Abengoa Solar
Enel Green Power
Infinia
NRG Solar
SunPower
Amonix
First Solar
K Road Power
Recurrent Energy
Suntech
BrightSource Energy
FRV
NextEra Energy Resources
Solar Trust of America

May 20, 2011

Mr. Sean Simon
Energy Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

By email to sean.simon@cpuc.ca.gov
And the R.11-05-005 Service List

Re: Comments of the Large-Scale Solar Association on Revisions to the Project Viability Calculator for use in the Utilities' RPS Solicitations

Dear Mr. Simon,

The Large-scale Solar Association[1] ("LSA") respectfully submits these comments in response to your letter dated May 13, 2011 requesting "RPS stakeholder comments on a limited number of proposed changes to the RPS Project Viability Calculator." Below, we provide general feedback on the "key objectives" for revising the project viability calculator. The Project Viability Calculator ("PVC") is best used as an advisory tool, rather than as an outcome determinative test for whether the CPUC will approve a particular contract, particularly for contracts intended for delivery five or more years from the present date. For such contracts, general experience is far more relevant and realistic than development status, and overreliance on development status will yield false assurance to the Commission.

We also offer specific comments on the proposed changes to the PVC in the table from your May 13th letter. Our specific comments request that the Energy Division revise the calculator to reflect that the utility-scale solar industry is a relatively new industry, not just in California but world-wide. Compared to other renewable technologies, and despite their value to California independently as peaking renewable resources and as necessary complements to robust, diverse and reliable renewables portfolios, the innovative nature of solar projects reduce their score in criteria favoring previous development of a similar technology. In revising the PVC, and in applying it, the Commission should carefully consider the role of innovation in

[1] LSA represents fourteen of the nation's largest developers and providers of utility-scale solar generating resources. Its members develop, own and operate various types of utility-scale solar technologies, including photovoltaic and solar thermal system designs. LSA, and its individual member companies, are leaders in the renewable energy industry, advancing solar generation technologies and advocating competitive market structures that facilitate significant integration of renewable energy throughout the western United States. LSA actively represents the interests of utility-scale solar development in California, Arizona, and Nevada, and also works to shape regional and federal policies that affect solar development.

achieving all of the state's RPS goals, including a least-cost, least-emissions, cost-effective and reliable overall energy infrastructure.

LSA is pleased to provide these comments and looks forward to working with the Energy Division on further revisions to the PVC. Should you have any questions about these comments, please do not hesitate to contact me.

Sincerely,

/s/
Shannon Eddy
Executive Director

LSA Comments on "Key Objectives" for Revising the PVC

Your May 13th letter describes two key objectives for revising the PVC: "(1) align the PVC criteria with current renewable project development processes and market conditions; and (2) to better differentiate projects in various stages of development." When the PVC was first proposed approximately two years ago, LSA commented that renewable development in California is fraught with development-related hurdles, including the many hurdles that face any development of generation or other energy infrastructure.[2] While in the last two years, the permitting processes have improved somewhat, it is still impossible to design a process that gives more than a general indication of which projects have the greatest indicia of success. For example, permits are not generally granted until, at most, two to three years prior to commercial online dates, and environmental data for assessments required for permitting cannot be obtained and remain relevant too far in advance of permitting decisions. Recent permitting experience demonstrates that absent those assessments, issues that could delay permitting will not be known until far closer to the commercial online date of a project. More than five years ahead of the proposed commercial online dates, no truly reliable assessment of likely permitting success can be made. Accordingly, LSA still believes that the PVC is best used as an advisory tool, rather than the litmus test for whether a project is likely to succeed. As with other predictive tools, its value decreases the farther in time from the commercial online date. A low score should prompt the Commission to look deeper into the full range of factors relevant to achieving RPS success, particularly those not captured in the PVC's criteria and those that may be unique to the project.

Growth in the renewable industry has increased over the past two years, and with the adoption of SBX1 2, we expect that trend to continue. The solar industry, in particular, has seen

[2] LSA's comments that were submitted on the original version of the PVC are available at: http://www.largescalesolar.org/files/_docs/jdv1243877143f.pdf , http://www.largescalesolar.org/files/_docs/viu1242235567g.pdf , and http://www.largescalesolar.org/files/_docs/arx1238900661i.pdf

significant growth and has gained considerable experience, particularly in permitting. This growth has not yet come to full fruition, and we are continuing to gather experience in deployment. However, the technological advancements, developer experience, and other factors suggesting future success of the solar industry, all of which are very important to achieving the CPUC's and the state's RPS goals, are not captured in the proposed changes to the PVC. In fact, for the reasons detailed in our specific comments below, the proposed changes to the PVC will penalize solar projects, despite this tremendous success and the anticipation of far more in the near future, for not having a significant amount of existing installations. As such, the proposed scoring would do a disservice to the tremendous efforts of multiple California and federal agencies, including the CPUC, to foster the successful establishment of the large-scale solar industry in California. LSA therefore urges you to revise the PVC as detailed below. Alternatively, the Energy Division should consider creating a set of solar-specific criteria for any of the current PVC criteria that weigh experience in building projects of similar technologies. The solar-specific criteria should instead place greater weight on a development team's experience in building any kind of energy project of a similar capacity. The alternative solar-specific criteria should also attribute higher scores to developers that have successfully permitted a project, even though their projects may still be under construction. These changes will better reflect the current status of the solar industry where a significant amount of projects have been approved, but few projects have been fully constructed and brought online.

