Austin, Texas and that its control centers would be integrated with the ISO in 2025. LS Power (CAL GRID) indicated that LS Power currently has two primary and two backup control centers that operate facilities in ERCOT, PJM, NYISO, and CAISO (commencing in 2025). (O-1)

LS Power (CAL GRID) indicated that LS Power's compliance staff located in Chesterfield, Missouri and Austin, Texas would manage compliance for the project. (O-1)

LS Power (CAL GRID) indicated that LS Power would hire one technician located in the project area to accommodate integration of the project. LS Power (CAL GRID) indicated that it also plans to add four transmission system operators prior to commencing operations of the project. LS Power (CAL GRID) indicated that in addition, LS Power would be able to leverage five technicians located in the Fresno and San Francisco Bay areas hired to support the integration/operation of other ISO-awarded projects. (O-1)

LS Power (CAL GRID) indicated that it requires that all transmission system operators hold Transmission Operator NERC Certification and/or reliability coordinator NERC Certification. LS Power (CAL GRID) indicated that operations field personnel must also obtain a substation maintenance technician certification and obtain certification through the International Electrical Testing Association. (O-2)

LS Power (CAL GRID) indicated that LS Power utilizes NERC's system operator certification and continuing education database to review and archive transmission system operator continuing education hours. (O-3)

LS Power (CAL GRID) indicated that each transmission system operator is also provided a minimum of 32 hours annually of emergency operations training including system emergency drills, system restoration exercises, system restoration scenarios, and system restoration table-top exercises. (O-3)

LS Power (CAL GRID) indicated that it believes the addition of the project to the ISO controlled grid would require a change to Appendix A to identify the project as under the ISO's control. (O-4)

LS Power (CAL GRID) indicated that it would register with NERC as a TO, TOP, and TP prior to operation of the project. (O-5)

LS Power (CAL GRID) indicated that LS Power would perform all NERC functions for the project. (O-6)

LS Power (CAL GRID) indicated that the project would be integrated into LS Power's NERC internal compliance program. LS Power (CAL GRID) also provided a description of its controls framework, compliance assurance process, periodic reporting and review, and operational technology tools. (O-7)

LS Power (CAL GRID) indicated that it does not require any waivers under TCA 5.1.6 (Waivers). (O-7)

LS Power (CAL GRID) indicated that LS Power owns approximately 291 miles of 500 kV transmission line, 469 miles of 345 kV transmission line, and six miles of 230 kV transmission line. LS Power (CAL GRID) indicated that LS Power owns one 500 kV substation, one 500 kV series compensation station, five 345 kV substations, one 345 kV series compensation station, and one 230 kV substation. (O-8)

LS Power (CAL GRID) indicated that a compliance audit of LS Power utilities performed in 2022 and 2016 in Texas indicated that utilities were found to have no findings of non-compliance with all the NERC Reliability Standards that were included in the scope of this audit. (O-8)

LS Power (CAL GRID) indicated that it would leverage LSPGC's CFR agreement that would be in place with the ISO for the prior awarded projects to divide responsibility for NERC reliability standards on this project. (O-9)

LS Power (CAL GRID) indicated that the responsibilities and authority regarding the TO and adjacent TOPs would be defined in an interconnection agreement with each respective adjacent TOP. (O-10)

LS Power (CAL GRID) indicated that in the event future generation is connected to the project, the division of responsibility and authority between LS Power (CAL GRID) and any generation owner(s) or generation operator(s) would be defined in an interconnection agreement with any generation owner. (O-10)

LS Power (CAL GRID) indicated that the control centers are equipped with modern and advanced energy management and SCADA systems and that these facilities are NERC certified high impact control centers (per NERC Critical Infrastructure Protection (CIP) Standard - CIP-002-5) that currently operate extra high voltage substations and meet all of the physical and cyber security requirements necessary to operate the project. (O-11)

LS Power (CAL GRID) indicated that the TCA Appendix C Section 4.3 (Targets for Availability Performance) requires an annual report to ISO within 90 days after the end of each calendar year describing its availability measures performance based on forced outage records. LS Power (CAL GRID) indicated that its affiliate DesertLink currently complies with the requirements of TCA Appendix C Section 4.3. LS Power (CAL GRID) indicated that it would submit similar reports to the ISO for its prior awards and this project upon its energization. (O-11)

LS Power (CAL GRID) indicated that LS Power's operating personnel and support teams at the control centers manage and coordinate all activities related to outages, including but not limited to operation, switching, scheduled maintenance coordination, forced outage management, and return to service. LS Power (CAL GRID) indicated that LS Power would incorporate the project into its existing outage coordination procedure and emergency operations plan. (O-12)

LS Power (CAL GRID) indicated that LS Power uses advanced storm tracking and forecasting software, StormGeo, to forecast and track thunderstorms, lightning activity, landslides, earthquakes, hurricanes, tornados, ice storms, and high winds which could impact the project. LS Power (CAL GRID) indicated that if catastrophic weather events are approaching that are likely to cause outages, then LS Power would activate its emergency preparedness procedures. (O-12)

The wildfire mitigation plan submitted by LS Power (CAL GRID) indicated that as part of LSPGC's commissioning of the Fern Road and Orchard Substations during the current wildfire mitigation plan cycle, live video surveillance cameras would be installed at both sites. The plan also indicated that LSPGC would utilize StormGeo, a real-time weather monitoring and forecasting service, and that LSPGC does not currently have any weather modeling capability.

LS Power (CAL GRID) indicated that the project would not be subject to any encumbrance on the ISO's operational control. (O-14)

LS Power (CAL GRID) indicated that the Texas Reliability Entity conducted a CIP audit of Cross Texas in 2019 which identified compliance violations of five standards. LS

Power (CAL GRID) indicated it has strengthened its corporate compliance by implementing substantive changes to improve procedures, oversight, governance, and metrics with internal assessments, reports, and additional compliance staff. (O-16)

LS Power (CAL GRID) indicated that an LS Power affiliate, Cross Texas Transmission, self-reported one violation of ERCOT nodal protocols related to the timely revoking of digital certificates. (O-17)

LS Power (CAL GRID) indicated that neither it nor any LS Power affiliates have been found in violation of any operations-related tariff FERC rules violations in the past ten years. (O-17)

LS Power (CALGRID) indicated that neither LS Power (CAL GRID) nor any LS Power affiliates have been found in violation of any operations-related laws, statutes, rules, or regulations by any court or agency in the last ten years that have not been previously discussed elsewhere in this proposal. (O-18)

### **3.10.7 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.

Both CalGrid and LS Power (CAL GRID) provided detailed design criteria and constructability review processes that demonstrate that their respective projects would adhere to standardized construction practices. Both CalGrid and LS Power (CAL GRID) provided detailed information on wildfire mitigation and control procedures that they would adopt during construction.

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 has determined that, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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 adherence to applicable maintenance practices and the robustness of the maintenance practices they have proposed 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.

The ISO considers that both CalGrid and LS Power (CAL GRID) and their proposed teams have the capability to adhere to standardized maintenance practices. The ISO considers it an advantage if the project sponsor has complied with the TCA as a PTO. For this analysis, the ISO considers compliance with transmission-related tariff

provisions to be more important than compliance with generation-related tariff provisions.

Both CalGrid and LS Power (CAL GRID) or their teams have existing maintenance practices complying with the ISO's transmission maintenance standards under the TCA that have been approved by the ISO. Both of their proposals described the project sponsor's and its team's adherence to NERC standards. Both CalGrid and LS Power (CAL GRID) have proposed plans for updating their maintenance practices to include this project. The ISO considers there to be no material difference between the project sponsors regarding their ability to adhere to applicable maintenance standards, including the ISO's transmission maintenance standards under the TCA. Although CalGrid is not a PTO, its O&M contractor is.

Both CalGrid and LS Power (CAL GRID) propose transmission line routes that include similar number of miles of exposure to CPUC designated High Fire Threat Districts. Both CalGrid and LS Power (CAL GRID) propose enhanced vegetation management for the areas of this project that are in CPUC designated High Fire Threat Districts and would create or update their CPUC wildfire mitigation plans accordingly. The ISO considers there to be no material difference between CalGrid and LS Power (CAL GRID) regarding their proposed vegetation management programs, including vegetation management in CPUC High Fire Threat Districts.

Both CalGrid and LS Power (CAL GRID) propose similar response and restoration times in case of an emergency. Both CalGrid and LS Power (CAL GRID) indicate they would have local resources (crews, vehicles, cranes, helicopters, wire stringing equipment, etc.) available to respond to emergencies. CalGrid's proposal indicates it has existing mutual assistance agreements and LS Power (CAL GRID)'s proposal indicates that it would evaluate mutual assistance alternatives including membership in the California Utilities Emergency Association upon selection for the project. Therefore, regarding emergency response, the ISO considers CalGrid's proposal to be slightly better than LS Power (CAL GRID)'s proposal.

Regarding plans or provisions to be implemented by the project sponsor to replace major failed equipment, both CalGrid's and LS Power (CAL GRID)'s proposals describe detailed restoration procedures and list plans for spare equipment and its management, all of which the ISO determined to be reasonable. However, CalGrid's proposal indicates greater access to spare substation and transmission line equipment and parts than LS Power (CAL GRID)'s proposal.

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 has determined that, based on the specific scope of this project, the proposal of CalGrid is slightly better than LS Power (CAL GRID)'s proposal regarding 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 has determined that both CalGrid and LS Power (CAL GRID) and their proposed teams have the capability to adhere to standardized operating practices and standards and applicable tariffs. Both of these project sponsors indicated they have faced challenges and risks similar to what they will face with this project, including wildfire risk. The ISO considers it an advantage if the project sponsor has complied with the TCA as a PTO. For this analysis, the ISO considers compliance with transmission operations-related tariff provisions to be more important than compliance with generation-related tariff provisions.

Both CalGrid's and LS Power (CAL GRID)'s proposals provide details on how they and/or their teams each operate transmission facilities under the ISO's operational control and comply with the TCA and the ISO Tariff. The ISO considers there to be no material difference between CalGrid and LS Power (CAL GRID) and their teams regarding their ability to adhere to the TCA and the ISO Tariff.

Regarding the approach the project sponsor would use to assure compliance with applicable reliability standards, LS Power (CAL GRID)'s proposal identifies existing comprehensive corporate level compliance oversight functions, which include subcontractors, for all applicable NERC functions. CalGrid's proposal indicates it would rely on its O&M contractor's compliance management program for TOP functions and would develop an internal compliance management program for TO and TP functions based on its team members' past experience operating and maintaining significant transmission infrastructure. Regarding compliance with the applicable reliability standards for all transmission facilities that it owns, operates, or maintains, both project sponsors provided NERC audit reports indicating generally good compliance, some indicating findings of non-compliance, but none indicating systemic problems with compliance. The ISO considers there to be no material difference between CalGrid and LS Power (CAL GRID) and their teams regarding their ability to comply with applicable reliability standards.

Both CalGrid and LS Power (CAL GRID) indicate that they maintain active emergency response and fire prevention programs and have CPUC approved wildfire mitigation plans that they would update to include this project. Maintenance related emergency response and wildfire prevention is addressed in the 'Comparative Analysis of Maintenance Practices' section above. Regarding operations related wildfire prevention programs, based on CalGrid's and LS Power (CAL GRID)'s proposals, the ISO considers that CalGrid and its team have considerably more experience operating transmission facilities in CPUC designated High Fire Threat Districts and would have more capability to monitor wildfire conditions than LS Power (CAL GRID) and its team. CalGrid's team has visual and electronic monitoring tools that continuously monitor weather conditions that could lead to wildfires and assist in making real time operation decisions. LS Power (CAL GRID)'s proposal indicates that during commissioning of the Fern Road Substation live video surveillance cameras would be installed, and it also plans to utilize StormGeo, a real time weather monitoring and forecasting service. Regarding operations related wildfire prevention, the ISO considers the proposal of CalGrid to be slightly better than LS Power (CAL GRID)'s proposal.

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 has determined that, based on the specific scope of this project, the proposal of CalGrid is slightly better than LS Power (CAL GRID)'s proposal regarding this component of this 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.

Regarding the first component (demonstrated capability to adhere to standardized construction practices) of this factor, the ISO has determined that there is no material difference between CalGrid's and LS Power (CAL GRID)'s proposals.

Regarding the second component (demonstrated capability to adhere to standardized maintenance practices) of this factor, the ISO has determined that CalGrid's proposal is slightly better than LS Power (CAL GRID)'s proposal.

Regarding the third component (demonstrated capability to adhere to standardized operating practices) of this factor, the ISO has determined that CalGrid's proposal is slightly better than LS Power (CAL GRID)'s proposal.

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, based on the specific scope of this project, the proposal of CalGrid is slightly better than LS Power (CAL GRID)'s proposal regarding this factor overall.

