



California ISO  
Shaping a Renewed Future

# Imperial Valley Policy Element Project Sponsor Selection Report

July 11, 2013

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(Version used for the Imperial Valley transmission element)

## 1. INTRODUCTION

This report describes the competitive solicitation process conducted for a policy-driven transmission line and collector station in the Imperial Valley area (the “IV Policy Element”) leading to the selection by the ISO of the Imperial Irrigation District (IID) as the Approved Project Sponsor to finance, own, construct, operate and maintain the IV Policy Element.

In the 2012/2013 transmission planning cycle, the ISO identified a need for the IV Policy Element with an estimated cost of \$25 million. Because these are stand-alone facilities, and the ISO recognized that the IV Policy Element must be constructed in a relatively short timeline (by 2015 at the latest) due to generation projects in the area that require the transmission facilities to move forward with power purchase and interconnection agreement milestones, ISO management approved the IV Policy Element ahead of the 2012/2013 transmission plan approval. Following ISO management approval, the ISO initiated an accelerated competitive solicitation process for this transmission element.<sup>1</sup>

In 2010, FERC approved changes to the ISO’s transmission planning process (“TPP”) that included a competitive solicitation process for new, stand-alone transmission facilities needed for economic or public policy reasons. This process was later modified in 2012 to provide a path for ISO management to approve economic or policy-driven facilities with capital costs of \$50 million or less. If these smaller projects are stand-alone facilities subject to sponsor solicitation, the ISO Tariff allows the ISO to conduct the solicitation process on an accelerated basis before the ISO governing board approves the annual transmission plan.

As required by its tariff, the ISO undertook a comparative analysis of the degree to which each Project Sponsor met the qualification criteria under section 24.5.2.1 and the selection factors under section 24.5.2.4 to determine the Approved Project Sponsor to finance, own, construct, operate and maintain the IV Policy Element.

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<sup>1</sup> As of the date of this report, the ISO is also conducting separate competitive solicitations to select Project Sponsors for the Gates-Gregg and Sycamore-Penasquitos transmission facilities. These larger policy-driven elements were approved by the ISO Board in March 2013 in the 2012/2013 transmission plan.

## 2. BACKGROUND

### 2.1 The IV Policy Element and Competitive Solicitation Process

On November 20, 2012, the ISO released a paper describing the IV Policy Element and the urgent need for the facilities.<sup>2</sup> The project consists of a 230 kV collector substation (located approximately one mile north of the Imperial Valley substation) and a short (less than one mile) 230 kV transmission line connecting the collector substation to the IV substation. The transmission line and substation will not become network facilities that can be turned over to ISO operational control until IID completes its proposed upgrades to the IID “S” line (El Centro to IV) and loops it into the new collector substation. The ISO’s planning cost estimate for the IV Policy Element was \$25 million.

The ISO explained that the policy-driven need for the IV Policy Element is based on the renewable portfolio scenarios provided by the California Public Utilities Commission (CPUC) for assessment in the 2012/2013 TPP. The ISO’s need evaluation also took into account additional direction from the California Energy Commission (CEC) and the CPUC recommending that the ISO evaluate additional transmission reinforcements into the IID balancing authority area to enable delivery of at least 1,400 MW of renewable energy to the ISO grid. These agencies conveyed to the ISO that recovering transmission reinforcement costs from generators seeking interconnection at Imperial Valley presented a barrier to the development of renewable resources north of the Imperial Valley substation. Given that parts of this Imperial Valley area are in the Desert Renewable Energy Conservation Plan as a renewable energy study area, the ISO concluded that the identified transmission line and collector station would advance California’s 33% RPS goals and should be approved in the TPP.

As mentioned in the introduction, the ISO also recognized that the IV Policy Element must be constructed in a relatively short timeline (by 2015 at the latest) due to generation projects in the area that require the facilities to move forward with power purchase and interconnection agreement milestones. This condensed timeframe aligns with the ISO Tariff section 24.4.10 criteria allowing a small policy-driven project to be accelerated for approval if:

- (a) There is an urgent need for approval;
- (b) The transmission upgrades will not conflict with other projects being considered in TPP Phase 2; and
- (c) The need for accelerated approval is driven by external circumstances.

Stakeholders were advised that the ISO Board would be briefed on the need for the facilities at the December 2012 meeting and that ISO management approval would follow this step. Once ISO management approved the facilities, the competitive solicitation application window would open. The ISO held a stakeholder conference call on November 29, 2012 and requested comments on the proposed IV Policy Element approval.

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<sup>2</sup> <http://www.caiso.com/Documents/Description-FunctionalSpecificationsImperialValleyAreaProposedPolicyDrivenElements.pdf>

Consistent with timeline described in the paper, ISO management briefed the Board on December 13, 2012, and approved the IV Policy Element shortly thereafter. On December 20, 2012, the ISO posted a more detailed project description and functional specifications and simultaneously opened the bid solicitation window. In accordance with ISO Tariff section 24.5.1 and applicable sections of the transmission planning business practice manual, the bid solicitation window remained open through February 19, 2013.

The ISO received Project Sponsor applications from two entities – Imperial Irrigation District (IID) and Abengoa Transmission & Distribution (Abengoa). A list of applicants was posted to the ISO website on February 25, 2013. The ISO found both entities to be qualified and posted the list of qualified applicants on April 11, 2013.

## **2.2 The ISO Transmission Planning Process and Competitive Solicitation Tariff Structure**

The framework for the competitive solicitation process is set forth in ISO Tariff section 24.5 and details are provided in the business practice manual for transmission planning at section 5. In addition, the ISO posted the application (Attachment 1) on its website and maintained a question and answer log so that all interested parties would have access to the same clarifying information while the bid solicitation window was open. In compliance with section 24.5.5.2.3 (c), the ISO hired an expert consultant to assist with the qualification and selection processes.

Each applicant completed a project application form which included a series of questions in the following areas:

- Project Sponsor Qualifications (questions Q-1 to Q-3)
- Project Finance, Project Management and Cost Containment (questions P-1 to P-33)
- Environment and Public Processes (questions E-1 to E-12)
- Substation (questions S-1 to S-8)
- Transmission (questions T-1 to T-10)
- Operation and Maintenance (questions O-1 to O-26)
- Miscellaneous (question M-1)

As provided in the business practice manual, both applicants were given opportunities to correct deficiencies in their applications. Following the applicants' submissions of supplemental information necessary for the ISO's qualification assessment, the ISO next determined whether the applicants satisfied the minimum qualification criteria set forth in tariff section 24.5.2.1 to finance, own, construct, operate and maintain the IV Policy element. Consistent with the tariff, the qualification criteria that the ISO applied were:

- (a) Whether the proposed project is consistent with needed transmission elements identified in the comprehensive Transmission Plan;<sup>3</sup>
- (b) Whether the proposed project satisfies Applicable Reliability Criteria and ISO Planning Standards; and
- (c) Whether the Project Sponsor is physically, technically, and financially capable of (i) completing the project in a timely and competent manner; and (ii) operating and maintaining the facilities consistent with Good Utility Practice and applicable reliability criteria for the life of the project.

The ISO found that both applicants met the minimum qualification criteria with respect to the IV Policy Element.

Once the ISO determined that both Project Sponsors met the minimum qualification criteria, the ISO offered them an opportunity for possible collaboration and submission of a joint proposal pursuant to tariff section 24.5.2.3 (a). The Project Sponsors subsequently advised the ISO that they were unable to arrive at a joint proposal. At that point, the ISO moved to the Project Sponsor selection phase of the competitive solicitation process.

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<sup>3</sup> While not specifically stated in section 24.5.2.1, the tariff qualification criteria are applicable to transmission facilities subject to the competitive solicitation process that are approved by ISO management pursuant to section 24.4.10.

### 3. APPLICANT SELECTION

#### 3.1 Description of Applicant Selection Process

Once the ISO has determined that two or more applicants are qualified, and has provided an opportunity for collaboration, tariff section 24.5.2.3(c) directs the ISO to select one approved project sponsor “based on a comparative analysis of the degree to which each Project Sponsor meets the criteria set forth in section 24.5.2.1 (which are identified in the prior section) and a consideration of the factors set forth in 24.5.2.4.”<sup>4</sup> The criteria set forth in section 24.5.2.4 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 project;
- (b) The Project Sponsor’s existing rights of way and substations that would contribute to the project in question;
- (c) The experience of the Project Sponsor and its team in acquiring rights of way, and the authority to acquire rights of way by eminent domain, if necessary, that would facilitate approval and construction;
- (d) The proposed schedule for development and completion of the project 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 ISO Controlled Grid of the Project Sponsor and its team;
- (h) Demonstrated capability to adhere to standardized construction, maintenance and operating practices;
- (i) Demonstrated ability to assume liability for major losses resulting from failure of facilities; and
- (j) Demonstrated cost containment capability and other advantages the Project Sponsor and its team may have to build the specific project, including any binding agreement by

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<sup>4</sup> As discussed in Section 2, the ISO initially used the section 24.5.2.1 criteria to determine whether each applicant had the minimum qualifications to finance, own and construct the IV Policy Element. The ISO found that both IID and Abengoa met the minimum qualifications. The qualification assessment did not involve a comparative analysis of the degree to which each Project Sponsor satisfied the three qualification criteria (relative to other Project Sponsors), but simply considered whether each Project Sponsor met the minimum qualifications for the IV Policy Element. Consistent with tariff section 24.5.2.3 (c), the ISO undertook a comparative assessment of the degree to which each project sponsor met the qualification criteria in section 24.5.2.1 as part of its project sponsor selection process pursuant to section 24.5.2.4.

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.

In selecting the Approved Project Sponsor, the ISO undertook a comparative assessment of the applicants for each of the ten selection criteria and each of the three qualification criteria based on the information provided in the Project Sponsors' applications and supplemental responses.

This report summarizes certain key information provided by each applicant that was considered by the ISO in assessing each of the selection and qualification criteria. As this report is a summary, it does not repeat all of the information provided by the applicants. However, the ISO reviewed and considered all of the information provided by the Project Sponsors and failure to reference any specific information provided by a Project Sponsor does not indicate lack of consideration of such information.

The ISO's comparative assessment for each of the ten selection criteria is set forth in Sections 3.2 to 3.11 below, followed by the ISO's comparative assessment for each of the three qualification criteria in Sections 3.12 to 3.14. The ISO's conclusion with respect to applicant selection is set forth in Section 3.15.

