

No.	Comment Submitted	ISO Response	Date Q&A Posted
1	Should all of the financial information be in 2015 dollars including sensitivity analyses and the revenue requirement inputs?	In general, Yes. Questions in the project sponsor application associated with costs will normally specify the year. In general, dollars are normally requested as 2015 dollars.	5/6/14
2	Will a FTP site be provided by the CAISO for bid submittal in lieu of mailing a CD/DVD or email?	No.	5/6/14
3	Is it acceptable to leave 'Section 8 – Transmission' blank and mark as Not Applicable if the project sponsor does not need or plan to install transmission line facilities as part of the project?	The answer to this question is located in Section 2 – General Instructions of the project sponsor application. The answer is contained in the third paragraph found on page 3 of the project sponsor application.	5/6/14
4	Will all reviewers assigned by the CAISO to grade the bid applications have access to the entire bid document including sections three through eleven? Or will each reviewer only have access to one specific section they are working on? Will all CAISO reviewers have access to the entire appendix that is supplied in the bid application by the project sponsor?	In general, the ISO project team assigned to evaluate the project sponsor applications will have access to all material submitted by the applicant project sponsor. It should be noted that this also includes the consultant retained by the CAISO to assist in the evaluations.	5/6/14
5	Will there be additional projects announced for competitive bid in a 3rd Sequence for this process, i.e. with a bid deadline of October 16, 2014? If so, when we can expect such an announcement?	At this time, no projects have been identified for the third sequence. It is possible that this could change. In the event that a new project becomes eligible for solicitation, the ISO would issue a market notice alerting all interested stakeholders.	5/6/14
6	Please confirm that SVC (Static VAR Compensator) and STATCOM (Static Synchronous Compensator) are allowed options of the Miguel 500 kV 375 MVAr Reactive Power Support Project. (This would allow the competitive process to identify the most cost effective solution.)	Confirmed.	5/6/14
7	If the CAISO is limiting the solution option to just synchronous condensers, please confirm that the Suncrest 230 kV 300 MVAr	Functional specification is accurate.	5/6/14



8	Dynamic Reactive Power Support Description and Functional Specifications for Competitive Solicitation" dated April 15, 2014 as posted on the CAISO website is still accurate and current or whether it will also be so limited. I just noticed that the Key Selection Factors document, posted on May 1, 2010, included the factors for the Imperial Valley (IV) Flow Control Device (Back to Back DC) project along with factors for other projects. I noticed that IV Flow Control Device project has not yet been posted for competitive solicitation. As I understand, this project will have delayed solicitation as part of the staggered approach. Please verify and confirm my understanding and let us know if you have any updates on this project's solicitation status.	The ISO is currently evaluating the two alternatives for the Imperial Valley flow control transmission element. Once the ISO determines the optimal option, it will issue a market notice if the selected option is eligible for competitive solicitation.	5/14/14
9	Provide detailed Transmission System Planning study reports performed for the following projects: Miguel reactive compensation, Suncrest reactive compensation, Estrella substation, Spring substation, Wheeler Ridge Jct substation, Delaney – Colorado River transmission line.	The transmission planning studies are in Appendix B of the transmission planning report, which is posted on the ISO website.	5/14/14
10	In order to validate the reliable operation of the new proposed projects and to validate interaction with the existing Special Protection Systems (SPS), please provide additional information of the CAISO's technical assessment of any interaction of the proposed new projects with existing SPS and coordination with other protection systems in the area.	The ISO is not aware of any interaction with SPS. If in the future system changes require interaction, it will be coordinated with all PTOs involved.	5/14/14
11	Provide a Communication Network map of existing facilities for all stations and lines surrounding the projects. Identify Fiber Optic, Microwave and PLC Networks.	The ISO does not have this information.	5/14/14
12	Confirm that the Z% of the transformer is based on the Oil Natural Air	Confirmed.	5/14/14