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

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

#### 3.11.1 Information Provided by CalGrid

CalGrid indicated that prior to commencement of construction, it would procure or cause its contractors to procure a builders "all-risk" insurance policy, on a no co-insurance basis, in an amount that is not less than the full replacement cost of the project covering all construction, other property or equipment, off-site work, substation facilities and transmission lines necessary for the project operation and maintenance, including coverage for mechanical and electrical breakdown including all forms of testing and commissioning, and LEG 2 coverage, which provides industry standard coverage for property damage resulting from construction defects. CalGrid indicated this policy would cover perils of flood, earthquake, windstorm (named or unnamed), tornado, hail, lightning, freezing, strike, riot and civil commotion, vandalism, malicious mischief and sabotage (non-terrorism events); subject to sub-limits and terms that are consistent with current industry practice, insuring real and personal property of the project whether on or off each site (including an off-site storage, laydown yard, or warehouse location) and while in the course of inland transit, for an amount of not less than the full replacement cost value of the project or equipment. CalGrid indicated that regarding natural catastrophe perils, limits and retentions would be subject to commercial reasonableness, availability, and would be in line with prudent industry practice. (F-14)

CalGrid indicated that during construction, CalGrid (Owner) would contractually require the engineering, procurement, and construction (EPC) contractor to indemnify and hold harmless CalGrid for negligent acts of the EPC contractor during the course of construction. CalGrid indicated it would require the EPC's corporate insurance program

to include, but not be limited to, general liability (including coverage for premises and operations liability, products and completed operations liability, blanket contractual liability, personal and advertising injury liability, third party bodily injury and property damage coverage, completed operations, explosion and collapse hazard coverage, and wildfire with primary coverage limits of no less than \$1MM per occurrence and \$2MM annual aggregate), automobile liability (\$1MM combined single limit), excess liability (\$100MM, including California wildfire coverage), worker's compensation (statutory limits), professional liability (\$10MM) and pollution liability coverage (\$5MM). CalGrid indicated it would contractually require the EPC to name CalGrid as an additional insured, waive the right of subrogation, require the EPC's policies to be primary and non-contributory, and give 30 days' notice of cancellation to CalGrid in the event of policy cancellation. (F-14)

CalGrid indicated it would also procure an owner's interest policy with limits of \$25MM during the course of construction to cover third party bodily injury and property damage. CalGrid indicated the owner's interest limits would be excess and above the EPC's contractually required limits and cover the owner for third-party bodily injury and property damage losses resulting from contractors and subcontractors, which are not otherwise insured under the contractors' insurance. CalGrid indicated that regarding wildfire coverage, limits would be subject to commercial reasonableness, availability, and in line with prudent industry practice. (F-14)

CalGrid indicated that upon completion of testing, commissioning and achievement of substantial completion, the builder's risk would expire and the property would be covered on an operational property policy which would provide coverage on a replacement cost basis in a broad form all-risk policy with limits that meet or exceed industry specific maximum foreseeable losses, with no co-insurance clause. CalGrid indicated the operational property policy would include coverage for mechanical and electrical breakdown, plus resulting or ensuing damage arising out of defects (LEG 2 equivalent), the perils of flood, earthquake, windstorm (named or unnamed), hail, tornado, lightning, sabotage (excluding sabotage by the named insured), strike, riot and civil commotion, vandalism and malicious mischief, subject to terms that are consistent with current industry practice insuring all real and personal property comprising the project whether at a fixed location (including any non-owned location for off-site repair or refurbishment), off-site storage or a warehouse location, for an amount of not less than the full replacement cost value of the property and equipment at each location. CalGrid indicated that regarding natural catastrophe perils, limits and retentions would be subject to commercial reasonableness, availability, and would be in line with prudent industry practice. (F-14)

CalGrid indicated that over the operational life of the facilities, CalGrid would contractually require the O&M contractor to indemnify and hold harmless CalGrid for negligent acts of the O&M contractor for activities surrounding O&M of facilities. CalGrid indicated that it would require the O&M's corporate insurance program, or equivalent self-insurance program, to include, but not be limited to, general liability (\$1MM per occurrence/\$2MM aggregate, including wildfire), automobile liability (\$1MM combined single limit), excess liability, and worker's compensation (statutory limits). CalGrid indicated that it would contractually require the O&M contractor to name CalGrid as an additional insured, waive the right of subrogation, require the O&M contractor's policies to be primary and non-contributory, and give notice of 30 days of cancellation to CalGrid in the event of policy cancellation. (F-14)

CalGrid indicated that it would purchase general liability (\$1MM per occurrence/\$2MM Aggregate, including wildfire) and excess liability (\$100MM, including California wildfire coverage) coverage over the operational phase of the facilities. With respect to wildfire coverage, CalGrid indicated limits would be subject to commercial reasonableness, availability, and in line with prudent industry practice. (F-14)

CalGrid indicated that neither CalGrid as project sponsor nor Viridon is relying on the California Wildfire Fund to support its proposal, and as more fully set forth in the proposal, CalGrid's ability to support the project, including for any potential losses related to wildfire claims, is not dependent on participation in the California Wildfire Fund. To the extent CalGrid, Viridon, or the project special purpose entity (as relevant) were to be eligible to take advantage of the California Wildfire Fund for the benefit of California ratepayers in the future, CalGrid indicated that it would explore that option as appropriate. (A-1)

CalGrid indicated that major capital replacements and rebuilds necessary over the life of the project would be financed through retained earnings, owner cash reserves, revolving lines of credit, insurance proceeds, and additional parent support to the extent required. CalGrid indicated it would maintain cash operating reserves and a line of credit to cover unexpected capital replacements, as well as insurance coverage for catastrophic events. In addition to CalGrid's capability to finance unexpected repairs as described above, CalGrid indicated its O&M contractor has an emergency equipment program. CalGrid indicated that access to that equipment and the responsiveness of its O&M contractor's fleet ensures that CalGrid would be capable of responding quickly and effectively to any unexpected repairs required. (F-15)

CalGrid indicated that its O&M contractor has 16-crews, wire stringing equipment, cranes, digger derricks, and bucket trucks and access to its helicopter fleet to support emergency transmission work. CalGrid indicated that its O&M contractor maintains its own very robust spare parts inventory as part of its emergency equipment program) that can be used for emergency repairs, such as would be needed for the project. CalGrid indicated that this emergency equipment program inventory typically contains circuit breakers, disconnect switches, guy wired temporary replacement towers, emergency steel poles, lattice structures, and various types of conductors. (O-15)

CalGrid indicated that its O&M contractor also has mutual assistance agreements with its neighboring utilities and belongs to the western utilities team for responding to emergent concerns when either needing or providing assistance. (O-13)

### **3.11.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated that during construction it would be protected by builder's all-risk insurance coverage and once operational, the project would be included in LS Power's property all-risk insurance program. (F-14)

LS Power (CAL GRID) indicated that insurance coverages applicable to the project include commercial general liability insurance; auto liability insurance; workers compensation; umbrella/excess liability insurance of not less than \$25MM during construction and \$75MM during operations; aircraft liability insurance; and sudden and accidental pollution liability insurance. (F-14)

LS Power (CAL GRID) indicated that during the construction period, there would be builder's risk insurance providing coverage for the project on an "all risk basis" (including as a result of negligence) on a completed value form inclusive of earthquake, flood, windstorm, collapse, sinkhole, subsidence, testing, commissioning, riot and civil commotion coverage, on a no coinsurance basis. LS Power (CAL GRID) indicated that the limit of builder's risk insurance is expected to not be less than the lesser of (a) the full replacement value of the project for all risk perils or (b) an acceptable loss limit approved by the project lenders. LS Power (CAL GRID) indicated that the coverage limits for the perils of earthquake, flood and windstorm are expected to be set at an acceptable loss limit, likely \$10MM for earthquake damage and that the construction contractor is expected to be responsible for deductibles. (F-14)

LS Power (CAL GRID) indicated that upon the earlier of commercial operation of the project or expiration of the builders all risk coverage and throughout the operational life of the project, there would be operational property insurance with a \$10MM annual sub-limit applicable to transmission lines, which is anticipated to cover the loss from a single event. LS Power (CAL GRID) indicated that such a policy is expected to be on an "all-risk" basis including without limitation earthquake, flood, and wind perils, machinery breakdown (including resulting damage from design defects and faulty workmanship or materials), inland transit (unless provided under a separate all-risk transit policy), and off-site storage (unless provided under a separate all-risk property policy). (F-14)

LS Power (CAL GRID) indicated that it plans to require contractors and subcontractors to have an appropriate level of insurance for the scope of work to be performed, for example, the construction contractor is expected to have the following insurance coverage: workers compensation insurance; automobile liability insurance; commercial general liability insurance (including coverage for wildfire (\$100,000 for fire damage legal liability (any one fire); and aircraft liability insurance. (F-14)

LS Power (CAL GRID) indicated that major capital replacements and rebuilds necessary over the life of the project would be financed through retained earnings, owner cash reserves, revolving lines of credit, and insurance proceeds. LS Power (CAL GRID) indicated it would maintain cash operating reserves and a line of credit to cover unexpected capital replacements as well as insurance coverage for catastrophic events. LS Power (CAL GRID) indicated it would also maintain an inventory of spare parts and an extended warranty period (e.g., five years) for the major equipment. (F-15)

LS Power (CAL GRID) indicated that LS Power has the internal resources to manage major rebuilds with contractors available to perform work pursuant to the master services agreement for emergency response and field services. LS Power (CAL GRID) indicated that a financial strategy is maintained that is crafted specifically for major rebuilds associated with adverse weather or other emergency events that may be encountered by the project and involves maintaining cash reserves and LS Power (CAL GRID)'s working capital revolver anticipated to be \$30MM. (O-15)

LS Power (CAL GRID) indicated it would maintain critical spare parts and materials required to repair system facilities including transmission structures, transmission conductor, and transmission insulators and hardware, transformer and transformer spare parts, circuit breakers, current and voltage transformers, disconnect switches, capacitors, battery charger and surge arrestors. LS Power (CAL GRID) indicated that in addition, LS Power maintains spare transmission structures including emergency restoration structures that can be utilized by LS Power (CAL GRID) in the event of a failure. LS Power (CAL GRID) indicated that LS Power would have established service

contracts with contractors to complete work, as necessary. LS Power (CAL GRID) indicated that LS Power has access to the equipment necessary to replace or rebuild the facilities through existing agreements with major contractors. (O-15)

### **3.11.3 ISO Comparative Analysis**

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 not limited to their financial resources, proposed insurance, and other plans for mitigation of equipment failures.

Failures of project facilities would likely represent only a portion of the investment in the project, e.g., a number of towers, a limited number of spans of wire, damaged insulators, etc. However, in the event where a project facility is found as the cause of a wildfire, the potential for losses, in part due to third party impacts from such a wildfire, could be extensive.

The ISO will consider the ability of a project sponsor to withstand major losses such as those due to wildfires as part of the comparative analysis. This project will run through CPUC-designated High Fire Threat Districts; therefore, the ISO considers the extent to which the project sponsors are financially prepared for such an event to be an advantage.

#### **Financial Resources**

As discussed in Section 3.7 of this report, the financial resources of the project sponsors vary. The comparative analysis in Section 3.7 considers the financial resources of the project sponsor both during the project development/construction phase and during the operations phase, but it places more focus on the ability of a project sponsor to finance the development and construction of the project. Under this Section 3.11, when comparing the ability of the project sponsors to assume liability for major losses for this project, the ISO also considers the financial resources available to cover major losses both during the development and construction phase as well as during the operational life of the project, but in its comparative analysis for this selection factor, the ISO places greater focus on the financial resources available during the operations phase of the project when the facilities are energized because the ISO considers the potential for major losses to be greater during that phase.

In the discussion of the financial resources of the project sponsors in Section 3.7 of this report, the ISO has concluded that overall, the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal. This conclusion is primarily based on the financial resources and other measures of financial strength the project sponsors represented in their proposals that would be available during the development and construction phase of the project. This same conclusion applies to the financial strength of the project sponsors for their ability to cover major losses during the development and construction phase of the project.

The ISO considers that the circumstances of CalGrid and LS Power (CAL GRID) do not differ for the operations phase of the project. Regarding the comparison of the proposal of CalGrid to the proposal of LS Power (CAL GRID) for the operations phase of the project, the ISO finds, as discussed in Section 3.7, that the financial resources, credit ratings and EDF scores, and financial ratios of CalGrid and its parent company are

better than those of LS Power (CAL GRID) and its parent company, resulting in superior financial strength to cover major losses during the operations phase of the project.

Based on the forgoing considerations, the ISO has determined that, for this aspect of the factor, the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding the financial strength of the project sponsors to cover major losses both during the operations phase of the project, as well as during the development and construction phase of the project.

### **Insurance**

For this aspect of this factor, the ISO considers the insurance coverage available to cover major losses both during development and construction as well as during the operational life of the project. The ISO also considers the insurance coverage available during the operational life of the project when the facilities are energized to be more important than during development and construction of the project.

During construction of the project, other than wildfire insurance coverage, the proposals of both CalGrid and LS Power (CAL GRID) indicate that they or their teams would have in place similar all-risk insurance coverages to cover the project. Regarding wildfire coverage during construction of the project, CalGrid's proposal indicates that it would require its EPC's corporate insurance program to include excess liability insurance of \$100M, including California wildfire coverage, which is more than LS Power (CAL GRID)'s proposal, which includes umbrella/excess liability insurance of not less than \$25MM during construction. Therefore, regarding insurance coverage during construction, the ISO considers the proposal of CalGrid to be slightly better than LS Power (CAL GRID)'s proposal.