### **3.2 Selection Criterion 24.5.2.4 (a)**

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

The ISO notes that the first selection criterion is a broad criterion that encompasses three of the subsequent more narrow selection criterion. Specifically:

- The capability of the Project Sponsor to finance the facility is the subject of selection criterion 24.5.2.4 (e), addressed in Section 3.6 of this report;
- The capability of the Project Sponsor to license the facility is part of the subject of selection criterion 24.5.2.4 (f), addressed in Section 3.7 of this report; and
- The capability of the Project Sponsor to construct, operate and maintain the facility is the subject of selection criterion 24.5.2.4 (g), addressed in Section 3.8 of this report.

The ISO will not duplicate here (1) the information provided by the Project Sponsors for purposes of demonstrating their capabilities and experience with respect to each of the foregoing criteria, or (2) the ISO's comparative assessment of the project sponsors in this regard, as set forth in Sections 3.6, 3.7 and 3.8 of this report. In summary:

- The ISO does not consider either applicant to have an advantage with respect to the capability to finance this relatively small project (see Section 3.6);
- The ISO considers IID's proposal to be slightly better than Abengoa's proposal with respect to environmental and permitting capabilities, qualifications and experience (see Section 3.7), and this results in IID posing slightly less risk than Abengoa for purposes of



obtaining all authorizations in a timely manner, thereby facilitating timely completion of the IV Policy Element by the 2015 deadline;

- The ISO considers Abengoa’s proposal and IID’s proposal to be comparable with respect to the construction of transmission facilities, and IID’s proposal to be slightly better than Abengoa’s proposal with respect to the maintenance of transmission facilities (see Section 3.8). Both organizations demonstrated adequate depth of overall construction experience. IID’s proposal better demonstrated experience with applicable (e.g., NERC) maintenance requirements and strong local maintenance capabilities which is relevant given the scope and location of the project.

Overall, based on the above, the ISO considers IID’s proposal to be slightly better than Abengoa’s proposal with respect to the first selection criterion.

### **3.3 Selection Criterion 24.5.2.4 (b)**

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

#### **3.3.1 Information Provided by Abengoa**

Abengoa indicated that it did not have any existing rights of way or substations that would contribute to the project. [E-8]

#### **3.3.2 Information Provided by IID**

IID indicated that it would not be using existing rights of way for the transmission line right of way or substation site. [E-8]

#### **3.3.3 ISO Assessment**

The ISO notes that neither applicant has existing rights of way or substations that would contribute to this project. Therefore, the ISO considers that neither applicant has an advantage with respect to this selection criterion.

### **3.4 Selection Criterion 24.5.2.4 (c)**

The third selection criterion is “the experience of the Project Sponsor and its team in acquiring rights of way, and the authority to acquire rights of way by eminent domain, if necessary, that would facilitate approval and construction”.

#### **3.4.1 Information Provided by Abengoa**

For the siting and land acquisition aspects of the project, Abengoa has contracted with a third-party land acquisition company that has experience obtaining rights of way in the US, including experience in California. [E-3]

Abengoa does not have eminent domain authority. Abengoa assumes that eminent domain authority lies with this project as a connected action to an SDG&E expansion. [E-7e]

In the last five years, Abengoa has developed more than 1,000 km of rights of way, with attendant environmental permits. The projects were primarily in Brazil, Chile and Peru. [E-9a]

Abengoa did not identify any experience acquiring rights of way in the US, but provided information on numerous projects where they had obtained all necessary environmental approvals in other countries. [E-9d]

Abengoa has not received any Notice of Violations in the past 5 years related to transmission line and substation siting, permits, rights of way or land acquisition. [E-11a]

### **3.4.2 Information Provided by IID**

IID would use in-house staff for the siting, land acquisition and permitting aspects of the project. [E-3]

IID has eminent domain authority. [E-7e]

In the last five years, IID utilized an Engineering, Procurement and Construction (EPC) contractor for a 12.2 mile extension of a 230 kV transmission line. [T-9a]

IID has not received any Notice of Violations in the past 5 years related to transmission line and substation siting, permits, rights of way or land acquisition. [E-11a]

### **3.4.3 ISO Assessment**

The ISO notes that Abengoa's contractor and IID both have experience obtaining rights of way in California.

The ISO considers IID's proposal to be slightly better than Abengoa's proposal with respect to meeting this selection criterion because:

- IID has eminent domain authority as a municipal utility; and
- Abengoa did not demonstrate that it has an agreement with SDG&E to undertake eminent domain action or whether SDG&E would have the right to undertake such action for this project on behalf of Abengoa.

Furthermore, the ISO considers that IID's eminent domain authority, IID's specific experience in obtaining right-of-way within its service territory (where the IV Policy Element will be located), and IID's longstanding familiarity with the community and area where the project will be located gives it a slight advantage over Abengoa for purposes of meeting this criterion and this, in turn, results in IID posing slightly less risk of obtaining right-of-way and completing the project by the ISO's deadline compared to Abengoa.

### **3.5 Selection Criterion 24.5.2.4 (d)**

The fourth selection criterion is “the proposed schedule for development and completion of the project and demonstrated ability to meet that schedule of the Project Sponsor and its team”.

#### **3.5.1 Information Provided by Abengoa**

Abengoa anticipates a 6 month timeframe after completion of engineering to complete Federal and local permitting. [E-6]

Abengoa anticipates that Imperial County would be the Lead Agency for CEQA compliance. [E-6a].

Abengoa states that a CPCN from the CPUC would also be required. [E-6b]

Abengoa provided a table of 25 transmission projects that it has constructed in the last five years. Information included line and station information, initial and final operations dates and costs. [P-24]

Abengoa provided a detailed project schedule covering 758 days, starting May 3, 2013 and finishing May 3, 2015. [P-28]

Abengoa indicated that the major risks to the project schedule are in the permits and right of way stage. Their mitigation strategy is to work with companies with experience in these matters, and to work simultaneously on permits, rights of way and engineering. [P-29]

#### **3.5.2 Information Provided by IID**

IID itself is a CEQA Lead Agency. [E-6a]

An application to the CPUC for financial / environmental review is not required because IID is a publicly owned agency (PUD), is a CEQA Lead Agency, and is its own financial sponsor. [E-6b]

In the last five years, IID has completed two transmission line projects and three substation projects. [P-1]

IID provided detailed project management information for these five projects including schedules, costs, issues confronted and management reports. [P-24]

IID provided a detailed project schedule, covering 511 days, starting January 9, 2013 and finishing December 24, 2014. [P-28]

IID indicated that obstacles to the project schedule may include environmental permitting, right-of-way easements, major material deliverables, construction safety violations, and extreme inclement weather. IID would monitor progress weekly and employ mitigations as needed. [P-29]

### **3.5.3 ISO Assessment**

The ISO notes that both applicants proposed a schedule that meets the completion date specified by the ISO. In addition, the ISO considers that both applicants demonstrated a successful track record of constructing transmission projects on a timely basis.

However, the ISO considers IID's proposal to be better than Abengoa's proposal with respect to this selection criterion because:

- IID's proposed in-service date, which was supported by a detailed project schedule, is more than four months earlier than Abengoa's proposed in-service date;
- IID is better positioned to obtain the necessary permits in an expeditious manner because it does not have to apply to the CPUC for environmental approval because IID is a publicly owned agency (PUD), is a CEQA Lead Agency, and is its own financial sponsor;
- Part of IID's project has already been through the Bureau of Land Management review process as part of a transmission project being developed by IID's sub-contractor;
- Abengoa's proposed schedule, which reflects completion of the IV Policy Element in the middle of 2015, leaves little room for delay or unanticipated problems if the ISO's deadline for project completion is to be met;
- Abengoa would require a CPCN from the CPUC and Abengoa's six-month timeframe to complete Federal and local permits after Engineering is complete may be optimistic given the historical time required to obtain such permits in California.

Furthermore, the fact that IID has the authority to serve as the lead agency, process and undertake the necessary review of all documentation internally and provide necessary environmental approvals, and part of IID's project has already been through the Bureau of Land Management review process, reduces the risk of IID failing to meet the ISO's proposed in-service date for the IV Policy Element compared to Abengoa.

## **3.6 Selection Criterion 24.5.2.4 (e)**

The fifth selection criterion is "the financial resources of the Project Sponsor and its team".

### **3.6.1 Information Provided by Abengoa**

Abengoa indicated that they use equity and non-recourse debt to finance projects. In the early stage of most projects, bridge loans are used. [P-2]

Abengoa is a subsidiary of Abengoa SA. Abengoa SA has assets of \$24.3 billion. [P-4]

Abengoa SA's net income in 2011 was \$333.5 million. [P-6]

Abengoa SA's credit ratings are S&P B+ and Moody's B1. [P-8]

Abengoa and Abengoa SA have not failed to make a debt service payment on time in the last 5 years. [P-9]

### **3.6.2 Information Provided by IID**

IID indicated that their projects are funded with debt or reserves. [P-2]

IID has assets of \$1.7 billion. [P-4]

IID had a net loss in 2011 of \$9.8 million. IID drew from its fund accounts to cover the deficit and is currently looking to adjust its rates. [P-6]

IID's credit rating is S&P AA-. [P-8]

IID has not failed to make debt service payments in the last 5 years. [P-9]

### **3.6.3 ISO Assessment**

The ISO recognizes that this is a relatively small transmission project and that the cost of the project is less than one per cent of the existing assets of either Project Sponsor. The ISO is satisfied that both Project Sponsors would have the financial resources required for the project, and the ISO does not consider either applicant to have a tangible advantage with respect to this selection criterion.