	Natural (ONAN) rating for the Spring, Wheeler Ridge, and Estrella projects.		
13	Provide more clarification of the sixth 230kV circuit breaker being requested at Estrella Substation. Is this breaker to provide high side protection to the distribution transformer? Can the distribution transformer be fed from the main bus, freeing up a future line position and minimizing initial costs?	The circuit breaker requirements are based on a breaker and a half bus arrangement, interconnecting two 230 kV transmission lines and two transformers. The 230 kV distribution transformer shall be connected to a position in the breaker and a half arrangement.	5/14/14
14	Identify any Phasor Measurement Unit (PMU) Requirements.	PMUs are not required at any of the sites.	5/14/14
15	Identify if there is a communications need to provide backup capability to either SDG&E or PG&E in the event of a loss of the main communication path.	Back up communications is not a requirement.	5/14/14
16	Identify if CAISO requires dual RTU units are required to provide a redundant system in case of a primary system failure.	Dual RTU units are not required.	5/14/14
17	Identify maximum operating phase to phase voltage of the system.	Maximum continuous operating voltage is 1.1 pu.	5/14/14
18	Are there any maximum fault clearing times required for multi-phase or single phase to ground faults on Near-end, Far-end, Substation bus or breaker failure fault locations?	System protection requirements and associated fault clearing times shall be coordinated with the interconnecting PTO.	5/14/14
19	Define the level of substation security needed for each specific site. Specifically address if there are any requirements for perimeter enclosure materials and/or construction.	The substations will be compliant with all NERC and applicable codes.	5/14/14
20	Provide direction and recommendation for the transformer allowable losses. Are there CAISO recommended ranges of \$/kW for no load and load loss evaluations?	The ISO does not provide recommendations for allowable transformer losses.	5/14/14



21	Define required tertiary capacity (MVA) at 65 C required for neutral stabilization and zero sequence current generation for each site.	The ISO does not have this information.	5/14/14
22	Provide Miguel and Suncrest Existing Substation general electrical arrangement and Single- Line diagram	This information is confidential and may not be released by the ISO.	5/14/14
23	Provide Miguel 230 kV and 500 kV Existing Substation Transmission Line Plan and Profile Drawings	The ISO does not have this information.	5/14/14
24	What is the location of the load or distribution substation the Estrella (70 kV) distribution transformer will serve?	The distribution interconnection point for Estrella Substation should be within a 2.2 mile radius from the intersection of Highway 46 and the Morro Bay-Gates and Templeton-Gates 230 kV transmission corridor, east of Paso Robles. (Note: Answer Updated 5/28/14))	5/28/2014
25	Provide the line MVA, line ampacity, conductor type, line length and impedance and X/R ratio for each 230 kV line interconnecting into the three substations. Also provide Summer Normal and Summer Emergency (SN/SE) ratings for all 230 kV lines, interconnecting into the three substations.	This information is confidential and may not be released by the ISO.	5/14/14
26	Provide maximum fault current levels at Miguel 500 kV and Suncrest 230 kV busses.	The ISO is working with SDG&E on providing this information. (Update 6/11/2014) The available fault current at the Miguel 500 kV bus in study year 2017 is 15,165 A. The available fault current at the Suncrest 230 kV bus in study year 2017 is 25,925 A.	06/11/14
27	Substation projects require the successful execution of both competitive (230 kV) and non-competitive (70 / 115 kV) elements to bring an overall project online. While the Phase 3 Project Sponsor Solicitation will	Tariff Section 24.5.4 (k) allows project sponsors to show "any other strengths and advantages the Project Sponsor and its team may have to build and own the specific transmission	5/28/2014



28	undoubtedly focus on the identified competitive elements, the cost and feasibility of both competitive and non-competitive projects are linked. Does the CAISO intend to approach the Project Sponsor Selection focused solely on the 230 kV competitive elements or make a selection that takes into consideration a solution optimized for the overall project (both competitive and non-competitive)?	solution, as well as any specific efficiencies or benefits demonstrated in their proposal." Factors the ISO considers in its comparative analysis include which Project Sponsor " is best able to designconstruct, maintain, and operate the particular transmission facility in a cost-effective, efficient, prudent, reliable mannerwhile maximizing overall benefitsand minimizing the risk offuture reliability, operational, and other relevant problems." To the extent a proposal impacts other transmission elements, the ISO may consider such impacts, to the extent permitted within the confines of the requirements of its tariff. The intended design for the substation is per the functional specification as a breaker and a half.	5/28/2014
	include alternate initial configurations, such as a Ring Bus, so long as they provide cost effective means of conversion to the specified ultimate BAAH configuration in the future?"		
29	References to land ownership, rough grading, drainage, and fencing between 230kV and low voltage yards is inconsistent between the functional specifications for Estrella, Spring, and Wheeler Ridge Substations. Language used to describe responsibilities between PG&E and the approved project sponsor differ between each functional	The ISO will be issuing updates to the functional specifications for Estrella, Spring and Wheeler Ridge substations to make the language consistent between the three functional specifications. The functional specifications for all three substations have been	6/27/2014