During the operation life of the project, other than wildfire insurance coverage, the proposals of both CalGrid and LS Power (CAL GRID) indicate that they or their teams would have in place similar all-risk insurance coverages to cover the project. Regarding wildfire insurance coverage during the operational life of the project, CalGrid indicated that it would purchase excess liability insurance of \$100MM, including California wildfire coverage, subject to commercial reasonableness, availability, and in line with prudent industry practice. LS Power (CAL GRID)'s proposal includes umbrella/excess liability insurance of not less than \$75MM during operations. Therefore, regarding insurance coverage during operations, the ISO considers the proposal of CalGrid to be slightly better than LS Power (CAL GRID)'s proposal.

Based on the forgoing considerations, the ISO has determined that the proposal of CalGrid is slightly better than LS Power (CAL GRID)'s proposal regarding this aspect of the factor overall.

### **Mitigation of Equipment Failures**

Both CalGrid's and LS Power (CAL GRID)'s proposals identify reasonable approaches to maintain spare parts for use in the event of a major equipment failure. Both of these proposals also include a set of spare parts, or a plan for procuring spare parts. However, CalGrid's proposal provides more detailed descriptions of proposed replacement equipment and indicate a greater overall access to emergency equipment and spare parts than LS Power (CAL GRID)'s proposal.

Based on the forgoing considerations, the ISO has determined that, for this aspect of the factor, the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal.

### Overall Analysis

Given the specific scope of this project, in the comparative analysis of this factor, the ISO considers that insurance coverage is more important than financial resources and mitigation of equipment failures, especially because this project runs through CPUC-designated High Fire Threat Districts.

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, given the specific scope of this project, the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding this factor overall.

### 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 ISO'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 of this report, the ISO identified this selection factor as a key selection factor for this project because under ISO Tariff Section 24.5.1, binding cost containment commitments are a key selection factor in every ISO competitive solicitation.

For the purpose of performing the comparative analysis for this factor, the ISO 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 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.

Both CalGrid and LS Power (CAL GRID) provide binding capital cost containment proposals. Both proposals have various provisions regarding cost escalation. The ISO retained a well-respected expert consulting firm to assist, *inter alia*, in evaluating the project sponsors' cost containment proposals and conducting cost of service and revenue requirement studies. The studies and analyses conducted by the consulting firm were extensive, including numerous sensitivity analyses. In addition to evaluating the proposals regarding their proposed binding cost containment measures, the ISO evaluated each project sponsor's proposal considering the following additional factors relating to cost containment:

- Cost containment performance for past projects
- Project management capabilities
- Project risks and mitigation of risks

## Cost Containment Capability Including Binding Cost Cap

### 3.12.1 Information Provided by CalGrid

#### Cost Containment

CalGrid indicated that it proposes a cap on capital costs of \$684,440,523 in nominal dollars, with no adjustments for inflation. CalGrid indicated that the cap excludes allowance for funds used during construction (AFUDC). CalGrid indicated that the cap would apply to all expenditures incurred for the project prior to the commercial operation date. CalGrid indicated that capital costs above this cap, together with associated AFUDC, would be subject to a reduced cap on ROE of 5.0%, which would apply throughout development, construction, and the first 50 years of project operations. CalGrid indicated that for the avoidance of doubt, this cap on capital costs would not represent an entitlement to earn an ROE of 5% on any cost overruns; rather, it is a cap, which could only be earned subject to any FERC limitations on maximum project ROE and the availability of sufficient headroom under CalGrid's proposed cap on revenue requirements described below. (CC-1).

CalGrid indicated that it proposes a binding cap on ROE of 9.8%, which would apply throughout the development, construction, and first 50 years of project operations and would encompass the capital expenditures incurred to deliver this proposal, including any: planned project capital expenditures, both prior to and post-energization; construction-period capital expenditures that qualify as excluded impacts; and AFUDC associated with those items. For the avoidance of doubt, CalGrid indicated that this cap on ROE does not represent an entitlement to earn an ROE of 9.8% on project costs; rather, it is a cap, which could only be earned subject to any FERC limitations on maximum project ROE and the availability of sufficient headroom under the cap on revenue requirements described below. (CC-1)

CalGrid indicated that it commits to protect the project's schedule with a financial incentive to meet the scheduled in-service date. CalGrid indicated that this cost containment measure would be effective if the project is not energized on or before June 1, 2034, unless such delay is attributable to matters beyond CalGrid's control. CalGrid indicated that this measure would lower the project's cap on ROE by 2.5 basis points for every full calendar month that the project's energization is delayed beyond June 1, 2034, up to a total of 30 basis points. (CC-1)

CalGrid indicated that it proposes a 50-year annual revenue requirement (ARR) cap for the project. CalGrid indicated that any project costs exceeding these maximum values would not be eligible for recovery through the ISO's Transmission Access Charge, except as provided through the specified excluded impacts. The ARR cap for each of the 50 years is set forth below. (CC-1)

Annual Revenue Requirement Caps (Nominal \$)

2034	\$72,168,970	2051	\$84,032,967	2068	\$61,939,527
2035	\$123,661,410	2052	\$82,754,990	2069	\$64,805,818
2036	\$120,592,454	2053	\$81,471,799	2070	\$59,668,310
2037	\$117,711,800	2054	\$82,921,440	2071	\$58,222,876
2038	\$115,008,900	2055	\$78,904,543	2072	\$56,794,988

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2039	\$114,425,372	2056	\$77,587,289	2073	\$55,362,778
2040	\$109,875,704	2057	\$76,279,218	2074	\$58,075,296
2041	\$107,305,467	2058	\$74,964,424	2075	\$52,507,985
2042	\$104,739,017	2059	\$76,681,040	2076	\$51,036,185
2043	\$102,165,597	2060	\$72,332,627	2077	\$49,583,198
2044	\$101,809,416	2061	\$70,980,318	2078	\$48,124,916
2045	\$97,010,115	2062	\$69,639,256	2079	\$51,265,197
2046	\$94,401,916	2063	\$68,291,791	2080	\$45,219,693
2047	\$91,799,365	2064	\$70,308,743	2081	\$43,719,250
2048	\$89,189,540	2065	\$65,597,582	2082	\$42,240,745
2049	\$89,379,414	2066	\$64,211,666	2083	\$40,760,259
2050	\$85,320,030	2067	\$62,839,285	2084	\$18,610,971

CalGrid indicated that as part of the revenue requirement cap proposal, if in a given year the actual revenue requirement for the project exceeds the cap, CalGrid would only recover revenues in that year up to the cap. CalGrid indicated that the unrecovered difference between the actual revenue requirement and the cap would be tracked in a deferred recovery account. CalGrid indicated that amounts in the deferred recovery account would not earn interest and could only be recovered in future years if CalGrid's actual revenue requirement in any such future year were below the actual cap. In that case, CalGrid indicated it would be credited from the deferred recovery account in an amount that would bring the revenue requirement up to the cap for that year, and CalGrid would recover revenue in the amount of the annual cap for that year, but only to the extent such incremental amount was available in the defined recovery account. CalGrid indicated that to the extent the balance in the deferred recovery account was less than the amount required to bring the revenue requirement up to the annual cap amount, CalGrid's revenue requirement would be limited to the amount of actual revenue requirement for that year plus the available balance from the deferred recovery account. If CalGrid's revenue requirement was below the annual cap in a certain year and there was no balance in the deferred recovery account, CalGrid indicated that only actual costs for that year would be recovered. CalGrid indicated that in no case would CalGrid recover more than the revenue requirement cap in place for a given year. CalGrid indicated that the amount of any unrecovered costs remaining in the deferred recovery account at the end of the 50-year period would be forfeited, and CalGrid would not recover those costs in rates. CalGrid indicated that it would seek FERC approval of this approach unless controlling law at the time does not require such approval. (CC-1)

CalGrid indicated it proposes to reduce both its cap on revenue requirements and cap on capital costs if it is selected as the approved project sponsor for both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project. Specifically, CalGrid indicated that the cap on capital costs would be reduced by \$148,583,723, or 22%, to \$535,856,800; and the cap on revenue requirements would be reduced by 18% in total over the 50-year period, as reflected in the values in the table below. (CC-1)

**Table CC1-2: Revenue Cap Reductions for Combined Projects (Nominal \$)**

2034	\$13,448,555	2051	\$15,493,512	2068	\$11,492,257
2035	\$23,019,963	2052	\$15,264,746	2069	\$11,250,624
2036	\$22,410,918	2053	\$15,035,051	2070	\$11,008,454
2037	\$21,837,113	2054	\$14,804,445	2071	\$10,765,773
2038	\$21,298,125	2055	\$14,572,948	2072	\$10,522,611
2039	\$20,790,637	2056	\$14,340,580	2073	\$10,278,996
2040	\$20,304,886	2057	\$14,107,363	2074	\$10,034,957
2041	\$19,825,333	2058	\$13,873,317	2075	\$9,790,525
2042	\$19,344,439	2059	\$13,638,464	2076	\$9,545,731
2043	\$18,862,440	2060	\$13,402,826	2077	\$9,300,605
2044	\$18,379,354	2061	\$13,166,425	2078	\$9,055,180
2045	\$17,895,195	2062	\$12,929,284	2079	\$8,809,489
2046	\$17,409,981	2063	\$12,691,428	2080	\$8,563,565
2047	\$16,923,729	2064	\$12,452,879	2081	\$8,317,442
2048	\$16,436,454	2065	\$12,213,662	2082	\$8,071,154
2049	\$16,013,725	2066	\$11,973,803	2083	\$7,824,738
2050	\$15,721,328	2067	\$11,733,326	2084	\$3,179,517

CalGrid indicated that although it has offered these cap reductions in this project proposal, the underlying cost savings are contingent on the successful execution of both projects. Therefore, CalGrid indicated these cap reductions would be contingent on the completion of both projects, and CalGrid would preserve discretion to apportion these cap reductions across the two projects in its cost recovery filings with FERC. (CC-1)

CalGrid indicated that it proposes to further reduce both its cap on revenue requirements and cap on capital costs if it is selected as the approved project sponsor for both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, and the two projects share one set of hybrid structures as proposed by CalGrid. Specifically, CalGrid indicated that the cap on capital costs would be reduced by an additional \$39,357,019, or 6%, to \$496,499,781, and the cap on revenue requirements would be reduced by an additional 4% in total over the 50-year period, as reflected in the values in the table below. (CC-1)

**Table CC1-3: Revenue Cap Reductions for Combined Structures (Nominal \$)**

2034	\$3,336,208	2051	\$3,547,683	2068	\$2,252,106
2035	\$5,699,598	2052	\$3,475,406	2069	\$2,171,471
2036	\$5,528,953	2053	\$3,402,637	2070	\$2,090,343
2037	\$5,368,410	2054	\$3,329,377	2071	\$2,008,725
2038	\$5,216,910	2055	\$3,255,625	2072	\$1,926,614
2039	\$5,073,570	2056	\$3,181,381	2073	\$1,844,012

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2040	\$4,935,801	2057	\$3,106,646	2074	\$1,760,918
2041	\$4,799,483	2058	\$3,031,419	2075	\$1,677,332
2042	\$4,662,613	2059	\$2,955,700	2076	\$1,593,255
2043	\$4,525,252	2060	\$2,879,490	2077	\$1,508,686
2044	\$4,387,400	2061	\$2,802,788	2078	\$1,423,625
2045	\$4,249,056	2062	\$2,725,594	2079	\$1,338,073
2046	\$4,110,220	2063	\$2,647,908	2080	\$1,252,029
2047	\$3,970,892	2064	\$2,569,731	2081	\$1,165,494
2048	\$3,831,073	2065	\$2,491,063	2082	\$1,078,466
2049	\$3,708,124	2066	\$2,411,902	2083	\$990,947
2050	\$3,619,468	2067	\$2,332,250	2084	\$383,587

CalGrid indicated that for the avoidance of doubt, these cap reductions are additive to those in the cap reductions for combined projects presented above. Moreover, a change to the hybrid structures as proposed by CalGrid would not qualify as an exclusion either for ISO-required costs, or government-mandated costs for “changes to the proposed structures, equipment, or transmission lines”, under excluded impacts, as defined by CalGrid. (CC-1)

CalGrid indicated that while CalGrid has offered these cap reductions in its proposal for this project the underlying cost savings are contingent on the successful execution of both projects together with implementation of the hybrid structures. Therefore, CalGrid indicated that these cap reductions would be contingent on the completion of both projects including the hybrid structures, and CalGrid would preserve discretion to apportion these cap reductions across the two projects in its cost recovery filings with FERC. (CC-1)

CalGrid indicated that excluded impacts, or costs excluded from the cost cap and cost containment provisions, include:

- ISO-required costs – costs due to any change in the ISO project requirements or the ISO Functional Specifications for the project facilities as set forth in the APSA.
- Government-mandated costs – CalGrid indicated that it proposes a \$25MM exclusions deadband for government-mandated costs. Under this mechanism, CalGrid indicated it would bear the risk of any government-mandated costs that qualify as excluded impacts, up to a maximum threshold of \$25MM in total. CalGrid indicated that only costs above this threshold would qualify for relief as excluded impacts consistent with the provisions of the cap on revenue requirements as described below and cap on capital costs as described above. CalGrid indicated that government-mandated costs are costs due to any additional impositions by a governmental authority, including:

- changes to the proposed structures, equipment, or transmission lines for the project. (see also CC-10)
- relocation or rerouting of the project or any portion thereof. (see also CC-9)
- requirement to place any facilities underground. (see also CC-12)
- increase in the amount of environmental mitigation. (see also CC-11)
- Interconnection costs – costs due to any incremental requirement to evaluate or effect any change attributable to PTO or generator interconnections, or any other required interconnection studies or impacts.
- Other excluded costs – costs attributable to or consisting of:
  - the issuance, enactment, or material change in the enforcement, interpretation, or application of any statute, rule, regulation, tariff, or other applicable law that occur or become effective after the submission date of CalGrid's proposal.
  - delay not caused by CalGrid in the receipt of permits necessary to construct the project, or any other delay attributable to matters beyond CalGrid's control. (see also CC-13 and CC-14)
  - force majeure events or conditions, adopting the definition of Uncontrollable force as set forth in the ISO Tariff. (see also CC-8)
  - unsecured losses not covered by insurance proceeds in accordance with Good Utility Practice.
  - liability insurance premiums, or O&M expenditures incurred pursuant to a state-ratified wildfire mitigation plan, above what is assumed in the proposal.
  - Capital expenditures incurred after the project is placed in service, above what is assumed in the proposal. (CC-7)

CalGrid indicated that failure by one of CalGrid's preferred vendors to meet CalGrid's requirements would not be a basis to claim relief from CalGrid's proposed cost containment measures. (CC-15)

CalGrid indicated that it would not seek recovery of the costs of construction work in process (CWIP) in rates. (CC-19).