## **3.7 Selection Criterion 24.5.2.4 (f)**

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

### **3.7.1 Information Provided by Abengoa**

Abengoa identified 12 transmission projects it had completed in the last five years in Brazil, Peru and Chile. [P-1]

For the siting, land acquisition and permitting aspects of the project, Abengoa has contracted with two third-party companies, one for land acquisition and a second for environmental and public processes. [E-3]

Abengoa anticipates that Imperial County would be the Lead Agency for CEQA compliance. [E-6a]

Abengoa states that a CPCN from the CPUC would also be required. [E-6b]

In the last five years, Abengoa has developed more than 1,000 km of rights of way, with attendant environmental permits. The projects were primarily in Brazil, Chile and Peru. [E-9a]

Abengoa indicated that they do not have any experience with Federal or State environmental permitting related to new transmission facilities in the US. [E-9d]

Abengoa provided information on numerous projects where they had obtained all necessary environmental approvals in other countries (Brazil, Chile and Peru). [E-9d]

Abengoa indicated that they do not have any experience with Federal or State environmental permitting related to new substation facilities in the US. [E-10d]

Abengoa provided a copy of permits for a project in Chile indicating that they had obtained the necessary environmental approvals. [E-10d]

Abengoa has not received any Notice of Violations in the past 5 years related to transmission line and substation siting, permits, rights of way or land acquisition. [E-11a]

Abengoa would use a sub-contractor to design the collector substation. Abengoa indicated that this design contractor has completed a number of design projects for Abengoa in the US. [S-4] Abengoa provided a lengthy list of substations it owns in other countries and provided an extensive list of substations designed by its sub-contractor. [S-6a]

Abengoa would use subcontractors to design and provide geotechnical services for the transmission line. [T-4] Abengoa provided a list of previous projects for its transmission line sub-contractors. [T-4b]

Abengoa provided documentation regarding quality control for design and construction including construction specifications, field inspections and health and safety. [T-7]

Abengoa provided a list of transmission projects outside of the US that it owned, designed and constructed at voltages from 110 kV through 500 kV totaling over 5,350 miles. [T-8a]

In the last five years, Abengoa has designed, constructed and placed into operation approximately 4,000 miles of transmission line, all of which were outside the US. [T-9a]

### **3.7.2 Information Provided by IID**

In the last five years, IID has completed two transmission line projects and three substation projects. [P-1]

IID would use in-house staff for the siting, land acquisition and permitting aspects of the project. [E-3]

IID is a CEQA Lead Agency. [E-6a]

In the last five years, IID has completed the environmental and public processes for two 230 kV transmission line projects within the IID geographical area. [E-9a]

In the last five years, IID has completed the environmental and public processes for three substation projects. [E-10a] No additional land was acquired for these three substation projects as all work was performed within the existing substations within the IID geographical area. [E-10b]

IID has not received any Notice of Violations in the past 5 years related to transmission line and substation siting, permits, rights of way or land acquisition. [E-11a]

IID would use internal design and construction resources for the collector substation. [S-4]

IID would contract the design and construction of the transmission line to a third-party. That third-party would in turn sub-contract all of the work to a general contractor. The general contractor would in turn sub-contract the transmission line design work and the construction work to two separate companies. After construction is complete, ownership of the transmission facilities would be transferred to IID. [T-4]

IID provided a list of previous projects for the general contractor, the transmission line design sub-contractor and the construction sub-contractor. [T4-a]

IID provided detailed information on engineering design review, quality control, onsite inspection, adherence to specifications, compliance permits, and safety plan. [T-7]

The existing IID network includes 311 miles of 161 kV and 243 miles of 230 kV transmission lines. [T-8a]

In the last five years, IID designed a high wind upgrade of a 230 kV transmission line and utilized an Engineering, Procurement and Construction (EPC) contractor for a 12.2 mile extension of a 230 kV transmission line. [T-9a]

### **3.7.3 ISO Assessment**

In the ISO's view, this qualification criterion encompasses both (i) engineering and design qualifications and experience and (ii) environmental and permitting qualifications and experience for the Project Sponsor and its team.

With respect to engineering and design qualifications and experience, the ISO considers Abengoa's proposal to be slightly better than IID's proposal because:

- Within the last five years, IID has engineered and designed one 12.2 mile transmission line, and no greenfield substations (although IID has built and operates an existing transmission, and distribution system with numerous substations in the area where the IV Policy Project will be located); and
- Within the last five years, Abengoa has engineered and designed thousands of miles of transmission line and numerous greenfield substations in other countries.

With respect to environmental and permitting qualifications and experience, the ISO considers IID's proposal to be slightly better than Abengoa's proposal because:

- Abengoa T&D indicated that they have no transmission line or substation environmental and permitting experience in the US. The requirements for such permitting tend to be very country specific with the requirements in the US and particularly California being some of the most stringent in the world. Abengoa has included two environmental consulting firms to assist them who do have experience in this area. However, a project with a Project Sponsor that lacks some material experience in permitting transmission in the US/California represents an increased schedule risk over a Project Sponsor with experience with respect to a project that both Sponsors have acknowledged presents

some timing and environmental/permitting risk, thereby potentially poses a risk to completing the project on schedule; and

- IID does not have to apply to the CPUC for environmental approval because IID is a publicly owned agency and, a CEQA Lead Agency, and has an existing experienced internal staff that handles environmental and permitting matters and approvals. This necessitates an appropriate level of experience and expertise, and allows the environmental and permitting work to be handled “in-house” which promotes certain financial and other efficiencies.,

Because Abengoa’s proposal is slightly better with respect to engineering and design qualifications and experience, and IID’s proposal is slightly better with respect to environmental and permitting qualifications and experience, the ISO considers that neither applicant has an advantage with respect to this selection criterion.

### **3.8 Selection Criterion 24.5.2.4 (g)**

The seventh selection criterion 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”.

#### **3.8.1 Information Provided by Abengoa**

Abengoa identified 12 transmission projects it has completed in the last five years in Brazil, Peru and Chile. [P-1]

Abengoa provided a table of 25 transmission projects that it has constructed in the last five years. Information included line and station information, initial and final operations dates and costs. [P-24]

Abengoa provided data on seven transmission lines that are 100% owned by Abengoa and many more that it partially owns and operates, all in Brazil. Abengoa also provided data on three transmission lines that are 100% owned and operated by Abengoa in Chile. The data provided included in-service dates (initial and final) and costs (initial and final). Information was also provided for several lines under construction in Brazil and Chile. Cost overruns were less than 10% of the initial estimates and numerous projects came in below the initial estimate. [P-30]

Abengoa would use a sub-contractor to construct the collector substation. Abengoa did not identify any previous projects completed by this sub-contractor for Abengoa in the US. [S-4]

Abengoa provided a lengthy list of substations it owns and provided an extensive list of substations designed by its sub-contractor. [S-6a]

Abengoa would use a sub-contractor to construct the transmission line. [T-4] Abengoa provided a list of previous projects for its transmission line sub-contractor, none of which were greenfield projects. [T-4b]



Abengoa provided documentation regarding quality control for design and construction including construction specifications, field inspections and health and safety. [T-7]

Abengoa provided a list of transmission projects outside of the US that it owned, designed and constructed at voltages from 110 kV through 500 kV totaling over 5,350 miles. [T-8a]

In the last five years, Abengoa has designed, constructed and operated approximately 4,000 miles of transmission line, all of which were outside the US. [T-9a]

Abengoa provided a list of projects for which they have operations and maintenance responsibility, mostly in Brazil. [O-3]

Abengoa indicated that they have no transmission facilities subject to NERC operating and maintenance standards. [O-15]

Abengoa indicated that they are building projects in the US and have people with local experience in California; specifically, the Mohave 280 MW Concentrated Solar Power (CSP) Generation Plant scheduled for startup in the fourth quarter of 2013. Abengoa has expertise and experience in operations and maintenance in Chile, Brazil and Peru. [O-19]

### **3.8.2 Information Provided by IID**

In the last five years, IID has completed two transmission line projects and three substation projects. [P-1] Costs for these five projects were at most about 10% above initial estimates and some came in below the initial estimate. [P-30]

IID operates 89 substations. [S-6a]

IID would contract the design and construction of the transmission line to a third-party. That third-party would in turn sub-contract all of the work to a general contractor. The general contractor would in turn sub-contract the transmission line design work and the construction work to two separate companies. After construction is complete, ownership of the transmission facilities would be transferred to IID. [T-4] IID provided a list of previous projects for the general contractor, the transmission line design sub-contractor and the construction sub-contractor. [T4-a]

The existing IID network includes 311 miles of 161 kV and 243 miles of 230 kV transmission lines. [T-8a]

In the last five years, IID had an Engineering, Procurement and Construction (EPC) contract for a 12.2 mile extension of a 230 kV transmission line. [T-9a]

IID has experience operating facilities similar to those for the proposed project. [O-3]

IID was last audited by the WECC/NERC in 2010. IID stated that the audit team identified zero Possible Violation(s). [O-15]

### 3.8.3 ISO Assessment

The ISO notes that neither applicant has developed or operated a project as part of the ISO Controlled Grid. The ISO considers that both applicants demonstrated a successful track record of constructing and maintaining transmission projects outside of the ISO Controlled Grid.

The ISO will address the construction and maintenance aspects of this criterion separately.

With respect to the construction of transmission facilities, the ISO considers Abengoa's proposal and IID's proposal to be comparable because:

- Within the last five years Abengoa has constructed thousands of miles of transmission line and numerous greenfield substations whereas IID has only constructed one 12.2 mile transmission line and no greenfield substations (although IID operates a large transmission system that it has built-up over the years); however
- Abengoa's designated construction contractor was not involved in any of the construction of the aforementioned transmission and sub-station projects, and Abengoa has not previously worked with them; and
- IID's construction sub-contractors have more experience with greenfield transmission and substation projects than Abengoa's construction sub-contractor, which could reduce the risk of not meeting the critical schedule for completion of this project.

With respect to the maintenance of transmission facilities, the ISO considers IID's proposal to be slightly better than Abengoa's proposal because:

- Abengoa did not demonstrate a track record in the US with respect to the maintenance of transmission facilities and adhering to applicable maintenance standards, including NERC maintenance standards. In the absence of this track record, Abengoa did not provide alternative measures to demonstrate the same level of maintenance capabilities and experience meeting US maintenance standards as IID;
- Abengoa provided little information about its maintenance experience in other countries, thereby making it difficult for the ISO to fully assess Abengoa's general track record regarding the maintenance of transmission facilities; and
- IID has an established transmission and distribution system and an operations and maintenance organization located in the area where the IV Policy Element will be located, currently operates under a regime of applicable US maintenance standards, including NERC O&M standards, and provided a thorough description of its standard maintenance programs. This indicates that IID has a slight edge with respect to providing prompt, efficient, effective, and compliant maintenance services and poses potentially less risk than Abengoa for purposes of meeting this criterion.

Because the two proposals are comparable with respect to the construction of transmission facilities, and IID's proposal is slightly better with respect to the maintenance of transmission facilities, the ISO considers IID's proposal to be slightly better than Abengoa's proposal with respect to this selection criterion.