	specification. Spring "project sponsor can own all the station land" Wheeler Ridge "project sponsor may own all the station land" Estrella "project sponsor will be responsible to acquire the station land" "Is this difference in language intentional? And if not, what version of language should be used consistently across Estrella, Spring, and Wheeler Ridge Substations?"		
30	The functional specifications for Estrella and Spring Substations call for an ultimate 230kV breaker-and-a-half (BAAH) bus configuration with twelve (12) 230kV circuit breakers. This arrangement will require 4 bays and accommodate eight (8) terminals. However, the specifications also call for the ultimate number of 230/115kV transformers and lines to be two (2) and four (4), respectively, which would require an ultimate BAAH configuration to accommodate six (6) terminals. A 6-terminal BAAH configuration would only require 3 bays and 9 circuit breakers. "Should the substations be designed to accommodate the 6 or 8 terminal ultimate BAAH configuration?"	The ultimate arrangement for Estrella is for 4 lines, 2 230/70 kV transformers and 2 distribution transformers. This will require the 12 circuit breakers in the breaker and a half arrangement. The ultimate arrangement for Spring is for 4 lines, 2 230/115 kV transformers; however there may be future additional distribution requirements to supply load from this station so the additional bay was added to the ultimate to accommodate for this potential in the future.	5/28/2014
31	<ul> <li>Below is a question concerning the Estrella project being sent out to the market for completive solicitation.</li> <li>Regarding Estrella, the project's scope instructs that the project is to be "approximately 5 miles east of the existing Paso Robles</li> <li>Substation[and]relatively close to the Morro Bay-Gates and Templeton-Gates 230 kV transmission corridor." By our measure, the direct distance between the Paso Robles Substation and the 230kV transmission corridor appears to be only 3.2 miles. Is this what the CAISO intended or is the Estrella Substation project to be 1.8 miles further east of the 230kV corridor? Or is it 5 miles northeast or</li> </ul>	The distribution interconnection point for Estrella Substation should be within a 2.2 mile radius from the intersection of Highway 46 and the Morro Bay-Gates and Templeton-Gates 230 kV transmission corridor, east of Paso Robles.	5/28/2014



32	southeast direction from the Paso Robles Substation until one reaches the transmission corridor? Or if the substation is to be located 1.8 miles beyond the transmission corridor, where is the target location? SUNCREST DYNAMIC SUPPORT: Is SDG&E responsible to fund, own, operate and maintain the interconnecting bus position at Suncrest, which is expected to be two breakers? Will the successful project sponsor also have control of these breakers for operating and emergency purposes? Where is the point of change of ownership between the successfull project sponsor facilities and the SDG&E facilities?	SDG&E will design, engineer, install, own, operate, and maintain the necessary equipment additions within Suncrest substation. The substation terminations and line drops into the substations will be owned, operated and controlled by SDG&E. The funding of these facilities has yet to be determined. A 230 kV tie-line from the dynamic reactive power support project to Suncrest Substation will be the responsibility of the project sponsor. The ISO is working with SDG&E to identify a general area (e.g. the northwest corner, south side, etc.) of the Suncrest Substation where the terminal line structure for the tie- line should be located. The approved project sponsor will own, operate and maintain all transmission facilities from the reactive support up to and including the terminal line structure. SDG&E will own, operate and maintain the transmission facilities from the terminal structure into Suncrest substation. Update 6/11/14 Target location for Point of SDG&E Ownership is interconnection customer's dead end pole adjacent to Suncrest substation (approximately the northwest corner). Assume Developer installs a 230 kV dead end structure adjacent to the 230 kV switchyard	6/11/2014
		of Suncrest substation.	E /00/004 4
33	SUNCREST DYNAMIC SUPPORT: Since SVC's and Statcom's can provide different performance at varying voltage levels, can an SVC be proposed as the primary solution at Suncrest and a Statcom be proposed as an option within the same proposal?	An SVC would meet the need, so it would need to be explained why two options which both meet the need are being submitted.	5/28/2014
34	MIGUEL REACTIVE SUPPORT: Is SDG&E responsible to fund, own,	SDG&E will design, engineer, install, own, operate, and maintain	6/11/2014