### **Project Abandonment Cost Mitigation Measures**

Assuming FERC policy on the abandoned plant incentive were unchanged, CalGrid indicated that it would file for recovery of abandoned plant costs. As a mitigation, CalGrid indicated that it is committing to share with customers the costs and risks of project cancellation, and committing to enhanced cost control and industry transparency, pursuant to its proposed cap on termination costs described below. Additionally, CalGrid indicated that Viridon would work with its O&M contractor and its other contractors to offset ratepayer costs by repurposing any equipment or materials secured for the project. (CC-17, CC-18)

CalGrid indicated that it commits to a cap on termination costs that would track its cumulative forecast capital expenditures. CalGrid indicated that in the event CalGrid were forced to abandon the project for reasons outside of its control and seek recovery pursuant to a FERC-approved abandonment Incentive, this measure would ensure that

CalGrid shared with customers the costs and risks of project cancellation. CalGrid indicated that specifically, cumulative project capital costs at or below the cap would be subject to a “soft cap” in the form of a reduced cap on ROE of 8.5%, and any cumulative capital costs above that soft cap would be limited to a further reduced cap on ROE of 5.0%. CalGrid indicated that these ROE thresholds would apply to both AFUDC and the resultant regulatory asset for the project and would not be subject to modification for any of the excluded impacts as defined above. CalGrid indicated that once it has commenced construction of the project as defined in the APSA, this mechanism would no longer apply. CalGrid committed to ISO approval rights over anticipated major cost commitment decision points through the project development cycle. (CC-1)

CalGrid indicated that as part of the regular reporting cycle, it would provide in a form reasonably acceptable to the ISO non-confidential cost-tracking information and forward visibility on, and ISO approval rights over, anticipated major cost commitment decision points throughout the project development cycle. (CC-1)

### **Cost Containment Performance for Past Projects**

CalGrid provided a list of project experience for its transmission line and reactive compensation projects that included actual cost versus budget performance. CalGrid provided budget and actual cost information on a project-by-project basis, and, if applicable, identified major issues or challenges faced on a particular project. (Prior Projects and Experience Workbook)

Regarding transmission line and reactive compensation projects operating at voltages above 200 kV that have been completed in the past ten years and are located in the U.S., the list included 17 projects. Of these 17 projects, 15 were completed at or below budget, and budget information was not provided for two projects. The projects that were completed below budget were completed below budget by an average of 7% and the average budget of these projects was \$230MM. One of the projects for which no budget information was provided was delayed by nearly 33 months due to the extended CPUC regulatory process. (Prior Projects and Experience Workbook)

### **Project Management Capabilities**

CalGrid indicated that its project management steps include project kickoff and scoping, schedule development, risk identification and mitigation plans, and cost estimates and provided detailed information for these steps. (P-1)

Regarding risk identification and mitigation plans, CalGrid indicated that its project planning team has developed a framework to provide each team member with the means to populate a risk log covering their functional areas of expertise and experience. CalGrid also indicated that the project team held work sessions to collaborate as a group on each item to reach consensus on the totality of risks considered and the appropriate mitigation measures. (P-1)

Regarding cost estimates, CalGrid indicated that each contractor has created a detailed bottoms-up cost estimate for their functional area based on specific knowledge and detail on the project and the ability to incorporate market-based quotes and estimates for materials, equipment, labor, land valuation, taxes, and other associated costs. CalGrid indicated that it has performed internal analyses and benchmarking to ensure the project cost estimates were accurate, complete, and competitive against relevant benchmarks. (P-1)

### **Project Risks and Mitigation of Risks**

CalGrid provided a risk log that included 71 risk items grouped into several risk categories (permitting, procurement, construction, rights-of-way, operations etc.), the risk consequence (cost, schedule) and the likelihood of the risk (low, medium, high). The risk log also includes the owner of each risk (CalGrid, the ISO), as well as the mitigation measure for each risk item. CalGrid indicated that this risk log captures the collective history of the project team and identifies both anticipated and unanticipated risks and the appropriate mitigation measures. (P-4)

Regarding wildfire risks and mitigation measures, CalGrid indicated that its construction and O&M contractors have experience mitigating wildfire risk while constructing maintaining and operating transmission lines in regions prone to wildfires. (P-5)

### **3.12.2 Information Provided by LS Power (CAL GRID)**

#### **Cost Containment**

LS Power (CAL GRID) indicated that it proposes an ARR cap for a specified term, subject to specified exclusions. LS Power (CAL GRID) also proposed a mechanism whereby it would be permitted to recover specified costs above the ARR cap that exceed a specified exceedance threshold. (CC-1)

LS Power (CAL GRID) indicated that if it is selected as the approved project sponsor for both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, it would reduce its ARR cap for this project as specified. (CC-1)

LS Power (CAL GRID) indicated that if the project is cancelled due to factors outside its control before June 1, 2029, LS Power (CAL GRID) would limit the amount of abandoned plant for which it will seek recovery to a specified level. LS Power (CAL GRID) indicated that any excluded costs would not be subject to the abandonment recovery cap. (CC-1)

#### **Cost Containment Performance for Past Projects**

LS Power (CAL GRID) provided a list of project experience for, transmission line and reactive compensation projects from LS Power that included actual cost versus budget performance. LS Power (CAL GRID) provided budget and actual cost information on a project-by-project basis, and, if applicable, identified major issues or challenges faced on a particular project.

Regarding transmission line and reactive compensation projects operating at voltages above 200 kV that have been completed in the past ten years and are located in the U.S., the list included 9 projects, 8 of which were completed at or below budget. The projects that were completed below budget were completed below budget by an average of 7% and the average budget of these projects was \$100MM. The budget information for one project was not provided. (Prior Projects and Experience Workbook)

#### **Project Management Capabilities**

LS Power (CAL GRID) provided information for its project management plan which included risk management, schedule management, cost management, project communication, quality management, issues management, and safety management. (P-1)

Regarding risk management, LS Power (CAL GRID) indicated that its risk management process is an iterative cycle of identification, assessment, mitigation, and monitoring and that every member of the project team is responsible for recognizing and reporting risks. (P-1)

Regarding cost management, LS Power (CAL GRID) indicated that the project director would be responsible for managing the detailed budget, which would be updated and re-forecasted on a monthly basis. LS Power (CAL GRID) also indicated that active management of the budget and early identification of variance trends would enable the project team to resolve budget issues before they become substantial. (P-1)

### **Project Risks and Mitigation of Risks**

LS Power (CAL GRID) provided a project risk register that included 73 risk items in six risk categories – cost containment, project management and schedule, environmental permitting and public process, land acquisition, engineering & design, and construction and each risk item included a rating for risk likelihood, risk consequence, risk level to the ISO/ratepayers and risk level to LS Power (CAL GRID). Each risk item also included a mitigation measure. (P-4)

LS Power (CAL GRID) also identified major risks to the project which included (1) equipment and material cost increases, (2) regulatory mandated deviations, (3) interest rate increases, (4) wildfire risk, and (5) land acquisition costs. (P-4)

Regarding wildfire risks and mitigation measures, LS Power (CAL GRID) indicated that since the parts of the project are in areas identified by Cal Fire as High Fire Hazard Severity Zones, it would develop a wildfire mitigation plan and its construction contractor would also establish as construction fire prevention plan. (P-4)

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

### **3.12.3 Information Provided by CalGrid**

CalGrid indicated that the authority of any agency with jurisdiction over the project to impose binding cost control measures or cost caps on the project is not applicable because CalGrid is proposing binding cost containment measures. (CC-16)

### **3.12.4 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated that the authority of an agency with jurisdiction over the project to impose binding cost control measures or cost caps on the project is not applicable as LS Power (CAL GRID) is proposing binding cost control measures. (CC-16)

### **3.12.5 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 considered the expected effectiveness of the project sponsor's overall cost containment capabilities, including, but not limited to, cost containment performance on

prior projects; project management and scheduling organizations and capabilities; experience of key individuals; the project risk and mitigation that each project sponsor identified; factors affecting cost; and proposed cost containment plans and proposed binding cost caps.

### **Binding Cost Containment Measures and Cost Containment Exclusions**

Both CalGrid and LS Power (CAL GRID) propose ARR caps. CalGrid and LS Power (CAL GRID) each propose reduced ARR caps if awarded both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project. CalGrid's ARR cap lasts for a longer period of time than the ARR cap proposed by LS Power (CAL GRID). For the years they coincide, LS Power (CAL GRID)'s ARR cap is lower than CalGrid's ARR cap. The ARR caps proposed by both CalGrid and LS Power (CAL GRID) allow for cost cap exceedances in a given year to be recovered in future years, provided CalGrid cannot recover more than its revenue requirement in place for that year. The ARR cap proposal of LS Power (CAL GRID) provides that if the calculated ARR for any year exceeds the ARR cap, LS Power (CAL GRID) would not be permitted to recover any portion of the exceedance below a specified amount, however, LS Power (CAL GRID) would be permitted to include in its ARR for that year a significant percentage of the costs above the specified exceedance threshold. Thus, under the proposal of LS Power (CAL GRID), if project costs increase significantly, ratepayers would bear a significant portion of those cost increases.

CalGrid proposes a separate capital cost cap (in addition to its ARR cap) for initial construction of the project. CalGrid proposes a significantly reduced capital cost cap if awarded both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project. LS Power (CAL GRID) does not propose a separate capital cost cap.

CalGrid proposes a separate ROE cap for capital costs incurred before the project's commercial operation date up to its capital cost cap. CalGrid proposes a lower ROE cap for capital costs incurred above its proposed capital cost cap. LS Power (CAL GRID) does not propose a separate ROE cap.

Both CalGrid and LS Power (CAL GRID) propose exclusions to their cost containment caps. The cost cap exclusions of LS Power (CAL GRID) are more limited than the exclusions of CalGrid. CalGrid would exclude from its cost containment measures costs incurred as a result of government-ordered changes. However, the ISO does not consider there to be a significant rerouting risk because most of CalGrid's route is near or parallels existing corridors. The path through the mountains parallels the existing 115 kV transmission corridor and is also located within a Section 368 energy corridor. It also avoids areas with high community impacts, and each tower has been sited to minimize impacts within the mountain corridor. Also, CalGrid will bear all government mandated costs up to \$25 million. CalGrid also excludes liability insurance premiums and O&M costs incurred pursuant to a state-ratified wildfire mitigation plan above the amounts assumed in its proposal. However, unlike the proposal of LS Power (CAL GRID), CalGrid's ARR cap includes an assumed level of capital costs subsequent to its project's commercial operation date and only excludes any capital expenditures above that amount. Both CalGrid and LS Power (CAL GRID) exclude the costs of any mandated undergrounding requirement from their cost caps.

CalGrid and LS Power (CAL GRID) both propose specific abandoned plant cost containment measures. CalGrid's abandonment cost containment proposal performs slightly better than LS Power (CAL GRID)'s proposal in a scenario where the project is cancelled on June 1, 2029, but worse if the project is cancelled on June 1, 2031, based primarily on project spend curves. In any event, the ISO is mitigating the abandoned plant cost risk by imposing a condition on the approved project sponsor in the executed APSA that no major project costs can be incurred on the project without the express written approval of the ISO.

Under the circumstances of this project, CalGrid's cost containment measures are preferable to the cost containment measures of LS Power (CAL GRID). Although the cost containment measures of LS Power (CAL GRID) have the potential to provide a lower ARR than CalGrid's proposed ARR caps and offer greater protections against less significant project cost increases, the cost exceedance recovery mechanism proposed by LS Power (CAL GRID) presents a substantial downside risk to ratepayers if there is a substantial increase in project capital costs or other costs that comprise the ARR covered by the ARR cap. The ISO is concerned about the potential for project cost increases given the size and scope of the project, its projected completion date well into the future, risks associated with the identified route and other uncertainties. CalGrid's cost containment measures place a firmer cap on potential total expenditures compared to the proposal of LS Power (CAL GRID). In addition to an ARR cap, CalGrid's proposal also contains a substantially reduced capital cost cap due to its dual award provisions and an ROE cap that further limits potential cost increase exposure in these areas. The pre-condition the ISO is imposing on the approved project sponsor executing an APSA - that the approved project sponsor must agree that no major project costs on the project can be incurred without the express written approval of the ISO - will help mitigate the abandoned plant cost risk. For these reasons, the ISO considers the proposal of CalGrid to be slightly better than LS Power (CAL GRID)'s proposal regarding cost containment. Because the ISO has selected CalGrid as the approved project sponsor for both projects, CalGrid's proposed reduced ARR cap and capital cost cap will apply. The ISO is not approving the use of joint structures and thus does not adopt CalGrid's proposed reduced ARR cap associated with the award of both projects and the use of joint structures.