### **3.9 Selection Criterion 24.5.2.4 (h)**

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

#### **3.9.1 Information Provided by Abengoa**

Abengoa provided a list of projects for which they have operations and maintenance responsibility, mostly in Brazil. [O-3]

Abengoa stated that it would comply with ISO’s standards and with FERC and WECC regulations. [O-6]

With respect to complying with applicable reliability standards, Abengoa indicated that they have “Quality Procedures” for each operations and maintenance activity. Abengoa provided samples of their Quality Procedures and indicated that they would develop specific procedures for this project. [O-9]

Abengoa stated that it does not have transmission facilities subject to NERC compliance. [O-15]

Abengoa has worked in operations and maintenance activities in many countries for more than 20 years. Abengoa indicated that for each operations and maintenance activity their Quality Procedures are intended to minimize errors. [O-16]

Abengoa indicated that they are building projects in the US and have people with local experience in California; specifically the Mohave 280 MW Concentrated Solar Power (CSP) Generation Plant scheduled for startup in the fourth quarter of 2013. Abengoa has expertise and experience in operations and maintenance in Chile, Brazil and Peru. [O-19]

Abengoa indicated they would provide an experienced team in operations and maintenance for specific conditions of ISO standards or federal standards and would provide workers with local experience and training. [O-22]

#### **3.9.2 Information Provided by IID**

IID demonstrated that it has experience operating facilities similar to those for the proposed project. IID also indicated that it has experience and relationships with adjoining entities and the ISO. [O-3]

IID has an internal compliance program with associated processes and procedures that meet all related NERC reliability requirements. IID states that all NERC standards applicable to the IID Transmission Operator (TOP) and are monitored and in compliance to date and that standard operating procedures are in place and are used to maintain the reliability of the Bulk Electric System Facilities under normal and emergency conditions. In addition, IID has implemented procedures related to the Next-Day, Current-Day and Seasonal Operating Plans. According to IID, no temporary waivers will be required. [O-10]

IID was last audited by the WECC in 2010. IID stated that the audit team identified zero Possible Violations. [O-15]

The IID is a Balancing Authority that operates and maintains 26 transmission facilities. IID states that it is currently in compliance with all applicable NERC and WECC Reliability Standards. IID has available six line construction crews and one substation construction crew to perform required transmission line and substation maintenance. [O-21]

### **3.9.3 ISO Assessment**

The ISO considers that both applicants have demonstrated the ability to adhere to standardized construction, maintenance and operating practices.

However, the ISO considers the IID's proposal to be slightly better than Abengoa's proposal with respect to meeting this selection criterion because:

- IID already is registered with NERC as a Transmission Owner and Operator (as well as a Balancing Authority), has been operating its transmission facilities for several years under the national reliability standards framework, and already has programs and procedures in place to sustain their compliance with all of NERC and WECC's maintenance, operating and cyber security standards; and
- Abengoa, because of their limited participation in projects in the US, has limited experience complying with NERC and WECC maintenance, operating, and cyber security standards applicable to transmission and substation facilities.

## **3.10 Selection Criterion 24.5.2.4 (i)**

The ninth selection criterion is “demonstrated ability to assume liability for major losses resulting from failure of facilities.”

### **3.10.1 Information Provided by Abengoa**

Abengoa identified various strategies for avoiding equipment failures and unexpected costs, such as strong EPC contracts and effective operations and maintenance. Abengoa also included insurance for these situations. [P-22]

### **3.10.2 Information Provided by IID**

IID described their ability to set rates. [P-11]

IID indicated that they would fund unexpected costs through reserves or additional debt, depending on the magnitude of the costs. [P-22]

### **3.10.3 ISO Assessment**

Given the relatively small scope and cost of the IV Policy Element, the ISO believes that both Project Sponsors would have the ability to assume liability for major losses resulting from the failure of facilities, and the ISO does not consider either applicant to have an advantage with respect to this criterion.

### **3.11 Selection Criterion 24.5.2.4 (j)**

The tenth selection criterion is “demonstrated cost containment capability and other advantages the Project Sponsor and its team may have to build the specific project, 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.”

#### **3.11.1 Information Provided by Abengoa**

Abengoa’s estimated capital cost is \$23.3 million, including long term loan structuring costs. This estimated cost was broken down into its individual components. [P-12]

Abengoa provided an estimate of \$0.5 million for annual operation and maintenance costs. [P-19]

Abengoa provided data on seven transmission lines that are 100% owned by Abengoa and several more that they partially own and operate, all in Brazil. Abengoa also provided data regarding three transmission lines that are 100% owned and operated by Abengoa in Chile. The data that Abengoa provided included in-service dates (initial and final) and costs (initial and final). Information was also provided for several lines under construction in Brazil and Chile. Cost overruns were less than 10% of the initial estimates, and numerous projects came in below the initial estimate provided. [P-30]

Abengoa indicated that it is willing to accept a binding capital cost cap of \$23.3 million for those items that it has the capability to control; however, the capital cost cap would be adjusted for increases in other costs such as right of way costs, environmental licenses, indemnifying SG&E for sharing part of its installations, and inflation increases over 3.5% per year. The capital cost cap would also be adjusted if the period to obtain certain licenses took longer than expected and for the costs of the issuing of the project loan. [P-33]

#### **3.11.2 Information Provided by IID**

IID’s estimated capital cost for the IV Policy Element is \$14.3 million, including a 20% contingency. This estimated cost was broken down into its individual components. [P-12]

IID provided an estimate of \$0.27 million for annual operations and maintenance costs. [P-19]

In the last five years, IID has completed two transmission line projects and three substation projects. [P-1] Costs for these five projects were at most approximately 10% above initial estimates, and some came in below the initial estimate provided. [P-30]

IID indicated that it is willing to accept a binding capital cost cap of \$14.3 million, which includes a 20% contingency, subject to increased costs resulting from Force Majeure events. This included, but was not limited to, certain unforeseen regulatory events such as significant adverse actions and/or delays caused by state and/or federal agencies with jurisdiction over the project. [P-33]

### **3.11.3 ISO Assessment**

The ISO notes both Project Sponsors indicated that they would be willing to accept a binding capital cost cap equal to their estimated capital cost for the project, subject to adjustment under certain conditions.

The ISO considers IID's proposal to be better than Abengoa's proposal with respect to this selection criterion because:

- IID's cost cap of \$14.3 million (based on IID's estimated cost of the project) is substantially lower than Abengoa's cost cap of \$23.3 million (based on Abengoa's estimated costs for the project); and
- IID already has an existing operation and maintenance organization and resources in the vicinity of the IV Policy Element, as well as a pre-existing transmission and distribution system in the area. This should result in increased operating, and maintenance efficiencies and economies of scale compared to Abengoa during the operating period of the project. In that regard, responsibility for operating and maintaining the IV Policy Project will be absorbed within an existing infrastructure without having to create a new maintenance structure to maintain a single, relatively small transmission facility.

The ISO will address further the issue of a cost cap in Section 3.15 of this report.

## **3.12 Qualification Criterion 24.5.2.1 (a)**

The first qualification criterion is "whether the proposed project is consistent with needed transmission elements identified in the comprehensive Transmission Plan."

### **3.12.1 Information Provided by Abengoa**

Abengoa provided a comprehensive description of the collector substation proposed for this project. [S-1]

Abengoa provided a comprehensive description of the transmission facilities proposed for this project. [T-2]

### **3.12.2 Information Provided by IID**

IID provided a comprehensive description of the collector substation proposed for this project. [S-1]

IID's provided a comprehensive description of the transmission facilities proposed for this project. [T-2]

### **3.12.3 ISO Assessment**

The ISO notes that the two proposed projects are similar. Based on a detailed review of both applications, the ISO is satisfied that both proposed projects are consistent with the needed transmission elements identified in the comprehensive Transmission Plan. Since both proposed

projects are consistent with the needed transmission elements, the ISO considers that neither Project Sponsor has an advantage with respect to this qualification criterion.

### **3.13 Qualification Criterion 24.5.2.1 (b)**

The second qualification criterion is “whether the proposed project satisfies Applicable Reliability Criteria and ISO Planning Standards”.

#### **3.13.1 Information Provided by Abengoa**

Abengoa provided a comprehensive description and detailed design information for the collector substation proposed for this project.

Abengoa provided a comprehensive description and detailed design information for the transmission facilities proposed for this project.

#### **3.13.2 Information Provided by IID**

IID provided a comprehensive description and detailed design information for the collector substation proposed for this project.

IID provided a comprehensive description and detailed design information for the transmission facilities proposed for this project.

#### **3.13.3 ISO Assessment**

Based on a detailed review of the design detail provided in both applications, the ISO is satisfied that both proposed projects would satisfy Applicable Reliability Criteria and ISO Planning Standards. Since both proposed projects would satisfy Applicable Reliability Criteria and ISO Planning Standards, the ISO considers that neither Project Sponsor has an advantage with respect to this qualification criterion.

### **3.14 Qualification Criterion 24.5.2.1 (c)**

The third qualification criterion is “whether the Project Sponsor is physically, technically, and financially capable of (i) completing the project in a timely and competent manner; and (ii) operating and maintaining the facilities consistent with Good Utility Practice and applicable reliability criteria for the life of the project.”

Like the first selection criterion, the third qualification criterion is a broad criterion that encompasses a number of the more narrow selection criterion which were discussed above. Specifically:

- The technical and physical capabilities of the Project Sponsor are the subjects of selection criterion 24.5.2.4 (f) and selection criterion 24.5.2.4 (g) respectively, addressed in Sections 3.7 and 3.8 of this report;

- The financial capability of the Project Sponsor is the subject of selection criterion 24.5.2.4 (e), addressed in Section 3.6 and of this report;
- The capability of the Project Sponsor to complete the project in a timely manner is the subject of selection criterion 24.5.2.4 (d), addressed in Section 3.5 of this report;
- The capability of the Project Sponsor to complete the project in a competent manner is the subject of part of selection criterion 24.5.2.4 (g), addressed in Section 3.8 of this report; and
- The capability of the Project Sponsor to operate and maintain the facilities consistent with Good Utility Practice and applicable reliability criteria is the subject of part of selection criterion 24.5.2.4 (g) and selection criterion 24.5.2.4 (h), addressed in Sections 3.8 and 3.9 of this report.
- The capability of the Project Sponsor to construct, operate and maintain the facility is the subject of Selection Criterion 24.5.2.4 (g), addressed in Section 3.8 of this report.