	operate and maintain the interconnecting bus position at Miguel, which is expected to be two GIS breakers? Will the successful project sponsor also have control of these breakers for operating and emergency purposes? Since this is a GIS switch rack, where is the point of change of ownership between the successfull project sponsor facilities and the SDG&E facilities? Will the interface point be GIS or open air?	the necessary equipment additions within Miguel substation. The substation terminations and line drops into the substations will be owned, operated and controlled by SDG&E. The funding of these facilities has yet to be determined. A 500 kV tie-line from the reactive power support project to Miguel Substation will be the responsibility of the approved project sponsor. The ISO is working with SDG&E to identify a general area (e.g. the northwest corner, south side, etc.) of the Miguel Substation where the terminal line structure for the tie-line should be located. The approved project sponsor will own, operate and maintain all transmission facilities from the reactive support up to and including the terminal line structure. SDG&E will own, operate and maintain the transmission facilities from the reactive support up to and including the terminal line structure. SDG&E will own, operate and maintain the transmission facilities from the terminal structure into Miguel substation	
35	Imperial Valley Flow Controller: For the IV flow controller, will SDG&E	At this time, the Imperial Valley Flow Control project is not part	5/28/2014



	or the project sponsor be responsible for modifying the Presidential permit? Assuming the back to back DC equipment is chosen for the IV flow controller. Back to back DC equipment, depending on the type chosen, can provide dynamic voltage support and other capabilities at a cost. Can these features be added as options within the same proposal?	of the Phase 3 competitive solicitation process. Should this change in the future, the ISO will issue a market notice.	
26	Are short circuit cases available?		E/28/2014
36	The revised functional specification (dated May 1, 2014) for Miguel 500 kV reactive power compensation project has been amended by removing the switched reactive compensation option. Please confirm that for this project the comparison will be made against SVC and/or STATCOM vs. Synchronous Condenser. The static solutions (SVC/STATCOM) and the rotating solutions (Synchronous Condenser) slightly differ in application and costs within the reactive compensation domain.	Confirmed	5/28/2014
37	What will be the California ISO evaluation criteria between various solutions applicable (SVC, STATCOM, or Synchronous Condenser) specific to the reactive power compensation projects? Please provide a list of evaluation criteria, i.e., Capital Expenditure, Lifetime operation cost, Lifetime maintenance costs, Dynamic performance, Operating losses over the asset life time, etc.?	Please see the Key Selection Factors document.	5/28/2014
38	Is there a preferred solution for California ISO out of those listed as acceptable (SVC, STATCOM, or Synchronous Condenser) for each of the reactive compensation projects?	No	5/28/2014
39	Can Project Sponsors bid multiple projects in one application that is submitted with the application fee of \$75,000, or must each project bid	No. Only one project per application is allowed. Each application must include the requisite deposit.	5/28/2014



	be accompanied by a \$75,000 application fee?			
40	Can the Project Sponsors bid the two reactive compensation projects in one application?	No. Only one project per application is allowed. See answer to Q 39 above.	5/28/2014	
41	As specified now, the two reactive power compensation projects have the same solution mix, namely, SVC, STATCOM, or Synchronous Condenser; also they are similar sizes (~400 MVAr). However, the estimated price range for the Miguel 500kV dynamic reactive compensation project has not been updated with the May 1st, 2014 functional specification update removing mechanically switched capacitor banks. Could you confirm if the existing price estimates are firm or flexible, or could you provide a new range for the Miguel 500 kV SVC?	The cost estimate is a planning level estimate. The ISO understands that actual project costs may differ from planning level estimates due to project specific challenges identified in the detailed cost estimating process.	5/28/2014	
42	Can California ISO confirm that if the existing Suncrest or Miguel substations' property contains available land to locate the new reactive compensation substation that it will be made available for purchase by the successful Project Sponsor?	The ISO does not have this information.	5/28/2014	
43	Can California ISO make available the planning study report showing the justification for the size (Mvar) of the reactive compensation projects?	Please see the 2013-2014 ISO Transmission Plan report. Also, refer to answer to Q9 above.	5/28/2014	
44	Does the project "approximate cost" ranges shown in the Project Descriptions, provided by California ISO, include O&M cost?	The planning level cost estimates are capital costs.	5/28/2014	
45	Are the O&M cost for projects for an estimated 40 years life to be made part of the Project Sponsor's total estimated costs?	Please refer to the instructions included in the Project Sponsor application.	5/28/2014	
46	Would the June 16th 2014 deadline be now extended as the specifications for Miguel have changed on (May 1st 2014)?	No.	5/28/2014	
47	Considering there are over 100 specific reliability cases on market portal under 2013-14 cycle covering various regions, to help this process, we would appreciate if you could confirm that we should be	Those are the peak cases that were used in the assessment for the areas. All of the base cases, identified within the ISO Study Plan, were used in the reliability assessment for each of the	6/27/2014	