### **Cost Containment Performance for Past Projects**

Regarding completing past projects within the project budget, the information provided by CalGrid indicated that 15 out of 17 projects were completed at or below budget by an average of 7% of the original budget. The information provided by LS Power (CAL GRID) indicated that all nine projects were completed at or below budget also by 7% of the original budget. The ISO considers that there is no material difference between the proposals from CalGrid and LS Power (CAL GRID) regarding demonstrated ability to complete projects at or under budget.

### **Project Management Capabilities**

The ISO considers that both CalGrid and LS Power (CAL GRID) provide a reasonable approach to professional project management for their proposals and, as result, it considers them to be comparable regarding project management capabilities.

### **Project Risks and Mitigation of Risks**

Both CalGrid and LS Power (CAL GRID) provide a description of a thorough and professional approach to identifying risks to the completion of the project within the project budget and possible mitigations for those risks for their proposals. Both of these

project sponsors confirm their ability to work on multiple projects simultaneously, if awarded more than one. Both of these project sponsors indicate that they have taken steps to reduce risk.

Both of the projects confront similar terrain and face similar wildfire risk.

As discussed in Section 3.4 of this report, both CalGrid and LS Power (CAL GRID) propose routes that are similar for portions yet distinct in others with both directly paralleling existing corridors for large portions of the identified routes. However, the route proposed by LS Power has a greater portion that is not near or adjacent to existing transmission corridors. The ISO considers the utilization of existing corridors to reduce the need for new access roads and lay down areas and decrease project risk during development and construction and operations. The ISO has concluded that potential challenges associated with development and construction and operations in areas not directly adjacent or near existing corridors increase the risk of capital cost increases to LS Power (CAL GRID)'s project. Thus, the ISO considers the proposal of CalGrid slightly better than LS Power (CAL GRID)'s proposal regarding project risk.

### **Overall Assessment**

For purposes of the comparative analysis for this component of the factor, the ISO's analysis considered the expected effectiveness of the project sponsor's overall cost containment capabilities, including but not limited to estimated capital costs, cost containment performance on prior projects, project management and scheduling organizations and capabilities, the project risk and mitigation that each project sponsor identified, factors affecting cost and proposed cost containment plans and proposed binding cost caps. As discussed above and in Section 2.1, the ISO has identified this selection factor as a key selection factor because under ISO Tariff Section 24.5.1 binding cost containment commitments are a key selection factor in every ISO competitive solicitation, and the ISO considers commitment to robust, binding cost containment measures to be the most effective way in which the ISO can ensure that a project is developed in an efficient and cost-effective manner. Consequently, the ISO considers the proposed cost and binding cost containment measures, inclusive of identified exclusions, proposed by project sponsors to be the most significant inputs into the comparative analysis for this component of the factor.

As discussed above, the ISO considers that the proposals of CalGrid and LS Power (CAL GRID) are comparable regarding cost containment performance on prior projects and regarding project management capabilities. The ISO addresses the comparison of project risks and mitigation in conjunction with the analysis of cost containment below.

As discussed above, the ISO considers the proposed route of LS Power (CAL GRID) to have more risk of cost escalation because it is not located near existing corridors to the extent of the proposed route by CalGrid and requires the utilization of a greater number of access roads than the route proposed by CalGrid.

Regarding binding cost containment measures, the ISO considers the proposal of CalGrid to be preferable to the proposal of LS Power (CAL GRID) primarily because it better limits the downside risk to ratepayers if there are substantial cost increases.

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 has determined

that, based on the specific scope of this project, the proposal of CalGrid is slightly better than LS Power (CAL GRID)'s proposal regarding this component of the factor.

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

Because both CalGrid and LS Power (CAL GRID) propose binding cost caps for their proposals, 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.

## **Overall Comparative Analysis**

The ISO considers the first component (cost containment and cost caps) of this factor more important than the second (siting authority imposing a cost cap). Given that both CalGrid and LS Power (CAL GRID) propose binding cost containment measures and would seek a certificate of public convenience and necessity from the CPUC, the first component is the only basis for the comparative analysis of this factor.

Based on the ISO's analysis of the first component of this factor, as discussed above, the ISO has determined that the proposal of CalGrid is slightly stronger than LS Power (CAL GRID)'s proposal.

Based on the foregoing considerations, in conjunction with all the other considerations in the ISO's analysis of this factor, the ISO has determined that, based on the specific scope of this project, the proposal of CalGrid is slightly better than LS Power (CAL GRID)'s proposal regarding this factor overall.

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

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 CalGrid**

#### **Design and Construction**

CalGrid indicated that it met or exceeded all ISO Functional Specifications for the new substation and transmission line and identified the following areas where its project exceeds the ISO Functional Specifications.

- The new 500 kV transmission line has been designed with the actual continuous normal summer and winter rating of 5,544 Amps, approximately 45% higher than the minimum required by the ISO Functional Specifications,
- The new 500 kV transmission line has been designed with a 4-hour emergency summer and winter rating of 6,426 Amps, approximately 46% higher than the minimum requirements set forth in the ISO Functional Specifications, and
- The new 500 kV transmission line has been designed with a 30-minute emergency summer and winter rating of 6,666 Amps, which is 30% higher than the minimum requirement specified in the ISO Functional Specifications. (QP-1)

CalGrid indicated that if it is selected as the approved project sponsor for both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, it would offer the ISO the ability to increase the ratings in the New Humboldt Substation during the design and permitting phase to a total normal operating capacity of 5,000 Amps to enable future capability. CalGrid indicated that in the future, the Fern Road Substation could be upgraded to enable this capacity. (Z-1)

#### **Other Advantages**

CalGrid indicated that the risk of wildfire could be significantly reduced through the mountain region by removing portions of the Humboldt-Cottonwood 115 kV line from service permanently or more frequently during weather events. (Z-1)

CalGrid indicated that it is offering additional savings in the 2023-2024 competitive transmission solicitation if it is selected as the approved project sponsor for both projects. (Z-1)

CalGrid indicated that it designed both proposals to take a similar route through the mountains for 83 miles of the project route. CalGrid indicated that cost savings would be realized through the ability to share rights-of-way, permitting, and environmental mitigation activities and efforts for only one route by one entity, the ability to establish the wider rights-of-way simultaneously, and the ability to realize economies of scale by more effectively deploying construction resources and optimization of sequencing and schedules. (Z-1)

CalGrid indicated that it would also offer a hybrid design configuration in its New Humboldt-Fern Road 500 kV Line project proposal (and associated cost cap reductions) that places both the New Humboldt-Fern Road and the New Humboldt-Collinsville lines on the same double circuit towers. CalGrid indicated that combining both circuits on a hybrid structure would result in significant project cost savings through its use in the mountain section of the project route. CalGrid indicated it has specific design considerations due to the requirement for a single double circuit structure to host both AC and DC circuits in relatively close proximity. (Z-1)

### **3.13.2 Information Provided by LS Power (CAL GRID)**

#### **Design and Construction**

LS Power (CAL GRID) indicated that its proposed transmission line project has been designed to exceed the ISO Functional Specifications in the following areas:

- Minimum summer continuous HVAC ampacity of 4920 Amps compared to a requirement of 3800 Amps, approximately 29% higher than the minimum required by the ISO Functional Specifications;
- Minimum summer four-hour emergency HVAC ampacity of 4920 Amps compared to a requirement of 4400 Amps, approximately 12% higher than the minimum required by the ISO Functional Specifications; and
- Minimum summer thirty-minute emergency ampacity of 5154 Amps compared to a requirement of 5130 Amps, which is less than one percent higher than the minimum requirement specified in the ISO Functional Specifications. (QP-1)

### **3.13.3 ISO Comparative Analysis**

For the purposes of the comparative analysis for this factor, the ISO has reviewed the proposals submitted by CalGrid and LS Power (CAL GRID) to determine if there are advantages the project sponsor or its team have for building and owning the project that were not addressed in other parts of the selection process. This comparative analysis considers two areas, (1) the proposed project design and construction and (2) other possible advantages.

#### **Design and Construction**

Both CalGrid and LS Power (CAL GRID) submitted a design for a transmission line whose ampacity exceeds that identified in the ISO Functional Specifications. The ISO considered the fact that both of these project sponsors proposed projects with designs that resulted in ampacity ratings that exceeded the ISO Functional Specifications and determined that there is no material difference between the two proposals regarding the additional ampacity proposed because the value of additional ampacity is uncertain at this time, based on the information available to the ISO.

Regarding potential design and construction advantages not considered in the analysis of other selection factors in this report, the ISO has determined that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding this consideration.

#### **Other Advantages**

CalGrid indicates that wildfire risk can be significantly reduced through the mountain region by removing portions of the Humboldt-Cottonwood 115 kV line from service. The ISO has not analyzed the impact of this recommendation; however, it has determined that if this recommendation were an advantage it would apply to all three proposals and therefore is not an advantage for CalGrid alone.

CalGrid indicates that it is offering additional savings if CalGrid is selected as the approved project sponsor for both this project and the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project. These savings are reflected as cost containment provisions within this New Humboldt to Fern Road 500 kV line proposal. These potential savings are considered within the comparative analysis for Selection Factor 24.5.4(j): Cost Containment Capability, Binding Cost Cap and Siting Authority Cost Cap Authority. Consequently, these potential savings will not be considered further in this comparative analysis.

CalGrid identifies a possible cost saving option where both the New Humboldt to Collinsville 500 kV line, as part of the New Humboldt 500 kV Substation, with 500/115 kV transformer, and a 500 kV line to Collinsville [HVDC operated as AC] project, and the New Humboldt to Fern Road 500 kV line, as part of this project, could be placed on a single transmission structure. The ISO has included in its functional specifications the requirement that transmission line support structures shall be single circuit structures. Consequently, this option would not comply with the functional specifications and is not considered further in this comparative analysis.

The ISO has determined that there are no advantages that have not been considered in other selection factors, consequently, the ISO has determined that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding other advantages.

### **Overall Comparative Analysis**

Regarding potential design and construction advantages, the ISO determined that there is no material difference between the proposals of CalGrid and LS Power (Cal GRID).

Regarding other advantages, the ISO determined that there is no material difference between the proposals of CalGrid and LS Power (Cal GRID).

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, based on the specific scope of this project, there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding this factor overall.

### **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 several more specific selection factors, which are discussed in Sections 3.7, 3.8, 3.9, and 3.10 of 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 of the project sponsor and its team.

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

The ISO's comparative analysis has considered the results of the analysis of the four selection factors or factor components listed above. As an initial matter, the ISO notes that both CalGrid and LS Power (CAL GRID) and their teams are capable of satisfying these selection factors regarding the project.

The ISO has determined that the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding this factor overall because CalGrid's proposal is better regarding the first selection factor (financial resources), there is no material difference between Cal Grid's and LS Power (CAL GRID)'s proposals regarding the second selection factor component (technical [environmental permitting] qualifications and experience), and CalGrid's proposal is better regarding the third selection factor (previous record regarding construction and maintenance of transmission facilities) and slightly better regarding the fourth selection factor (demonstrated 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 Sections 3.8, 3.9, and 3.10 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 the proposals submitted by CalGrid and LS Power (CAL GRID) 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 regarding the project sponsor qualification criteria in its comparative analysis for purposes of selecting the approved project sponsor.

This qualification criterion considers several 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 or factor components considered in the comparative analysis for this criterion are as follows:

24.5.4(f): the engineering qualifications and experience of the project sponsor and its team (a 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, of the project sponsor and its team.

The ISO's comparative analysis has considered the results of the analysis of the three selection factors or factor components listed above. As an initial matter, the ISO notes that both CalGrid and LS Power (CAL GRID) and their teams are capable of satisfying these factors regarding this project.

The ISO has determined that the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding this criterion because there is no material difference between CalGrid's and LS Power (CAL GRID)'s proposals regarding the first selection factor component (engineering qualifications and experience), and CalGrid's proposal is better regarding the second selection factor (previous record regarding construction and maintenance of transmission facilities) and slightly better regarding the third selection factor (demonstrated 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 both proposals submitted by the two project sponsors 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 regarding the project sponsor qualification criteria in its comparative analysis for purposes of selecting 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 in Section 3.7 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 regarding selection factor 24.5.4(e), the ISO has determined that CalGrid and its proposal is better than LS Power (CAL GRID) and its proposal regarding 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 the proposals submitted by CalGrid and LS Power (CAL GRID) 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 regarding the project sponsor qualification criteria in its comparative analysis for purposes of selecting 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 in Section 3.11 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 regarding selection factor 24.5.4(i), the ISO has determined that the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding this criterion.