The ISO will not repeat here the information provided by the Project Sponsors to meet these criteria or the comparative assessments the ISO provided in Sections 3.5 through 3.9 of this report. In summary:

- The ISO considers IID's proposal to be better than Abengoa's proposal with respect to the ability to meet the ISO's stated deadline for completion of the IV Policy Element (see Section 3.5);
- The ISO does not consider either applicant to have an advantage with respect to the capability to finance the project (see Section 3.6);
- The ISO considers Abengoa's proposal to be slightly better than Abengoa's proposal with respect to engineering and design qualifications and experience, and IID's proposal to be slightly better than Abengoa's proposal with respect to environmental and permitting qualifications and experience (see Section 3.7);
- The ISO considers Abengoa's proposal and IID's proposal to be comparable with respect to the physical ability to construct the transmission facilities, and IID's proposal to be slightly better than Abengoa's proposal with respect to the maintenance of transmission facilities (see Section 3.8); and
- The ISO considers IID's proposal to be slightly better than Abengoa's proposal with respect to the capability to adhere to standardized construction, maintenance and operating procedures (see Section 3.9).

Overall, based on the above, the ISO considers IID's proposal to be better than Abengoa's proposal with respect to meeting the third qualification criterion.



### 3.15 ISO Conclusion on Applicant Selection

Table 1 below summarizes the ISO’s assessments of the qualifications of each of the applicants.

**Table 1 – ISO Assessment of Applicants**

<b>Selection Criteria</b>	<b>Abengoa</b>	<b>IID</b>
(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 project.		Slightly Better
(b) The Project Sponsors’ existing rights of way and substations that would contribute to the project in question.	Equal	Equal
(c) The experience of the Project Sponsor and its team in acquiring rights of way, and the authority to acquire rights of way by eminent domain, if necessary, that would facilitate approval and construction.		Slightly Better
(d) The proposed schedule for development and completion of the project and demonstrated ability to meet that schedule of the Project Sponsor and its team.		Better
(e) The financial resources of the Project Sponsor and its team.	Equal	Equal
(f) The technical and engineering qualifications and experience of the Project Sponsor and its team.	Equal	Equal
(g) 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.		Slightly Better
(h) Demonstrated capability to adhere to standardized construction, maintenance and operating practices.		Slightly Better
(i) Demonstrated ability to assume liability for major losses resulting from failure of facilities.	Equal	Equal
(j) Demonstrated cost containment capability and other advantages the Project Sponsor and its team may have to build the specific project, 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.		Better
<b>Qualification Criteria</b>		
(a) Whether the proposed project is consistent with needed transmission elements identified in the comprehensive Transmission Plan.	Equal	Equal
(b) Whether the proposed project satisfies Applicable Reliability Criteria and CAISO Planning Standards.	Equal	Equal
(c) Whether the Project Sponsor and its team are physically, technically, and financially capable of (i) completing the project in a timely and competent manner; and (ii) operating and maintaining the facilities consistent with Good Utility Practice and applicable reliability criteria for the life of the project.		Better

As discussed previously, the first selection criterion and the third qualification criterion encompass a number of the more narrow other selection criteria.

There are no individual selection or qualification criteria for which the ISO considers Abengoa's proposal to be better than IID's proposal. The ISO considers IID's proposal to be slightly better, and as posing slightly less risk, than Abengoa's proposal with respect to the following:

- The authority to acquire rights of way by eminent domain (see Section 3.4);
- The previous record regarding maintenance of transmission facilities (see Section 3.8); and
- Demonstrated capability to adhere to standardized construction, maintenance and operating practices (see Section 3.9).

In addition, the ISO considers IID's proposal to be better than Abengoa's proposal with respect to the following:

- The proposed schedule for development and completion of the project and demonstrated ability to meet that schedule (see Section 3.5); and
- Demonstrated cost containment capability including any binding agreement to accept a cost cap (see Section 3.11).

As discussed in Section 1 of this report, the IV Policy Element must be constructed in a relatively short time frame (by 2015 at the latest) due to generation projects in the area that require the facilities to move forward with power purchase and interconnection agreement milestones. The ISO notes that IID's proposed in-service date of December 2014 is more than four months earlier than Abengoa's proposed in-service date. Further, (1) IID has the authority to site and grant all environmental approvals and does not have to apply to the CPUC or some other regulatory agency for environmental approval, (2) IID already possesses eminent domain authority, (3) part of IID's project has already been through the Bureau of Land Management review process, and (4) IID has greater familiarity with and right-of-way acquisition experience in the area in which the IV Policy Element will be located. On the other hand, (1) Abengoa would require a CPCN from the CPUC, (2) Abengoa's six-month timeframe to complete Federal and local permits after Engineering is complete may be optimistic given the historical time required to obtain such permits in California, and (3) Abengoa is relying on a third-party SDG&E to exercise its eminent domain authority on behalf of Abengoa, but has not shown that it has any agreement with SDG&E to undertake such activities. Also, Abengoa will require a permit to cross the canal; IID requires no such new permit. For all of these reasons, the ISO considers that IID poses a lower risk of failing to meet the ISO's established in-service date compared to Abengoa.

With respect to the capital cost of the project, IID's binding cost cap of \$14.3 million (subject to specified potential adjustments) is substantially lower than Abengoa's binding cost cap of \$23.3 million. Both cost caps are equal to the respective Project Sponsor's estimated cost of constructing the project. The ISO's awarding of the IV Policy Project to IID is contingent on IID accepting a binding cost cap consistent with the specifications set forth herein and in IID's application.

IID's cost cap was based on the detailed estimates provided by IID – an existing, experienced organization located in the same area as the IV Policy Project. IID is familiar with the area, its existing transmission and distribution system, and the particular costs applicable and unique to its operation. Under these circumstances, IID's acceptance of a binding cost cap should not pose an undue risk that IID could abandon the project in the future because its cost cap is too low and not feasible. Even though the ISO's planning cost estimate for the IV Policy Project was \$25 million, the ISO does not believe that IID's \$14.3 cost cap is unreasonable or otherwise unsupportable. IID thoroughly detailed its expected costs. As discussed above, IID's proposal (and the fact that it is an existing municipal utility operating in the area) demonstrates potential efficiencies, economies of scale, and financing capabilities that would support a lower cost cap.

Therefore, for all of the above reasons, the ISO selects IID as the Approved Project Sponsor and the ISO accepts IID's offer of a cost cap of \$14.3 million.

# Attachment 1

Competitive Solicitation Transmission Project Sponsor Application  
(Version used for the Imperial Valley transmission element)

# Transmission Project Sponsor Proposal - Application

## 1. Introduction

According to the schedule set forth in the Business Practice Manual for the Transmission Planning Process (BPM-TPP) sections 5.1 and 5.8, the ISO will initiate a period of two (2) months that will provide an opportunity for Project Sponsors to submit specific transmission project proposals to finance, own, construct, maintain and operate certain transmission elements identified in the comprehensive Transmission Plan, or those approved by ISO management 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 BPM-TPP sufficient to enable the ISO to determine whether the proposal meets the criteria specified in ISO Tariff sections 24.5.2.1 and 24.5.2.4. This application describes the details that must be provided regarding Project Sponsor proposals.

Projects included in this process will become part of the ISO controlled grid and selected Project Sponsors will become Participating Transmission Owners (PTO) and will sign the Transmission Control Agreement (TCA) and a Reliability Standards Agreement (RSA). It has been assumed that the Project Sponsor or its contracted representative(s) will be registered with NERC as a Transmission Owner, Transmission Operator, and other functions as applicable.

## 2. General Instructions

The information to be included in this application will be used by the ISO to determine if the proposal is qualified per BPM-TPP Section 5.4.1 and related ISO Tariff sections, and if so to compare each Project Sponsor and its proposal with other Project Sponsors and proposals for the same approved transmission element. To facilitate this assessment and comparison, Project Sponsors should provide information that reflects a thorough understanding of the requirements, processes and activities needed to accomplish project completion and continuing operation and maintenance.

This application is separated into specific sections; each section includes information to be provided which are assigned unique identifiers for each item such as Q - 1 for Qualifications, E - 1 for Environmental and Public Process items and S - 1 for Substation related items. Project Sponsors must provide responses to each of the items and clearly note the unique identifiers in each of their responses. All responses must be in readable electronic format and include the name of the Project Sponsor and description of the project.

If supporting documentation is provided along with specific responses, the Project Sponsor must include the item number and specific references to the pages and paragraphs of the supporting documentation that are responsive along with a brief explanation of how the referenced material is responsive. If the Project Sponsor believes the item is not applicable to the proposed project it may indicate "N/A" but should provide a brief reason why it believes it is not applicable.

If the Project Sponsor proposes to contract with others to perform duties related to the application below, responses shall reflect the roles, responsibilities, processes and procedures to be used by the organization that will perform those duties, and the management controls that will be used by the Project Sponsor to assure that the work is done in accordance with applicable agreements, contracts, regulatory and reliability requirements.

For each item, if the Project Sponsor is proposing to own, finance, construct, operate and maintain multiple transmission elements, the Project Sponsor should also indicate how its response would change depending on how many of its proposals are approved. For example, the Project Sponsor should describe how the projected in-service date of a project would be affected if two or more of the Project Sponsor's proposals are approved.

To the extent a Project Sponsor considers any of the information submitted with its application to be confidential or proprietary; such information must be clearly identified and must include an explanation as to why the information should be handled by the ISO as confidential. The

identity of Project Sponsors and basic information about proposed projects is not confidential information.<sup>5</sup>

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<sup>5</sup> BPM-TPP 5.2.1

### 3. Project Sponsor, Name and Qualifications

Project Sponsor Name:

*Response: (Enter Project Sponsor Company Name)*

Project Description:

*Response: (Enter Project Description)*

Submittal Date:

*Response: (Enter Submittal Date)*

Project Sponsor Qualifications:

The ISO will review each Project Sponsor's submission to assess their qualifications based on the qualification criteria set forth in ISO Tariff section 24.5.2.1 and BPM-TPP section 5.4.1. The ISO will use the following criteria to determine whether the Project Sponsor proposal is basically qualified to construct and own a transmission element:

1. The proposed project must be consistent with needed transmission elements identified in the comprehensive Transmission Plan, or approved by ISO management if the capital costs of the project are \$50 million or less.
2. The proposed project must satisfy Applicable Reliability Criteria and ISO Planning Standards.
3. The Project Sponsor must be physically, technically, and financially capable of (i) completing the project in a timely and competent manner; and (ii) operating and maintaining the facilities consistent with Good Utility Practice and applicable reliability criteria for the life of the project.