look	looking at the following cases:					
Estrella substation:						
PG &EReliab1314 CCLP 2015 SP8/26/2013 11:54 AMPG&E Central Coast & Los Padres 2015 Summer Peak case for the 2013-2014 reliability assessment						
PG       Reliab1314 CCLP       8/26/2013       PG&E Central Coast & Los Padres 2015         &E       2018 SP       11:55 AM       Summer Peak case for the 2013-2014 reliability assessment				ummer Peak case for the 2013-2014		
	PG &E	Reliab1314 CCLP 2023 SP	8/26/2 11:56	AM S	G&E Central Coast & Los Padres 2015 ummer Peak case for the 2013-2014 eliability assessment	
Spri	-	ubstation	10.0	0/26/201	2 DC0 E Craster Day Area 2010	
	PG& E	<u>Reliab1314 qba 20</u> <u>P</u>	<u>18 S</u>	8/26/201 1:14 PM	3 PG&E Greater Bay Area 2018 Summer Peak case for the 2013- 2014 reliability assessment	
	PG& E	<u>Reliab1314 gba 20</u> <u>P</u>	<u>15 S</u>	8/26/201 1:15 PM	3 PG&E Greater Bay Area 2015 Summer Peak case for the 2013- 2014 reliability assessment	
	PG& E	<u>Reliab1314 gba 20</u> <u>P</u>	<u>23 S</u>	8/26/201 1:17 PM	3 PG&E Greater Bay Area 2023 Summer Peak case for the 2013- 2014 reliability assessment	
Wheeler Ridge						
	PG& E	Reliab1314_Fresnok 015Peak	<u>Kern2</u>	8/26/201 1:20 PM	3 PG&E Fresno and Kern Area 2015 Summer Peak case for the 2013- 2014 reliability assessment	



	PG& EReliab1314 FresnoKern2 018Peak8/26/2013 1:21 PMPG&E Fresno and Kern Area 2018 Summer Peak case for the 2013- 2014 reliability assessmentPG& EReliab1314 FresnoKern2 023Peak8/26/2013 1:22 PMPG&E Fresno and Kern Area 2023 Summer Peak case for the 2013- 2014 reliability assessment		
48	The "2013-2014 Transmission Planning Process Competitive Solicitation Substation Projects" market notice that went out earlier today has the bid window for Estrella, Spring and Wheeler Ridge closing August 16 <sup>th</sup> . The Phase 3 Sequence Schedule posted on the planning page has the window closing August 18 <sup>th</sup> . Which one should we use?	Applications for the second sequence phase 3 projects (Estrella, Spring and Wheeler Ridge) are due by 5:00 PM August 18 <sup>th</sup> .	<mark>7/28/2014</mark>
49	We are asking CAISO to provide us with the transmission reliability peak cases that include detailed electrical /modelling of Wheeler Ridge Junction substation (that is currently open for competitive solicitation). In addition, we would also appreciate if we can receive the transmission reliability peak cases that include detailed modelling of Estrella and Spring substations as well.	The base cases posted on the Market Participant Portal of the ISO for the 2013-2014 Transmission Planning Process were used to establish the need for the transmission facilities. These projects were submitted in the Request Window of the 2013- 2014 Transmission Planning Process by PG&E to address the identified reliability constraints in the area. The technical details and modeling information of the Wheeler Ridge Substation, Estrella Substation, and Spring Substation can be found in the Request Window submissions for these projects on the ISO Market Participant Portal. These projects will be reflected in the base cases, based upon their in-service dates, that will be posted in August 2014 as a part of the 2014-2015 Transmission Planning Process.	7/28/2014
50	Regarding the Wheeler Ridge, Spring, and Estrella substations, should the bidder include in its application a discussion of the environmental impacts and resulting permitting and schedule impacts of the PG&E scope of work?	The applicant should identify in its proposal any dependencies based on PG&E's scope of work or other impacts.	7/28/2014
51	Regarding the Wheeler Ridge, Spring, and Estrella substations, should the	No.	<mark>7/28/2014</mark>



bidder include the cost impacts associated with the environmental permitting for the PG&E scope of work?	
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