### **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 ISO; 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 the proposals submitted by CalGrid and LS Power (CAL GRID) 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 regarding the project sponsor qualification criteria in its comparative analysis for purposes of selecting 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 in Section 3.6 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 regarding selection factor 24.5.4(d), the ISO has determined that there is no material difference between the proposals of CalGrid and LS Power (CAL GRID) regarding 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 both CalGrid and LS Power (CAL GRID) 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 regarding the project sponsor qualification criteria in its comparative analysis for purposes of selecting the approved project sponsor.

This qualification criterion considers several factors addressed by the selection factors previously discussed in Sections 3.8, 3.9, and 3.10 above. 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. As an initial matter, the ISO notes that CalGrid and LS Power (CAL GRID) and their teams are capable of satisfying these selection factors regarding this project.

The ISO has also determined that the proposal of CalGrid is better than LS Power (CAL GRID)'s proposal regarding this criterion because there is no material difference between CalGrid's and LS Power (CAL GRID)'s proposals regarding the first selection factor (technical [environmental permitting] and engineering qualifications and experience), and CalGrid's proposal is better regarding the second selection factor (previous record regarding construction and maintenance of transmission facilities) and slightly better regarding the third selection factor (demonstrated capability to adhere to standardized construction, maintenance, and operating practices).

### **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 CalGrid**

CalGrid indicated that it commits to becoming a PTO for the purpose of turning the transmission elements included in the project over to the ISO's operational control. CalGrid further commits to entering into the TCA for the project transmission elements, to adhere to all applicable reliability criteria, and to comply with NERC registration requirements and WECC standards, where applicable. (A-6)

### **3.20.2 Information Provided by LS Power (CAL GRID)**

LS Power (CAL GRID) indicated if selected by the ISO as the approved project sponsor for the project, LS Power (CAL GRID) would apply to become a PTO for purposes of turning the project over to the ISO's operational control and would enter into the TCA. LS Power (CAL GRID) indicated that it would adhere to all applicable reliability criteria and comply with applicable NERC registration requirements and NERC and WECC standards. (A-6)

### **3.20.3 ISO Comparative Analysis**

Both project sponsors have committed to becoming a PTO, turning over operational control of the project to the ISO, abiding by the terms of the TCA, and adhering to all applicable reliability criteria for their proposals. Consequently, the ISO has determined there is no material difference between the proposals of the two project sponsors regarding 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 proposals of the 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.

As discussed above, the ISO has conducted this competitive solicitation because, in the 2023-2024 transmission planning process, the ISO identified a policy need for this 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 applicable tariff selection factors and qualification criteria to determine the approved project sponsor to finance, construct, own, operate, and maintain this project.

The ISO's analysis determined that there are either no material differences or only slight differences between the project sponsors and their proposals regarding many of the selection factors and qualification criteria. The ISO identified three key selection factors

for this project. CalGrid ranked superior to LS Power (CAL GRID) for two of these key selection factors and as strong as LS Power (CAL GRID) regarding the third.

One of the key selection factors for which the ISO identified material differences between the project sponsors' proposals is the cost containment factor, specifically the project sponsors' commitment to binding cost containment measures. As discussed above, this factor is one of the three key selection factors the ISO identified at the start of the competitive solicitation process. The ISO has concluded that CalGrid has the stronger cost containment proposal because it better limits the ultimate downside risk to ratepayers, which is an important consideration given the scope and characteristics of the project, the in-service date being well in the future, and other uncertainties surrounding the project.

The second key selection is experience in acquiring rights-of-way. This is an important factor given the length of the transmission line and the number of properties it will traverse. The ISO determined that both project sponsors and their teams have substantial experience in acquiring rights-of-way in the U.S., including experience in California. The ISO has found that there are no material differences between project sponsors regarding this selection factor.

The third key selection factor is the financial resources of the project sponsor and its team. This is important given the significant cost of the project. The ISO has concluded that each project sponsor has sufficiently demonstrated the experience and financial resources to undertake a project of this scope and cost. The ISO considers there to be no material differences between the two project sponsors and their proposals regarding project financing experience and project financing proposals, especially when compared to the other differences between the project sponsors and their proposals. As discussed in detail above, the ISO considers CalGrid to have an advantage over LS Power (CAL GRID) because of its strong credit ratings, EDF, and financial ratio analysis.

Regarding the selection factors that the ISO did not identify as key selection factors, CalGrid's proposal is stronger or as strong as the proposal of LS Power (CAL GRID) for seven of those eight other selection factors. Regarding the one selection factor where CalGrid's proposal is not stronger or as strong as LS Power (CAL GRID)'s proposal – existing rights-of-way to contribute to the project -- the ISO considers the proposal of LS Power (CAL GRID) to be slightly better than the proposal of CalGrid because it has executed purchase option agreements for its series compensation site at the Humboldt end of the project and CalGrid has not. However, CalGrid demonstrated that it has the capability and experience to acquire rights-of-way in California. Also, CalGrid's team has demonstrated significant experience maintaining and operating extensive transmission facilities in high risk fire areas.

CalGrid's proposal is stronger or as strong as LS Power (CAL GRID)'s proposal for the comparative analysis of all six of the qualification criteria.

For the foregoing reasons, the ISO has determined that CalGrid and its team are qualified, experienced, and have the financial resources to capably, cost-effectively, and reliably license, finance, construct, operate, and maintain this particular project by the specified in-service date, while limiting the potential downside risk to ratepayers. Based on the ISO's review of the proposals and a comparative analysis regarding all selection factors and qualification criteria, the ISO has determined that CalGrid's proposal is better than the proposal of LS Power (CAL GRID). The result of this competitive solicitation is

that the ISO has selected CalGrid as the approved project sponsor to finance, construct, own, operate, and maintain the New Humboldt to Fern Road 500 kV Line project.<sup>9</sup>

Finally, as indicated above, as a condition of its selection of an approved project sponsor, the ISO will require that any executed APSA include a provision that the approved project sponsor may not incur any major costs in connection with the project without the express written approval of the ISO.

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<sup>9</sup> Selection of CalGrid as the approved project sponsor does not preclude the ISO from taking positions on specific rate proposals contained in CalGrid's rate filing at FERC regarding its proposal.

Attachment 1

**Competitive Solicitation Transmission Project Sponsor  
Application**

# Transmission Project Sponsor Proposal –Competitive Solicitation Application

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## **INTRODUCTION** AND GENERAL INSTRUCTIONS

In accordance with ISO Tariff Section 24.5 (Transmission Planning Process Phase 3), the ISO will initiate a period of at least ten (10) weeks 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 competitive solicitation application form 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 (PTOs) and will sign the Transmission Control Agreement (TCA) and enter into a Coordinated Functional Registration (CFR) agreement with the ISO. 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.

This section sets forth requirements for the formatting and general contents of the project sponsor's application. The application submitted to the ISO shall not include any substantive information in response to this section. In particular, in Section 1 of the application, the project sponsor shall provide a summary of the most significant aspects of the project as proposed by the project sponsor. The ISO will refer to the information provided in Section 1, rather than any information provided in a transmittal letter for an introduction to and overview of the project. The information to be included in the application will be used by the ISO to determine whether 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 qualified 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 must provide information that reflects a thorough understanding of the requirements, processes, and activities needed to accomplish project completion and continuing operation and maintenance.

The project sponsor must submit three documents in connection with its proposal:

1. this Competitive Solicitation Application form;
2. the Cost and Cost Containment Workbook;
3. the Prior Projects and Experience Workbook.

The first document, Competitive Solicitation Application, is a completed form of this Microsoft Word document. The second document, Cost and Cost Containment Workbook, is in the form of an Excel spreadsheet. The spreadsheet documents the project sponsor's proposed capital and operations and maintenance (O&M) expenses, and also any proposed cost containment

measures. The third document, Prior Projects and Experience Workbook, is in the form of a separate Excel spreadsheet. The spreadsheet documents the project sponsor's listing of prior projects and experience relevant to its capability to develop the current project. Please note that only applicant and contractor experience identified in the Prior Projects and Experience Workbook will be used to evaluate past project performance and experience. Experience identified within other areas of sponsor proposals must be included within the Prior Projects and Experience Workbook to be evaluated.

This application form 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, QP-1 for Project Qualification, E-1 for Environmental Permitting and Public Processes items, S-1 for items related to Substation Design and Engineering, 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 the project sponsor believes that any item of the application is not applicable to its project proposal, it may indicate "N/A" but must provide a brief reason why it believes it is not applicable.

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. Information that responds directly to the information requests in the application shall be incorporated directly into the application and not be submitted as separate attachments merely referenced in the application response.

If a project sponsor provides attachments as part of the response, the project sponsor shall specify the file name of the attachment in the space provided for the response. In addition, the project sponsor shall name the attached files using the following naming convention – the file name shall include the unique identifier for the application item to which the information responds (e.g., A-5) and a description of the contents (e.g., A-5 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. When submitting attachments, do **NOT** create any subdirectories. The ISO's filing system cannot process subdirectories and their use may cause important information to be lost. Also, do not use any of the following (special) characters when naming attachment files: [ ( ~ # % & \* { } \ / : < > ? ) ]. Use of any of these special characters is not compatible with the ISO's filing system and will cause important information to be lost. In addition, the project sponsor shall include in its cover letter a table or index in Microsoft Word format that contains a list of documents and attachments provided. The table or index must include the file name, contents, and a description of the application section(s) and items to which it corresponds. The project sponsor must provide a copy of the application

in Microsoft Word format. The project sponsor must provide all responses and attached material in English or the ISO will disregard the information submitted.

*The following instructions in italics pertain to the submission of geographic information:*

*When submitting geographic information, e.g., the proposed route for a transmission line or the location of a proposed new substation, or reactive support or series compensation station, the project sponsor shall provide the information both in a PDF file or files, and also in shapefiles. In order to provide for the greatest support and exchangeability, shapefiles are chosen as the GIS format for submittal. There shall be one shapefile for each proposed transmission project, and no shapefile submitted shall contain more than one proposed transmission project. The proposed transmission projects are to be defined as **line** shapes. The attribute table of the shapefile shall include a **"NAME" text field** that contains the name of the transmission project. This submittal shall include, at a minimum, the following four files: **name.shp**, **name.shx**, **name.dbf** and **name.prj**. The file name shall be the name of the transmission project with any spaces and special characters replaced by underscores or other regular characters. Abbreviating and shortening of the names are acceptable and encouraged. All of the files that make up the shapefile shall be zipped together in a single "zip" file with the same name as the shapefile.*

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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, and regulatory and reliability requirements. In addition, the project sponsor shall complete the Excel spreadsheet entitled Prior Projects and Experience Workbook by which the project sponsor is to provide information regarding relevant prior projects and experience of the project sponsor and its contractors.

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 shall also indicate how its response would change depending on how many of its proposals are approved by the ISO. For example, in P-4 of Section 4 (Project Management and Schedule) the project sponsor shall 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.

Please note that the ISO will consider only ONE proposal per application submitted. The project sponsor may identify alternate proposals that it has considered, but shall clearly identify the single proposal that it wishes the ISO to evaluate.

This application form includes an officer certification form (Section 15) that must be signed by an officer of the authorized representative of the applicant project sponsor. The ISO will not consider any application that does not include a completed officer certification form.



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 treated 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. A project sponsor must separately request confidential treatment for each response to an individual application information request and explain the need for confidential treatment. Project sponsors shall not make general designations of large sections of the application as confidential or proprietary.

Project sponsors should note that the maximum size of an e-mail submitted to the ISO must not exceed 20 MB or the ISO's e-mail system may not be able to process it. An application that includes files or attachments larger than 20 MB must be compressed to files of a size less than 20 MB. Project sponsors shall submit their information via CD or DVD medium. Please provide 3 complete sets of CDs or DVDs and clearly label each with project name and sponsor name. The ISO prefers that project sponsors submit the initial application (consisting of the Microsoft Word document and associated attachments, and the Excel spreadsheets) on 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. Again, the ISO will consider only one proposal per application. Please note that there are several tables in this application form 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 \$100,000\* for each submitted application. The ISO will not consider applications if the project sponsor fails to include the deposit on or before the date the bid window closes. Payment instructions and a project sponsor deposit form can be found in Section 16 of this application form.

While the competitive bid window is open, a project sponsor may submit questions to the ISO for clarification. Questions must be submitted via e-mail to the following address: [transmissioncompetitivesolicitation@caiso.com](mailto:transmissioncompetitivesolicitation@caiso.com). The ISO will attempt to answer these questions in a timely manner. The answers will be made available in a table that the ISO will post to its website on the "Transmission Planning" page. Note that the ISO will not include the identity of the project sponsor in the table. In general, the ISO will update this table on a weekly basis or as needed.

## **1 PROJECT SPONSOR NAME, ORGANIZATIONAL STRUCTURE, AND PROPOSAL**

### **SUMMARY**

A-1 Project Sponsor Name:

*Response: (Enter Project Sponsor Company Name)*

A-2 Proposal Name:

*Response: (Enter Proposal Name)*

A-3 Submittal Date:

*Response: (Enter Submittal Date)*

A-4 Provide a brief summary of the project sponsor's proposal:

*Response:*

A-5 Provide an organizational chart depicting the project team and areas of responsibility, including the responsibilities of all contractors. In addition, provide a corporate organizational chart of the project sponsor and any parent companies and affiliates. Attach resumes of all key management and lead personnel of the project sponsor, affiliates, and contractors who will be used for the project, including a resume for each lead individual of the project sponsor and its contractors in each area of responsibility for the project. Identify any parent organization or affiliate personnel responsible for a specific project listed in the Prior Projects and Experience Workbook who will be part of the project sponsor's team for the instant project. For project sponsor and affiliated personnel and for contractor personnel, relate each resume to a position on the organization chart provided. The project sponsor should be aware that if it is selected as the approved project sponsor, the ISO will require that any change in the personnel and contractors proposed to be used for the project must be approved by the ISO. 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 shall include the entity or entities that 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.