Please demonstrate that you meet the qualification criteria for the needed transmission element by providing responses to the following. Note: when providing these responses, the applicant may refer to information that has been provided in other sections of this application for additional information and support.

Describe how:

- Q-1. The proposed project is consistent with needed transmission elements identified in the comprehensive Transmission Plan, or approved by ISO management if the capital costs of the project are \$50 million or less:

*Response:*



Q-2. The proposed project satisfies Applicable Reliability Criteria and ISO Planning Standards:

*Response:*

Q-3. The Project Sponsor is physically, technically, and financially capable of (i) completing the project in a timely and competent manner; and (ii) operating and maintaining the facilities consistent with Good Utility Practice and applicable reliability criteria for the life of the project.

*Response:*

## 4. Project Finance, Project Management and Cost Containment

### Project Financing, Historical Performance Related, Project Sponsor's Past Project Information

- P - 1. Provide a list of transmission lines and/or substations which the Project Sponsor or the Project Sponsor's team has constructed, financed, owned, operated and/or maintained within the last five years.

*Response:*

- P - 2. Describe the financing used on projects listed in the P-1 Response, that are similar in type and size to (or larger than) the transmission element proposed in this application : e.g., equity contribution, debt contribution, debt sources, bank(s) involved, etc

*Response:*

- P - 3. For the same projects addressed in P-2, provide accounting treatment (or some other record) of the project up to and including the point where the project was completed and receiving cost recovery.

*Response:*

### Project Financing, Historical Performance Related, Project Sponsor Information

- P - 4. Provide the Project Sponsor's asset value for the previous five years (excluding transition bonds of subsidiaries), including current assets and fixed assets.

*Response:*

- P - 5. Provide the Project Sponsor's liabilities for the previous five years (current liabilities plus long-term debt).

*Response:*

- P - 6. Provide the Project Sponsor's net income before taxes (but after interest payments) for the previous five years.

*Response:*

- P - 7. Provide the Project Sponsor's debt service for the previous five years – including interest and principal repayment, by project if special purpose entities (e.g. project financed LLC, etc.) were created solely for that specific project.

*Response:*

- P - 8. Provide the Project Sponsor's credit rating from Moody or S&P for the previous five years. Also provide an affirmative statement that indicates that completing this project will not have a negative impact on the Project Sponsor's creditworthiness.

*Response:*

- P - 9. Provide a report of any failure by the Project Sponsor to make debt service payments on time during the previous five years.

*Response:*

- P - 10. Provide a summary of any history of bankruptcy, dissolution, merger, or acquisition of the Project Sponsor for the current calendar year and the five prior calendar years.

*Response:*

- P - 11. Describe the financial structure of the Project Sponsor, 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. Provide a list of equity holders, equity contribution by each investor, and the amount of debt.

*Response:*

#### **Project Financing, Project Related**

- P - 12. Provide a capital cost estimate presented as a buildup of costs by category, such as equipment, materials, civil works, rights of way, environmental-related, project management, other overheads, pre-operational testing, physical and price contingencies, interest during construction (IDC), and any other category for which the proposing Project Sponsor plans to seek FERC approval to recover.

*Response:*

P - 13. Describe the detailed financial plan on a monthly basis during the construction period, e.g., for 3 years or as long as necessary, and then on an annual basis for the operating period. The plan should provide an indication of financial outlays in each month of the construction period, and the corresponding sources of financing (equity contribution and debt drawdown), as in the following table. Data should include an estimate of the cost of both physical and price contingencies during the construction period. The financing plan should indicate the ability to finance such contingencies.

	Construction Period																																				Operating Period				
	Year 1												Year 2												Year 3												1	2	...	n	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	...	n	
Equipment																																									
Materials																																									
Civil Works																																									
Rights of way																																									
Other (Dev., Pre-op., etc.)																																									
<b>Base Cost</b>																																									
Physical Contingencies																																									
Price Contingencies																																									
<b>Installed Cost</b>																																									
Working Capital																																									
<b>Project Cost</b>																																									
Interest During Construction																																									
<b>Total Financing Required</b>																																									
<b>Finance Drawdowns</b>																																									
Debt																																									
Equity																																									
<b>Total Finance Drawdown</b>																																									

*Response:*

P - 14. Describe the Project Sponsor's proposed financing sources and instruments:  
 -Sources of funds for construction and working capital - include name of entity providing debt financing, loan amounts, interest rates, repayment period, grace period during construction; and equity provided by Project Sponsor,  
 -Project Sponsor should also indicate how it would be able to finance unexpected repairs or replacement construction during the operating period, e.g., replacement of tower.

*Response:*

P - 15. Provide the Project Sponsor's annual revenue forecasts for the project – including assumptions. The Project Sponsor should provide a draft version of the revenue requirement calculation in a format that is similar to what would be included in their tariff application to FERC, indicating the requested tariff level and all assumptions used in the calculations. This should include the assumptions regarding rate of return, depreciation life, split between debt and capital, AFUDC and weighted cost of capital.

*Response:*

P - 16. Provide a Ratio of Assets (including Regulatory Assets) to the projected costs of the project.

*Response:*

P - 17. Provide the following financial ratios for both the current values and the values when the project is in commercial operation:

- a. Funds from operations to interest coverage
- b. Funds from operations to total debt
- c. Debt to equity rate, expressed as total debt to total capital

*Response:*

P - 18. If the Project Sponsor relies or will rely on an affiliate for credit, investment or financing arrangements, please demonstrate how these arrangements comply with all legal and regulatory requirements related to affiliate transactions.

*Response:*

P - 19. Provide a detailed estimate of the anticipated average annual operating and maintenance cost if a stand-alone project company, or the actual average direct operating and maintenance cost for the project if the Project Sponsor is an incumbent PTO.

*Response:*

P - 20. Provide the overhead rate for managing third-parties if the Project Sponsor contemplates the use of third-parties to perform any function related to the licensing, design, construction, operation, or maintenance of the project.

*Response:*

P - 21. Provide the Project Sponsor's assumptions and sensitivity analyses – all assumptions and sensitivities need to be documented:

- Cost sensitivities – specify the cost sensitivities included in the financing plan. Project Sponsor should include a sensitivity that assumes at least a 30% cost overrun during the construction period and a 25% longer schedule;
- Interest rate sensitivities included in the financing plan analysis;

*Response:*

P - 22. Document the Project Sponsor's ability to cover increased costs associated with equipment failure after the project enters commercial operation – either additional maintenance or construction costs or incentives/penalties under the TCA with the ISO with respect to availability performance targets. Examples of incentives/penalties provisions in the TCA are included in Sections 12.3, 14.4 and Appendix C, Section 9.0 of the TCA filed with FERC on December 3, 2010.

*Response:*

- P - 23. Provide the Project Sponsor's planned insurance coverage, including but not limited to covering negligent performance.

*Response:*

**Project Management, Historical Performance Related**

- P - 24. For all transmission projects constructed during the last five years by the Project Sponsor or the Project Sponsor's team members, provide the following:
- Overall project description;
  - Initial schedule and schedule updates at 33% and 66% completion and final project in-service date;
  - Overall cost summary, including initial budget forecast and final project cost;
  - Major issues confronted and resolved during project;
  - Typical management progress reports for the project;
  - Other specific materials that reflect project management skills for an actual project.

*Response:*

**Project Management, Project Related**

- P - 25. Provide a general description of the proposed approach to project management and scheduling (PM&S) for the transmission element.

*Response:*

- P - 26. Provide the proposed management structure, organization, authority levels and resources committed to PM&S for the transmission element, including relevant experience and capability for proposed Project Manager (PM) and other relevant decision-makers for the project.

*Response:*

- P - 27. Provide the systems proposed for use in tracking and reporting PM&S; include a proposed project progress report schedule, including cost tracking and forecasts, that the Project Sponsor proposes to provide to the ISO.

*Response:*

- P - 28. Provide a proposed schedule for project development through release for operation that includes, as a minimum, key critical path items such as:
- Develop contracts for project work;
  - Permitting; R/W and land acquisition;
  - Engineering and design;
  - Material and equipment procurement;
  - Facility construction;
  - Agreements (interconnection, operating, scheduling, etc.) with other entities;
  - Pre-operations testing;

- Project in-service date;
- Other items identified by the Project Sponsor.

*Response:*

- P - 29. Identify the major risks and obstacles to a successful project completion on schedule and within cost budget and proposed mitigations to minimize the risks. Cover actions that the Project Sponsor will take to keep the project on schedule and describe schedule contingencies included in the overall schedule.

*Response:*

#### **Cost Containment, Historical Performance Related**

- P - 30. For all transmission projects constructed by the Project Sponsor or the Project Sponsor's team members during the last five years, provide the following information:

- Project description;
- The date and amount of initial cost estimate;
- The approach to developing initial cost estimate;
- The date and amount of actual cost results;
- The calculated unit capital-related and O&M costs for the major categories of cost.

*Response:*

#### **Cost Containment, Overall Process**

- P - 31. Describe the Project Sponsor's cost containment approach and capabilities.

*Response:*

#### **Process Used to Develop the Cost Estimate**

- P - 32. For the cost estimate for the Project Sponsor's proposed project described in P-12, provide the following information:

- Provide a description of overall process;
- Describe the specific steps in process;
- Describe the use of and development of a cost contingency;
- Specify the sources of data for the estimate and any key assumptions;
- Describe the relevant experience of the staff preparing the estimate;
- Describe the review process by senior staff for the estimate.

*Response:*

**Cost Containment, Cost Cap**

P - 33. Indicate the Project Sponsor's willingness (or not) to accept a binding cost cap (or some other binding cost containment measures) and if so, the amount of the cost cap. The Project Sponsor may specify that the cost cap will be adjusted for certain increases in costs above the estimated amount.

*Response:*



## 5. Environment and Public Processes

- E - 1. Provide a general overview of the various project activities needed to achieve siting approval, obtain rights of way (ROW) or other land acquisition for the project, and any other necessary public processes required to construct the project. List the steps and describe their purpose.