LSA Specific Comments on Staff's Proposed Changes to the PVC

Proposed Changes for Project Viability Calculator – Criteria Definition and Scoring

Category and Criteria	Score	Definition
Company / Development Team		
Project Development Experience		
	10	The company and/or the development team has completed 2 or more projects of similar technology and capacity (e.g., 20 MW photovoltaic facility (thin-film)).
	5~~8~~	Either (i) the company and/or the development team has completed at least one project of similar technology and capacity; or (ii) begun construction of at least one other similar project. ~~The company and/or the development team has completed 2 or more projects of any technology and capacity (wholesale generation).~~
	4~~7~~	The company and/or the development team has completed 2 or more projects of any technology and capacity (wholesale generation).

		~~Either (i) the company and/or the development team has completed at least one project of similar technology and capacity; or (ii) begun construction of at least one other similar project.~~
	2~~5~~	Either (i) the company and/or the development team has completed at least one project of any technology and capacity (wholesale generation); or (ii) begun construction of at least one other similar project.
	0	None of the above.

LSA Comment: The changes to the "Project Development Experience" criteria will disproportionately impact solar projects because the utility-scale solar industry is relatively new compared to other renewable industries, hence as a whole, has completed relatively fewer projects in California than other renewable industries. Despite being a relatively new industry, most of California's major solar developers have significant project development experience in other types of energy projects, including conventional resources. However, few solar developers will be able to obtain a 10 or even a 5 under the proposed scoring, because these scores are based solely on development experience for technologies of a similar type. This specificity to the type of technology is not necessary as the expertise and experience of project development and management is transferable. Artificially prejudicing the PVC to favor commercially-deployed technologies would unnecessarily and inappropriately compromise the CPUC's and the state's RPS goals, which require a diversity of complementary renewable technologies to achieve a least-cost, least-emissions and reliable energy infrastructure. To avoid a disproportionate and unjustified impact on solar projects that are supported by experienced development teams and that are needed to achieve the state's goals, the Project Development Experience criteria should be amended to allow for higher scores based on development experience with any technology type of a similar capacity.

In addition, we recommend modifying the first criterion as follows: The company and/or the development team has completed 2 or more projects of similar technology and capacity (individually or in the aggregate). This change recognizes the development experience associated with a generation portfolio, as opposed to single projects.

Finally, the jump in the first two scores (i.e. from a 10 to a 5) should not be so large, as this artificially exaggerates differences that, in the real world, have little impact on the CPUC's aims in having a PVC. The scores should be more evenly distributed to avoid unjustified discrimination that penalizes developers in a relatively new industry, creating artificial barriers to projects that are needed for attainment of a diverse and robust renewables portfolio. The scores for the first four criteria should be: 10, 8, 6, and 4.

In the alternative, the Energy Division should create a new Project Development Experience criterion that is specific to solar projects, as described above in our response to the "key objectives" for the proposed changes to the PVC.

Category and Criteria	Score	Definition
Company / Development Team		
Ownership / O&M Experience	10	The company, development team or subcontractor has experience with 2 or more projects of similar technology and capacity. (e.g., 20 MW photovoltaic facility (thin-film)).
	5~~8~~	The company, development team or subcontractor has experience with 2 or more projects of any technology and capacity (wholesale generation).
	4~~7~~	The company, development team or subcontractor has experience with at least 1 project with similar technology.
	2~~5~~	The company, development team or subcontractor has experience with at least 1 project of any technology and capacity (wholesale generation).
	0	None of the above.

LSA Comment: LSA has the same general concerns here as those expressed above regarding the Project Development Experience criteria.

Specifically, a new, second criterion with a higher score should be added that reads, "The company, development team or subcontractor has experience with 2 or more projects of any technology and similar capacity." In addition, the change in scores should be more evenly distributed to avoid penalizing developers for developing in a relatively new industry. The scores for the first four criteria should be: 10, 8, 6, and 5.

Also, we propose that the first criterion be modified to recognize aggregate project experience. Specifically, we recommend modifying the first criterion as follows: The company, development team or subcontractor has experience with 2 or more projects of similar technology and capacity (individually or in the aggregate).

In the alternative, the Energy Division should create new Ownership Experience criteria that are specific to solar projects, as described above in our response to the "key objectives" for the proposed changes to the PVC.