*Response:*

- A-6 State that 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:*

## 2 PROJECT QUALIFICATION

### 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.

In addition, 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). 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. When providing these responses, the project sponsor shall refer to information that has been provided in other sections of its application for additional information and support. The following two responses shall provide a complete demonstration or qualification – through the two responses directly and by including references in the two responses to material provided in responses to other items in the 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:*

### 3 PRIOR PROJECTS AND EXPERIENCE

In the accompanying Excel spreadsheet entitled Prior Projects and Experience Workbook, the project sponsor shall provide a description of all relevant prior projects and experience of the project sponsor on the Project Sponsor experience tab and its proposed contractors on the Contractor experience tab as it relates to this project. The lists of projects should include those with voltages greater than 200 kV completed in the past ten years. If the project sponsor or its proposed contractors do not have experience constructing facilities with voltages greater than 200 kV, but do have experience constructing lower voltage facilities, this experience may be included. Detailed explanations of schedule and budget variances may be supplied in a separate document if necessary as noted in the spreadsheet and shall include a description of major issues confronted and resolved during the project.

The Contractor experience tab of the Prior Projects and Experience Workbook shall be used to list the prior project experience of all contractors that the project sponsor proposes to use for this project, including but not limited to land acquisition, environmental permitting, design and engineering, construction, maintenance, and operations contractors. If the project sponsor proposes to but has not retained a contractor for any of the foregoing functions, the project sponsor shall provide a realistic short list of contractors under consideration. Any change to these contractors will require approval by the ISO. The evaluation will consider the qualifications of each submitted contractor. The experience list shall include any work performed by the contractor for the project sponsor. For environmental permitting contractors, the project sponsor must indicate in the spreadsheet, for each prior project listed for that contractor, the federal and state permits acquired as well as associated environmental processes, including federal NEPA or state environmental review determinations.

## 4 PROJECT MANAGEMENT AND SCHEDULE

- P - 1. Provide a general description of the proposed approach to project management and scheduling for the transmission element.

*Response:*

- P - 2. Provide the proposed management structure, organization, authority levels, and resources committed to project management and scheduling for the full scope of the project, including relevant experience and capability for the proposed project manager and other relevant decision-makers for the project. If the sponsor does not have a team in place, provide your plan to meet these requirements.

*Response:*

- P - 3. 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;
- Regulatory approval; permitting; rights of way and land acquisition;
- Engineering and design;
- Material and equipment procurement;
- Facility construction;
- Agreements (interconnection, operating, scheduling, etc.) with other entities;
- Pre-operations testing;
- Any amount of "float" incorporated into the schedule and how it was determined;
- 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 project sponsor encounters unanticipated delays in its schedule for land acquisition, permitting, or construction of up to 6 months. If the project sponsor proposes any financial or other incentives to ensure completion of the project on schedule, provide a description of those financial or other incentives.

*Response:*

- P - 4. For the proposed project, identify the major risks and obstacles to successful project completion within cost budget while meeting schedule and identify proposed mitigations to minimize the risks. Describe all actions that the project sponsor will take to keep the project within budget while meeting schedule in light of the major risks identified.

If the project sponsor is sponsoring more than one project, the project sponsor shall 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:*

- P - 5. For the transmission line and substation projects included in the Prior Projects and Experience Workbook, provide the following:
- (a) Any environmental permitting risks and challenges that the project sponsor and its team have previously faced that are comparable to the risks and challenges it will face in connection with this project.
  - (b) Any transmission line or substation design or engineering risks and challenges that the project sponsor and its team have previously faced that are comparable to the risks and challenges it will face in connection with this project.
  - (c) Any transmission line or substation construction risks and challenges that the project sponsor and its team have previously faced that are comparable to the risks and challenges it will face in connection with this project.
  - (d) Any maintenance risks and challenges that the project sponsor and its team have previously faced that are comparable to the risks and challenges it will face in connection with this project.
  - (e) Any operations risks and challenges that the project sponsor and its team have previously faced that are comparable to the risks and challenges it will face in connection with this project.
  - (f) Other specific materials that reflect project management skills for an actual project.

<i>Response:</i>
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## 5 COST ASSUMPTIONS AND CONTAINMENT

Provide all the information regarding cost containment for the proposed project in the Cost and Cost Containment Workbook. In addition, provide the information regarding the cost containment proposal in response to the following requests. Ensure the information provided in this application is consistent with the information provided in the Cost and Cost Containment Workbook.

CC-1 Fully describe in detail all of your proposed cost containment measures.

*Response:*

CC-2 Explain in detail and provide all bases, assumptions, reasons, support, and documentation as to why your estimated cost of debt constitutes a reasonable representation and expectation of the debt cost you expect to incur in connection with the project.

*Response:*

CC-3 Describe each proposed maintenance activity and its frequency planned over the life of the project facilities. Explain in detail and provide all bases, assumptions, reasons, and support as to why your estimated O&M costs (and Administrative and General (A&G) costs) constitutes a reasonable representation and expectation of the O&M costs you expect to incur in connection with the project. To the maximum extent practicable, provide this analysis for each individual component of total O&M costs as reflected in the Cost and Cost Containment Workbook.

*Response:*

CC-4 Identify by job category the number of full-time equivalent employees (FTE) the project sponsor intends to employ from its company to perform operations activities and the number of FTEs the project sponsor intends to employ from its company to perform maintenance activities. Also provide the number of FTEs that will be allocated to Administrative and General activities. Describe the specific role and functions each FTE will serve. Describe in detail the basis for and assumptions underlying these FTE estimates and the cost associated with the FTEs.

*Response:*

- CC-5 Indicate whether the project sponsor intends to contract for O&M services.
- If so, provide the name of the counterparty and attach any agreements that provide the terms of the relationship.
  - If the project sponsor intends to rely on O&M services from a regulated utility, identify the utility and describe in detail how the utility intends to support the project. Attach any agreements that provide the terms of the relationship.
  - Provide the specific roles and functions the contractors will provide for the project.

- d. Provide in detail the justification for cost estimates associated with contracted O&M services.
- e. For contracted O&M services, provide: (1) the number of FTEs- (on an annual basis) that would be conducting maintenance activities; (2) the number of FTEs- that would be providing operations services; and (3) the number of FTEs- that would be allocated to Administrative and General activities.

Response:

- CC-6 Provide all details, assumptions, reasons, and supporting documentation (including manufacturers' guidelines) underlying the project sponsor's useful life projections for the project.

Response:

- CC-7 Describe in detail all exclusions to any cost cap and cost containment measures the project sponsor proposes.

Response:

- CC-8 If the project sponsor is proposing an exclusion for *force majeure* events, how exactly does the project sponsor propose to define *force majeure* for purposes of limiting exclusions from or increases to any cost cap and other cost containment measures?

Response:

- CC-9 If a siting or permitting authority were to require relocation of the project sponsor's proposed site for the project, how exactly would that affect the project sponsor's proposed cost cap and other cost containment measures?

Response:

- CC-10 If a siting or permitting authority were to require changes to the proposed structures, equipment, or transmission lines associated with the project sponsor's project, how would that affect the proposed cost cap and other cost containment measures?

Response:

- CC-11 If a siting or permitting authority were to require an increase in the amount of environmental mitigation beyond that assumed in the project sponsor's proposal, how would that affect the proposed cost cap and other cost containment measures?

Response:

- CC-12 If a siting or permitting authority were to require undergrounding of the project sponsor's proposed transmission facilities, or require overhead construction if the project sponsor has proposed undergrounding, how would that affect the proposed cost cap and other cost containment measures?

*Response:*

- CC-13 If there were to be a delay in the receipt of any of the project sponsor's siting or permit authorizations, how exactly would that affect the proposed cost cap and other cost containment measures?

*Response:*

- CC-14 If there were to be a delay in the schedule of the participating transmission owner for constructing its interconnection facility for the project, or if changes in project scope or location were to be required or caused by the interconnecting PTO, how would that affect the proposed cost cap and other cost containment measures?

*Response:*

- CC-15 If one of the project sponsor's approved contractors was not able to meet its requirements, and the project sponsor were to propose and the ISO approve an alternate contractor, what impact would this have on the proposed cost cap and other cost containment measures?

*Response:*

- CC-16 Indicate the authority of any agency with jurisdiction over the project to impose binding cost control measures or cost caps on the project, if the project sponsor is not proposing a cost cap.

*Response:*

## 6 FINANCIAL

The project sponsor (or the project sponsor's parent or other affiliated entity in the event the project sponsor must rely on either to meet this financial criteria) 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. The ISO will consider the parent's or affiliated entity's financial statements, credit ratings, and other statements in this section if the parent or affiliated entity provides financial assurances acceptable to the ISO as described in F-2 below.

### General

- F - 1. 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 its application, (1) describe the entity's relationship to the project sponsor in the form of a corporate hierarchy and (2) provide a letter signed by an officer of the parent or affiliated entity indicating that the parent or affiliated entity provides financial assurances for the project. In addition, provide details of the parent's or affiliated entity's plan for providing for credit, investment, or financing arrangements for financial backing of the project. If financial recourse is limited, describe under what conditions recourse is available to the parent or affiliated entity'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. Provide annual, audited financial statements or equivalent (e.g., FERC Form 1) that at a minimum, includes an 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 project sponsor may provide other documentation demonstrating financial capability. In either case, the documentation **must be accompanied by a letter signed and attested to by an officer of the company** providing financial assurances that the documents are a fair representation of the financial condition of the company in accordance with generally accepted accounting practices. If this information is available electronically, it is acceptable for the project sponsor to provide links to the appropriate documents. NOTE: All financial statements must be provided in English.

*Response:*

- F - 4. Provide quarterly, unaudited financial statements or equivalent (e.g. FERC Form 3-Q) published since the last annual, audited financial statement. If not available, the project sponsor may provide other documentation demonstrating financial capability. In either case, such documentation **must be accompanied by a letter signed and attested to by an officer of the company** providing financial assurances that the documents are a fair representation of the financial condition of the company in accordance with generally accepted accounting practices. If this information is available electronically, it is acceptable for the project sponsor to provide links to the appropriate documents. 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, 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. Explain how the capabilities and resources of the parent organization(s) of the SPE can be attributed to and will serve the SPE.

*Response:*

- F - 6. Provide current credit ratings and rating agency reports from Moody's Investor Services, Standard & Poor's Ratings Services and/or Fitch Ratings, or another rating agency designated by the U.S. Securities and Exchange Commission as a Nationally Recognized Statistical Rating Organization. If credit ratings are unavailable, the project 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 an SPE, report any such failures by its parent or other 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 parent or other affiliated entities, including any predecessor SPEs.

*Response:*

- F - 9. Based upon the most recent audited financial statements, provide a ratio of total assets to the total projected capital costs of the project, and show the calculation including any encumbrances.

*Response:*

- F - 10. For each of the five years for which audited financial statements were provided according to F - 3 above, provide the following financial ratios, and show the calculation for each:
- Funds from operations to interest coverage
  - Funds from operations to total debt
  - Total debt to total capital

*Response:*

### Project Financing

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

- 1) Project description,
- 2) Financing structure (e.g., LLC vs. corporate),
- 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. For financing sources other than the capital markets, describe the benefits to ratepayers and others of your proposed financing source(s). This shall include the projected cost of the financing sources.

*Response:*

### Project Liability Protection and Project Replacement and Repairs

F - 14. 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. Also include the types of losses to be covered during the construction and operation of the project, including specifying the extent of failure of project facilities to be covered by the planned insurance during the operation of the project.



*Response:*

- F - 15. Describe your ability to finance unexpected repairs (*e.g.*, replacement of a series of towers) or replacement construction during the estimated useful life, *i.e.*, the operating period for the transmission element(s). For example, capabilities can include, but are not limited to, the following: use of account set-asides or accumulated funds, parent organization guarantees, letters of credit, letters of 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.

*Response:*

## 7 ENVIRONMENTAL PERMITTING AND PUBLIC PROCESSES

- E - 1. Provide an overview of the various project activities that the project sponsor believes are needed to achieve siting approval, obtain all necessary permits, and any other necessary public processes required to construct the project. Provide a list of steps or flow chart for these project activities and processes. If the project is located within more than one state, provide a response for each state as applicable.

*Response:*

- E - 2. Using your best estimate, indicate whether any federal discretionary permit(s) will be required. For each discretionary permit anticipated, identify the agency and applicable governing rule or statute. Describe these in detail, e.g., Clean Water Act Section 401- 404, U.S. Fish and Wildlife Service biological opinion.

*Response:*

- E - 3. Using your best estimate, indicate whether any state discretionary permit(s) will be required and the type of permit to be filed (e.g., endangered species incidental take permit, water quality Section 401).

*Response:*

- E - 4. Indicate if any federal land (for example, Forest Service, BLM) is proposed to be crossed, and if a NEPA (National Environmental Policy Act) environmental process is required.