*Response:*

- E - 2. Describe in general the proposed regulatory strategy that is planned to be used for the proposed project and which agencies and permits may be required and why. Base this on a review of the proposed project ROW and/or substation lands to be acquired. Provide a description of the business practices that will be followed.

*Response:*

- E - 3. Provide a description of the firm or group who will be responsible for the siting, land acquisition and permitting aspects of the project. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, etc.)

*Response:*

- a. For each of the firms or groups listed, indicate their individual responsibilities and provide a resume for each lead individual.

*Response:*

- b. For each of these firms, provide a list of all transmission projects that have been completed (preferably in California or in the state where the work will be completed) in the last five years, and a reference for each – references should include a description of the work, the name of the client for whom the work was performed, and a client contact person, phone number and email.

*Response:*

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

*Response:*

- E - 4. Indicate whether any Federal discretionary permit(s) will be required, which agency and under which governing rule or statute. Describe these in detail e.g. EPA Clean Water Act, USACOE Section 401- 404, USFWS Biological Opinion required, etc.

*Response:*

- E - 5. Indicate if any federal, Forest Service or BLM land is crossed and how the Project Sponsor will comply with the NEPA (National Environmental Policy Act) environmental process.

*Response:*

- E - 6. 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. Note: The ISO will require copies of all submitted permit applications. The Project Sponsor shall include the ISO on the recommended service list.

*Response:*

- b. Indicate if the applicant will file with the CPUC for financial / environmental review and under what section of the pertinent General Order.

*Response:*

- c. Explain what other Resource Agency permits will be required and the kind of permit to be filed (e.g. CDF&G California Endangered Species Act (CESA), Lake and Streambed Alteration (LSA), State Water Resources Control Board (SWRCB), etc.)

*Response:*

- d. Explain why each permit is necessary. Identify if the construction impact or potential impact to protected species will generate the need for a discretionary permit. Provide a California Natural Diversity Data Base (CNDDDB) map of the project area and potential alignments.

*Response:*

- e. Provide a list of Best Management Practices<sup>6</sup> (BMPs) and Applicant Proposed Measures<sup>7</sup> (APMs) that would be applicable for the proposed project.

*Response:*

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

*Response:*

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

*Response:*

- f. Provide a list of any ministerial<sup>8</sup> permits required, which agency the applicant will need to contact, and expected time frames for issuance.

*Response:*

- g. Indicate if you expect to perform any public outreach and describe the planned program in general.

*Response:*

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<sup>6</sup> BMPs, which are environmental industry standard terminology, are the applicant's standards that would be common to all projects, i.e. not specific to any particular project. For example, this could consist of company training policies that relate to required safety training, environmental sensitivity training, accident/injury reporting, community involvement programs involving both the local elected officials and the immediate community that will be impacted by the proposed project.

<sup>7</sup> An environmental consultant industry standard generic term found in any environmental application, that the project proponent would offer in their application submitted to their Lead Agency as initial mitigation for potential environmental impact that the applicant has identified. Normally APMs are fully accepted by the Lead Agency which would then build upon the offered measures based upon the Lead Agencies further assessment of construction impacts to the environment. For example, an applicant's APMs could be a commitment to limit project construction speed limits to 10 mph in order to limit fugitive dust and to re-fuel motor vehicles at least 100 feet from any body of water.

<sup>8</sup> Ministerial permitting as opposed to discretionary permitting refers to permits that a local jurisdiction, city or county, would issue such as a street opening permit, traffic control permit, i.e. a permit that is obtained by completing a local application, paying the permit fee then proceeding and usually cannot be refused and is issued in the normal course of construction business. Discretionary permitting authority carries the police power to significantly condition a project, including denial, where the applicant would only have recourse in the courts to challenge work restrictions/conditions. Typically the proponent's application to the Lead Agency for environmental review is considered a discretionary permit. A Lead Agency in California has the discretion to approve, modify or deny an application.

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

*Response:*

- E - 7. The following are related to transmission line ROW or substation land acquisition for the proposed project. Provide:

- a. 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, and avoidance areas (such as parks, airports, military installations, and areas of local, state or national interest and any other major exclusion areas). Show alternatives evaluated, dismissed and justification for preferred.

*Response:*

- b. A basic key map of property ownerships anticipated to be acquired. Provide estimated acreages required. Include construction access, permanent access roads, laydown yards and landing zones if required.

*Response:*

- c. A copy of the standard grant of easement anticipated and any temporary construction easement documents necessary for the project construction.

*Response:*

- d. A description of your proposed strategy for crop loss and or business loss compensation.

*Response:*

- e. An indication whether the Project Sponsor has eminent domain authority. Describe the negotiation strategy in general up to the necessity to file eminent domain. If applicant does not have eminent domain authority, describe strategy for acquisition of necessary land rights.

*Response:*

- f. Describe long term ROW management requirements.

*Response:*

- E - 8. Indicate whether the Project Sponsor has any existing ROW or substations or plans to acquire existing ROWs or substation property from another party on which all or a portion of the transmission element can be built.

*Response:*

E - 9. Provide information describing all transmission lines that were constructed in the last 5 years where the Project Sponsor or its contractor (designated to complete the environmental and public processes for this proposed project) completed the environmental and public processes. The information provided should include:

a. Transmission line routing

*Response:*

b. Rights of way acquired

*Response:*

c. All permits acquired to construct the project

*Response:*

d. The approach taken and business practices used to obtain the necessary permits to construct, operate and maintain the facilities;

*Response:*

i. Federal National Environmental Policy Act (NEPA) or Cal State CEQA filing history and hardcopy of the final adjudication or Cal State House number;

*Response:*

ii. list of any discretionary Resource Agency permits acquired;

*Response:*

iii. copies of post project mitigation agreements for endangered species impact mitigation and

*Response:*

iv. any management plans instituted to comply with Fed/State permits authorizing construction.

*Response:*

E - 10. Provide information describing all transmission substation projects that were constructed in the last 5 years in which the Project Sponsor or its contractor (designated to complete the environmental and public processes for this proposed project) completed the environmental and public processes. The information provided should include (for multiple projects, duplicate the headings (a-d) and Response boxes for each project):

a. Substation location

*Response:*

b. Land acquired

*Response:*

c. All permits acquired to construct the project

*Response:*

d. The approach taken and business practices used to obtain the necessary permits to construct, operate and maintain the facilities;

*Response:*

i. Federal NEPA or Cal State CEQA filing history and hardcopy of the final adjudication or Cal State House number;

*Response:*

ii. list of any discretionary Resource Agency permits acquired;

*Response:*

iii. copies of post project mitigation agreements for endangered species impact mitigation and

*Response:*

iv. any management plans instituted to comply with Fed/State permits authorizing construction.

*Response:*

E - 11. Provide information related only to transmission line and substation siting, permits, rights of way and land acquisition in the last 5 years. Provide:

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

*Response:*

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

*Response:*

c. Remediation actions taken to avoid future violations.

*Response:*

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

*Response:*

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

*Response:*

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

*Response:*

- E - 12. Provide any other relevant information, not listed above, that pertains to the Environmental and Public Processes that the Project Sponsor believes is relevant to the review of its project.

*Response:*

## 6. Substation

- S - 1. With respect to each substation that will be required provide the location, interconnection with new or existing transmission facilities, bus and breaker arrangement, typical structure types and materials that will be used, grounding and any other unique aspects of the substation that the Project Sponsor proposes.

*Response:*

- S - 2. Describe how your proposed project is consistent with the transmission elements in the ISO comprehensive Transmission Plan. Describe any technical differences (transmission configurations, substation configurations, voltages, etc.) in your project compared to the ISO plan.

*Response:*

- S - 3. Describe the Applicable Reliability Standards and ISO Planning Standards that your project satisfies as they are defined in the ISO Tariff.

*Response:*

- S - 4. Provide a list and a description of the firms or groups who will be responsible for substation design and construction. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, etc.)

*Response:*

- a. For each of the firms or groups listed, indicate their individual responsibilities in the project and provide a resume for the lead individual for each.

*Response:*

- b. For each of these firms, provide a list of all transmission substation projects they have constructed within the last five years and a reference for each – reference should include a description of the work, the name of the client for whom the work was performed, and a client contact person, phone number and email.

*Response:*

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

*Response:*



S - 5. Provide the following for the proposed substation or substations:

- a. The substation siting criteria that will be used on the project (e.g. future area plans, linear features, constructability, earthquake activity, flood plain and mud slide considerations, etc.).

*Response:*

- b. Basic parameters for the substation - primary and secondary voltage, BIL<sup>9</sup>, initial design power capacity and final design power capacity (if developed in stages).

*Response:*

- c. Preliminary design criteria document – provide a copy of the design criteria document that specifies the criteria that will be used in the design of the substation or its equivalent.

*Response:*

- d. A list of standards and requirements that will be used in the substation design – e.g. IEEE 142, etc. Provide a complete list of California specific requirements.

*Response:*

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

*Response:*

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<sup>9</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.

- f. The protection system criteria and specific components included in the substation design for primary and back-up protection. Identify any special protection considerations for the substation.

*Response:*

- g. SCADA incorporated in the design:

*Response:*

- i. list the data that will be provided to the ISO

*Response:*

- ii. list the control functions that will be included, and which entity will be in control of the devices

*Response:*

- h. The substation physical security criteria and specific security measures that will be incorporated in the final substation design.

*Response:*

- i. The substation oil containment criteria and specific containment measures that will be incorporated in the final design.

*Response:*

- S - 6. Provide a general description of existing substations presently owned by the Project Sponsor, that the Project Sponsor or its contractor (designated to the designer for the proposed project) designed and constructed. Include:

- a. Number of stations by high side voltage

*Response:*

- b. Number of transmission voltage circuit breakers by voltage

*Response:*

- c. Installed transmission substation transformer capacity (MVA)

*Response:*

- S - 7. Provide a description of all transmission substation projects that the Project Sponsor or its contractor (designated as the designer on the proposed project) designed and constructed in the last 5 years. Include (for multiple projects, duplicate the headings (a-d) and Response box for each project):
- a. Design and construction firm
  - b. Single line diagram and general arrangement drawing for the project
  - c. Number, size and type of transmission circuit breakers installed
  - d. Number, size and type of substation transformers installed

*Response:*

- S - 8. Provide any other information, not listed above, that pertains to the substation that the Project Sponsor believes is relevant to the review of its project.