*Response:*

- E - 5. 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>10</sup> and project sponsor standing policies, related to siting and permit processes, that all employees are required to observe, including how are they implemented and how are they reported, that would be applicable for the proposed project.

*Response:*

- c. Provide a list of Applicant Proposed Measures that would be applicable for the proposed project. These are project sponsor mitigation measures that would be applied to reduce

<sup>10</sup> BMPs, which are environmental industry standard terminology, are the project sponsor'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 and injury reporting, or community involvement programs involving both the local elected officials and the immediate community that will be impacted by the proposed project.



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:*

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

*Response:*

- E - 6. Provide information related only to transmission line, reactive support, series compensation, and substation siting and permits for projects developed by the project sponsor or its team in the past ten years. If the project sponsor is an SPE, provide information on the parent organization(s) for similar projects. Provide:

- a. A description of any project siting or permitting notice of violation (NOV).

*Response:*

- b. Siting or permitting fines levied by the project approval authority or any other agency with discretionary or ministerial authority over the project.

*Response:*

- c. Remediation actions taken to avoid future violations.

*Response:*

- d. A summary of siting or permitting law violations by the project sponsor or its team found by federal or state courts, federal regulatory agencies, state public utility commissions, other regulatory agencies, or in any other legal proceeding.

*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 or its team is currently under investigation or is a defendant in any legal proceeding for violation of any siting or permitting law.

*Response:*

## 8 TRANSMISSION OR SUBSTATION LAND ACQUISITION

- L - 1. 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, those dismissed, and the justification for the preferred site.

*Response:*

- L - 2. 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:*

- L - 3. Provide an indication of whether the project sponsor has eminent domain authority. If the project sponsor does not have eminent domain authority and does not plan to obtain eminent domain authority, describe the strategy for acquisition of necessary land rights.

*Response:*

- L - 4. Indicate whether the project sponsor has any existing ROW or substations 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 risks associated with using the existing ROW (for example, negotiating additional land rights or the potential of "overburdening" existing easements). Does the project sponsor make a binding commitment to seek to use such existing ROW or substations for the project, and to use such existing ROW or substations unless the applicable siting authority or other regulatory agency determines otherwise, approves a different route, or the project sponsor is prevented from doing so by *force majeure* type events?

*Response:*

## 9 SUBSTATION DESIGN AND ENGINEERING

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

- S - 1. For each substation or reactive control element that is included as part of your proposed project, provide the location, GPS information, 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. For each proposed substation, reactive support, or series compensation installation, provide the substation siting criteria that will be used on the project (e.g., future area plans, constructability, earthquake activity, flood plain and mudslide considerations).

*Response:*

- S - 3. For each proposed substation, reactive support, or series compensation installation, provide the basic parameters for the installation - primary and secondary voltage, BIL<sup>11</sup>, initial design power capacity, and final design power capacity (if developed in stages).

*Response:*

- S - 4. For each proposed substation, reactive support, or series compensation installation, provide a preliminary design criteria document that specifies the criteria that will be used in the design of the facility. Also provide a list of standards and requirements that will be used in its design - e.g., IEEE 142. Provide a complete list of state specific requirements for each U.S. state in which the project will be located (e.g., California and other state specific requirements if part of the project or the entire project is located outside California).

*Response:*

- S - 5. For each proposed substation, reactive support, or series compensation installation, 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,

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<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.



- xii. substation, reactive support, or series compensation facility layout with equipment location, fencing, grounding, control/relay building, etc.

*Response:*

- S – 6. For each proposed substation, reactive support, or series compensation installation, describe the protection system criteria and specific components included in the design for primary and back-up protection. Identify any special protection considerations for the substation.

*Response:*

- S – 7. For each proposed substation, reactive support, or series compensation installation, describe the SCADA incorporated in the design. Include the project sponsor's commitment to meet operational data requirements and a specific description of the communications strategy.

*Response:*

- S – 8. For each proposed substation, reactive support, or series compensation installation, describe the physical security criteria and specific security measures that will be incorporated in the final facility design.

*Response:*

## 10 TRANSMISSION LINE DESIGN AND ENGINEERING

The 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. This shall include GPS coordinates.
  - proposed conductor size, bundling and type,
  - intervening substations, switching stations, or series compensation facilities,
  - 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 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 - 3. Provide a listing of all existing or permitted transmission lines, including voltage, structure type, and separation, located adjacent to or in the same corridor as the proposed project. Provide the criteria used to establish the separation between the proposed transmission line and existing transmission and distribution facilities.

*Response:*

- T - 4. 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 - 5. 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, 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 - 6. 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 - 7. For any proposed overhead transmission line, provide the following additional information not included in response to T-1 in the table provided below:
- 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,
- insulation level, insulator types,
- lightning protection,
- 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**

- 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.
- Provide NESC and/or GO 95 Grade of Construction.
- Provide NESC and/or GO 95 Loading Corridor Separation.

T-7 Item	Response
a	
b	
c	
d	
e	
f	

g	
h	
i	

- T - 8. For any proposed overhead section and any underground section of the 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 - 9. 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 and the basis of determining each right of way width.

<b>T-9 Item</b>	<b>Response</b>
a	
b	
c	
d	
e	
f	
g	

- T - 10. 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) 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).
- 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 paid for by the project sponsor.

T-10 Item	Response
a	
b	
c	
d	
e	

## 11 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, reactive support, series compensation installations, 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, providing material to contractors, material quality control methods, and material expediting processes.

*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, and expected helicopter work.

*Response:*



- C-8 Provide information related only to transmission line, reactive support, series compensation, and substation construction for projects developed by the project sponsor or its team for projects completed during the past ten years. If the project sponsor is an SPE, provide the information for the parent organization(s). Provide
- a. A description of any project construction-related notice of violation (NOV).

*Response:*

- b. Construction-related fines levied by the project approval authority or any other agency with discretionary or ministerial authority over the project.

*Response:*

- c. Remediation actions taken to avoid future violations.

*Response:*

- d. A summary of construction-related law violations by the project sponsor or its team found by federal or state courts, federal regulatory agencies, state public utility commissions, other regulatory agencies, or in any other legal proceeding.

*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 or its team is currently under investigation or is a defendant in any legal proceeding for violation of any construction-related law.

*Response:*

## 12 MAINTENANCE

- M-1 Describe the roles and responsibilities of the project sponsor's maintenance organizations. Describe any organizational changes to the project sponsor's current organization that are planned to accommodate maintenance of the proposed project. Provide any contract you have with a third party to provide maintenance services for the project. Describe what specific maintenance activities will be handled by project sponsor staff and which activities will be handled by contractors or vendors.

*Response:*

- M-2 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, certifications, and experience requirements for maintenance and field personnel.

*Response:*

- M-3 Describe the project sponsor's training program for maintenance personnel. Include initial and continuing education requirements for maintaining qualifications for classifications with maintenance responsibilities (e.g., what are the training and certification requirements for linemen and substation electricians?). Identify training resources used.

*Response:*

- M-4 Describe the project sponsor's capabilities 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 Sections 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 the ISO Transmission Maintenance Standards. The effectiveness of each PTO's maintenance practices will be gauged through the ISO's availability performance monitoring system. Each PTO's adherence to its maintenance practices will be assessed through an ISO review pursuant to TCA Appendix C Maintenance Procedure 4).

*Response:*

- M-5 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:*

- M-6 Provide information, notices, or reports regarding the project sponsor's compliance with its standards for inspection, maintenance, repair, and replacement of similar facilities. Include audit reports or regulatory filings.

*Response:*



- M-7 Describe the project sponsor's capabilities that will enable it to provide its Availability Measures in accordance with TCA Appendix C Section 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.

*Response:*

- M-8 Would adding the project to the ISO controlled grid require any changes or exceptions to the provisions of the TCA? If "yes", describe.

*Response:*

- M-9 Describe the project sponsor's (its team or planned team) capabilities that will enable it to comply with the activities required by TCA Section 7 (Operations and Maintenance [including Scheduled Maintenance, Exercise of Contractual Rights, and Unscheduled Maintenance]).

*Response:*

- M-10 Specify where the project's maintenance team (including any project sponsor staff and contractors) will be located. Specify the estimated response time of any assigned project sponsor staff, maintenance contractor, or emergency response provider.

*Response:*

## 13 OPERATIONS

- O-1 Describe the roles and responsibilities of the operations organizations, including operating jurisdictions as they relate to the proposed project. Identify the planned location of those responsible for operation of the project, including the location of the control center that will serve as the single point of contact for the ISO. Describe any organizational changes to the project sponsor's current operations organization that are planned to accommodate the proposed project. Provide any contract you have with a third party to provide operation services for the project. Describe what specific operations activities will be handled by project sponsor staff and what activities will be handled by contractors or vendors.

*Response:*

- O-2 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, certifications, and experience requirements for operators and field personnel.

*Response:*

- O-3 Describe the project sponsor's training program for operations personnel. Include initial and continuing education requirements for maintaining qualifications for classifications with operation responsibilities (e.g., what are the training and certification requirements for operators, linemen, and substation electricians?). Identify training resources used.

*Response:*

- O-4 Would adding the project to the ISO controlled grid require any changes or exceptions to the provisions of the TCA regarding operations? If "yes", describe.

*Response:*

- O-5 Identify the NERC functions for which the project sponsor has registered or intends to become registered related to the proposed project.

*Response:*

- O-6 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 or intends to become registered. If you plan to use a contractor and have not selected one yet, provide the requested information for the contractors you are considering. Describe how the project sponsor will ensure compliance with the reliability standards or requirements associated with these functions. Provide any contract you have with a third-party to perform NERC functions.

*Response:*

- O-7 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 Section 5.1.6. Explain any.

*Response:*

- O-8 Provide information demonstrating that the project sponsor, or its intended contractor or contractors as identified in O-1, has been in compliance with the Applicable Reliability Standards for all transmission facilities that it owns, operates, or maintains. This could include information for facilities outside the ISO controlled grid and shall include available NERC compliance audit results. Provide information describing the amount of transmission facilities subject to NERC compliance by listing the number of miles of transmission lines by voltage class and the number of substations by voltage class. If the project sponsor does not have experience with transmission facilities subject to NERC reliability standards, provide information demonstrating compliance with standards that do apply to those facilities and the amount of facilities subject to such compliance.

*Response:*

- O-9 Describe in general how the project sponsor proposes to divide responsibility for NERC reliability standards between the project sponsor and the ISO in the Coordinated Functional Registration agreement. Compare your response with existing agreements between the ISO and other PTOs, and describe expected differences, if any. Existing agreements are available on the ISO website.

*Response:*

- O-10 Describe the applicable agreements that will define the responsibilities of the Transmission Operator as defined in NERC reliability standards and authority with respect to NERC reliability standards categories of 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-11 Describe how the project sponsor will meet the NERC reliability standards requirement that a Transmission Operator 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 Section 4.3.

*Response:*

- O-12 Describe the project sponsor's (its team or planned team) capability that will enable it to comply with the activities required by TCA Section 6.1 (Physical Operation of Facilities [including Operation, ISO Operating Orders, Duty of Care, Outages, Return to Service, and Written Report]) and TCA Section 6.3 (Other Responsibilities).

*Response:*

- O-13 Describe the project sponsor's capability (for its team or its planned team) that will enable it to comply with the activities required by TCA Section 9.2 (Management of Emergencies by Participating TOs) and TCA Section 9.3 (System Emergency Reports: TO Obligations). Identify resources available 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-14 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 ISO Operational Control are subject, together with any documents creating such Encumbrances and any instructions on how to implement Encumbrances and Entitlements in accordance with TCA Section 6.4.2.

*Response:*

- O-15 Identify the plans or provisions to be implemented by the project sponsor to replace major failed equipment, e.g., a substation transformer, circuit breaker, or a group of towers (including dead end structures).

*Response:*

- O-16 Identify and describe any violations of NERC reliability standards or other reliability standards the project sponsor or its team has incurred in the past ten years.

*Response:*

- O-17 Identify and describe any operations-related tariff violations or FERC rules violations the project sponsor or its team has incurred in the past ten years.

*Response:*

- O-18 Identify and describe any violations of operations-related laws, statutes, rules, or regulations the project sponsor or its team has incurred in the past ten years that are not discussed elsewhere in the application.

*Response:*

#### 14 MISCELLANEOUS:

Z-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 proposal. Do not include information that is already included in other sections of the application.

*Response:*

## 15 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, including associated worksheets, 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, including associated worksheets, 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, including associated worksheets, 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: \_\_\_\_\_



## 16 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 shall be made payable to the CAISO.**

California ISO  
Attn: Julie Balch  
Grid Assets  
P.O. Box 639014  
Folsom, CA 95763-9014

#### Overnight Address

California ISO  
Attn: Julie Balch  
Grid Assets  
250 Outcropping Way  
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: June 23, 2023

Effective Date: June 23, 2023

Application Owner: Scott Vaughan

Application Owner's Title: Manager, Transmission Assets

## Revision History

Version	Date	Description
8	6/23/2023	Added clarification for including experience, added reference to GPS coordinate identification of subs and transmission lines, eliminated original question L1 , added request for more detail on schedule float in P3
7	3/22/2021	Revised Version Released - General update and simplification
6	4/17/2019	General update
5	5/10/2016	General update and revised to address stakeholder comments.
4	4/7/2014	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