*Response:*

## 7. Transmission Line

T - 1. Provide a general overview and description of the transmission line that the Project Sponsor proposes including :

- a. the starting and ending points,

*Response:*

- b. proposed conductor size, bundling and type,

*Response:*

- c. intervening substations,

*Response:*

- d. typical structures (wood poles, lattice steel towers and tubular poles),

*Response:*

- e. typical span lengths,

*Response:*

- f. any other unique aspects of the line that the Project Sponsor proposes.

*Response:*

- g. If any underground transmission is proposed, include

*Response:*

- i. a general description of the proposed substructures, conduits and duct banks,

*Response:*

- ii. underground conductor size and type,

*Response:*

- iii. proposed termination facilities, and

*Response:*

- iv. other unique aspects of the underground portion of the line.

*Response:*

T - 2. Describe how your transmission line facilities are consistent with the transmission elements in the comprehensive Transmission Plan.

*Response:*

- T - 3. Describe the Applicable Reliability Standards and ISO Planning Standards that your proposal satisfies as these are defined in the ISO Tariff.

*Response:*

- T - 4. Provide a description of the firms or groups who will be responsible for the transmission line design and construction. Specify the relationship between the Project Sponsor and these firms or groups (e.g. owned by the Project Sponsor, under contract to Project Sponsor, etc.)

*Response:*

- a. For each of the firms or groups listed, indicate their individual responsibilities and provide a resume for the lead individual for each.

*Response:*

- b. For each of these firms, provide a list of all transmission projects that have been completed in the past 5 years and a reference for each – references should include a description of the work, the name of the client for whom the work was performed, and a client contact person, phone number and email.

*Response:*

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

*Response:*

- T - 5. Provide the following for the proposed overhead transmission line
- a. The transmission line siting criteria that will be used on the project (e.g. future area plans, linear features, constructability, etc.).

*Response:*

- b. 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).

*Response:*

- c. Preliminary design criteria document – provide a copy of the design criteria document that specifies the criteria that will be used in the design of the transmission line.

*Response:*

- d. Provide a list of standards and requirements that will be used in the transmission line design – e.g. IEEE 951, ASCE Manual No. 72, GO 95, etc. with an emphasis on providing a complete list of California specific requirements.

Also provide any interconnection standards for interconnection of the project to existing utility system(s).

*Response:*

- e. Single line diagram - Provide a single line diagram and a general arrangement plan of the proposed transmission line, including transmission line crossings by the new project line. Include isolation devices to be installed for operations and maintenance purposes.

*Response:*

- f. If the proposed transmission line terminates in an existing utility substation, include a diagram of the bus/breaker arrangement and drawing of the proposed connection and termination for the transmission line facilities (even if these will be owned by the existing utility).

*Response:*

- g. Support structures including wood poles, tubular poles, and lattice steel structures – provide:
  - i. a description of the proposed support structures and conductor geometry,

*Response:*

- ii. structure foundations as appropriate and grounding criteria and implementation,

*Response:*

- iii. insulation level, insulator types,

*Response:*

- iv. typical span lengths

*Response:*

- v. lightning protection

*Response:*

- vi. estimated right of way widths for each different segment of the project with drawings for each.

*Response:*

- h. Line ratings – Provide the ampacity rating methodology that will be used to determine the normal and emergency ratings of the overhead line for summer and winter. Provide the proposed ampacity for the line under normal conditions

and emergency operations (specify time limit for emergency operations) for summer and winter operating conditions.

*Response:*

- i. Line 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.

*Response:*

- j. Unique or special construction techniques proposed, including ROW clearing, construction and permanent access road construction, expected helicopter work, etc.)

*Response:*

T - 6. For any proposed underground transmission sections, provide:

- a. Type of transmission cable, including splicing and cable grounding

*Response:*

- b. Substructures, conduits and duct banks, and splicing enclosures,

*Response:*

- c. Termination facilities and structures

*Response:*

- d. Additional relevant information listed for the overhead line sections above (5a, b, c, d, e, f, g, h, i, j) that pertains to UG

*Response:*

T - 7. Provide your plan for a constructability review of the project at various phases to identify and address potential problems that maybe encountered.

*Response:*

T - 8. Provide a general description of existing transmission facilities presently owned by the Project Sponsor, that the Project Sponsor or its contractor (designated to design the proposed project) designed and constructed. Include:

- a. Miles of overhead transmission facilities by voltage. If the proposed project includes underground, include miles of underground transmission facilities by voltage.

*Response:*

- b. Types of support structures for these lines (i.e., lattice steel structures, tubular steel poles, etc.)

*Response:*

- T - 9. Provide information for all transmission line projects that the Project Sponsor or their contractor (designated to complete the design of the proposed project) has designed and constructed in the last 5 years. Include:

- a. Design and construction firm

*Response:*

- b. Single line diagram for the project

*Response:*

- c. Pole and tower map for the project

*Response:*

- d. Design voltage, miles of line and conductor size, type and bundling,

*Response:*

- e. Types of supporting structures

*Response:*

- T - 10. Provide any other relevant information, not listed above, that pertains to the transmission line that the Project Sponsor believes is relevant to the review of its project.

*Response:*



## 8. Operation and Maintenance

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

*Response:*

Provide resumes describing the qualifications of key management personnel in the maintenance and operating organizations.

*Response:*

Describe the experience over the past 5 years with operating and maintaining all transmission facilities by the Project Sponsor or Project Sponsor team members.

*Response:*

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.

*Response:*

Describe the Project Sponsor's training program for operations and maintenance personnel. Include initial and continuing education requirements for maintaining qualifications for classifications with operation and maintenance responsibilities. Identify training resources used.

*Response:*

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

*Response:*

If the Project Sponsor plans to contract for services to perform any NERC functions, describe how the Project Sponsor will ensure that these reliability standard(s) or requirement(s) will be accomplished?

*Response:*

Who will perform the Scheduling Coordinator function for the proposed project in accordance with ISO Tariff 4.3.1.2.? For which NERC function is, or will the designated Scheduling Coordinator be registered?

*Response:*

Describe the approach the Project Sponsor will use to assure compliance with NERC reliability standards for which Transmission Owners are responsible. Include descriptions of processes and procedures if available. Identify any Applicable Reliability Criteria for which Transmission Owners are responsible that require temporary waivers under TCA 5.1.6. Explain any.

*Response:*

Describe the approach the Project Sponsor will use to assure compliance with NERC reliability standards for which Transmission Operators are responsible. Include descriptions of processes and procedures if available. Identify any Applicable Reliability Criteria for which Transmission Operators are responsible that require temporary waivers under TCA 5.1.6. Explain any.

*Response:*

Describe, in general, how the Project Sponsor proposes to divide responsibility for NERC reliability standards between the Project Sponsor and the ISO in the Reliability Standards Agreement.

*Response:*

Describe the approach the Project Sponsor will use to assure compliance with NERC reliability standards related to cyber security as identified in CIP-001 to CIP-009. Include descriptions of processes and procedures if available.

*Response:*

Describe the applicable agreements that will define the Transmission Operator responsibilities and authority with respect to Generator Owner(s), Generator Operator(s), Planning Authority(ies), Distribution Provider(s), Transmission Owner(s), Transmission Service Provider(s), Balancing Authority(ies), Transmission Planner(s), and adjacent Transmission Operator(s).

*Response:*

Describe how the Project Sponsor will meet the requirement that Transmission Operators have adequate and reliable data acquisition facilities for its Transmission Operator Area and with others for operating information necessary to maintain reliability. Include back-up control center plans if any.

*Response:*

Provide information demonstrating that the Project Sponsor has been in compliance with the Applicable Reliability Standards for all transmission facilities that it owns, operates, and or maintains. This could include information for facilities outside the ISO controlled grid and should include available NERC compliance audit results and any notices of violation. Provide information describing the amount of transmission facilities subject to NERC compliance, e.g. miles of line by voltage class, number of substations by voltage class.

*Response:*

Describe the Project Sponsor's capability and experience that will enable it to comply with the activities required by TCA 6.1. Physical Operation of Facilities. (Operation, ISO Operating Orders, Duty of Care, Outages, Return to Service and Written Report)

*Response:*

Describe the Project Sponsor's capability and experience that will enable it to comply with the activities required by TCA 6.3 Other Responsibilities.

*Response:*

Will the project be subject to any encumbrance? If so, provide a statement of any Encumbrances to which any of the transmission lines and associated facilities to be placed under the ISO's Operational Control are subject, together with any documents creating such Encumbrances and any instructions on how to implement Encumbrances and Entitlements in accordance with the TCA 6.4.2.

*Response:*

Describe the Project Sponsor's capability and experience that will enable it to comply with the activities required by TCA 7 Operations and Maintenance. (Scheduled Maintenance, Exercise of Contractual Rights and Unscheduled Maintenance)

*Response:*

Describe the Project Sponsor's capability and experience that will enable it to comply with the activities required by TCA 9.2. Management of Emergencies by Participating TOs and 9.3. System Emergency Reports: TO Obligations. Identify resources available 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:*

Describe the Project Sponsor's capability and experience that will enable it to comply with the maintenance standards described in Appendix C of the TCA.

*Response:*

Provide the Project Sponsor's standards for inspection, maintenance, repair and replacement of the proposed project's facilities. The Project Sponsor's standards should include the

elements listed in TCA Appendix C 5.2.1. Transmission Line Circuit Maintenance, 5.2.2. Station Maintenance and 5.2.3. Descriptions of Maintenance Practices, as applicable to the proposed project.

*Response:*

Provide the Project Sponsor's preexisting procedures and historical practices for managing ROW for transmission facilities. If the Project Sponsor does not have such preexisting procedures, provide a detailed description of its plan for managing ROW. Describe the project Sponsor's Vegetation Management plan as it applies to the proposed project.

*Response:*

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

*Response:*

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

*Response:*

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

*Response:*

## 9. Miscellaneous:

M-1: Provide any additional evidence or support that the Project Sponsor believes supports its selection as an approved Project Sponsor. This can include, but is not limited to, other benefits the Project Sponsor's proposal provides, specific advantages that the Project Sponsor or its team have, or any efficiencies to be gained by selecting the Project Sponsor's proposal.

*Response:*