Category and Criteria	Score	Definition
Technology		
Technical Feasibility	10	Project will use commercialized technology that is currently in use at a minimum of 2 operating

		facilities of similar capacity (worldwide).
	5	Project will use commercialized technology that is currently in use at a minimum of 2 operating facilities, but at first-of-its-kind scale. For example, existing projects do not exceed 20 MW and the proposed project is for greater than 50 MW.
	2	Either (i) the project will use key components of commercialized technology, but in an application that has not yet been commercially proven; or (ii) project feasibility is supported by third party, independent engineer's report that verifies the cost and performance. (Technology is not commercially proven)
	0	None of the above.
LSA Comment: LSA believes that the differentials in grades, as with other criteria, are far larger than the real-world differential in relevance to project viability. There is no basis for assuming that combinations of key components of commercialized technology are five times less likely to achieve project viability than commercialized technology. These extreme distinctions do not forward the Commission's purpose, but do penalize the innovation needed to achieve the RPS goals in the least costly and most effective fashion.		

Category and Criteria	Score	Definition
Technology		
Resource Quality	10	Bidder demonstrated that the resource can support the production profile. For example: - Geothermal: Based on results of test wells <u>or</u> verified third party resource assessment. ~~or comparable facilities in the region~~. - Wind: Based on meteorological tower data <u>or</u> verified third party resource assessment. ~~or comparable facilities in the region.~~ - Biomass: Sufficient quantities of fuel stock under control or contract for a minimum of five years. - Solar: Based on verified third party <u>solar radiation</u> resource assessment. ~~or comparable facilities in the region~~.

	5	The resource appears sufficient to support the project's production profile. Assumptions are reasonable, for example based on comparable facilities in the same resource area, but not supported by data or assessment in section above.
	0	None of the above.
Stakeholder Comment:		

Category and Criteria	Score	Definition
Technology		
Manufacturing Supply Chain	10	There are no known or anticipated supply chain constraints.
	5	Project scored within the top two tiers in the Technical Feasibility category, but project development is dependent on new manufacturing capacity.
	2	Project will rely on proprietary technical design for its key component(s), not currently in use commercially, and project development is dependent on new manufacturing capacity.
	0	None of the above.
Stakeholder Comment:		

Category and Criteria	Score	Definition
Development Milestones		
Site Control	10	Project has 100% site control through either (i) direct ownership; (ii) a lease; or (iii) an option to lease or purchase.
	8	The project will be sited on BLM land and the bidder has achieved "Site Exclusivity," pursuant to California Independent System Operator (CAISO) guidelines. (See February 2, 2009 Technical Bulletin for Site Exclusivity, http://www.caiso.com/1f42/1f42c00d28c30.html)

	0	None of the above.
Stakeholder Comment:		

Category and Criteria	Score	Definition
Development Milestones		
Permitting Status	10	~~At a minimum~~B~~b~~idder has received its Conditional Use Permit (CUP) or Application for Certification (AFC).
	5	Bidder has applied for its CUP or AFC, the application has been deemed data adequate and/or the designated agency has initiated its review. No fatal flaws have been identified (e.g., protected species and/or land, high land mitigation requirement).
	2	Bidder has not initiated permitting, but bidder has successfully permitted a facility of similar technology and capacity. No fatal flaws have been identified (e.g., protected species and/or land, high land mitigation requirement).
	0	None of the above.
LSA Comment: These criteria have little relevance for projects that are five or more years from the commercial online date, and should not be considered in bid evaluation for projects that far off in time. Advancing permitting this far ahead of the online date would add no better information on project viability, and is unrealistic.		

Category and Criteria	Score	Definition
Development Milestones		
Project Financing Status	10	Either (i) the project will be "balance sheet" financed; or (ii) the project will rely on a power purchase agreement (PPA) for its financing and bidder can verify that such financing has been secured.
	5~~6~~	Project will rely on PPA financing. The bidder has obtained financing for at least 1 project of similar technology and capacity (e.g., 20 MW photovoltaic facility (thin-film)).

	2~~5~~	Project will rely on PPA financing. The bidder has obtained financing for at least 1 project of any technology and capacity (wholesale generation).
	0	None of the above.

LSA Comment: LSA has the same concern here as that expressed above regarding the Project Development Experience criteria. Specifically, these revisions disproportionately favor large balance sheet companies, particularly to the extent that the PVC is used in the IOU bid evaluation process – where there will be by definition no PPA. Thus, only very large companies with large balance sheets will be able to achieve the highest score. In addition, the changes fail to acknowledge the significant expertise of a developer that has successfully completed complex financings for large power plants of other technologies. Perhaps even more so than for the development characteristics above, similarity in project finance is related more to the size of the project than the technology. Larger projects are more complex – and the knowledge is transferable across project technologies. Thus, a new second criterion with a higher score should be added that reads, "Project will rely on PPA financing. The bidder has obtained financing for at least 1 project of any technology and similar capacity." Moreover, the change in scores should be more evenly distributed to avoid penalizing developers for developing in a relatively new industry. The scores for the first four criteria (including the new second criterion) should be: 10, 8, 7, and 5.

In the alternative, the Energy Division should create new Project Financing Status criteria that are specific to solar projects, as described above in our response to the "key objectives" for the proposed changes to the PVC.

Category and Criteria	Score	Definition
Development Milestones		
Interconnection Progress	10	The project has obtained its Interconnection Agreement.
	7~~8~~	For transmission and distribution level interconnection, ~~E~~either (i) the project is in Phase II of the ~~CAISO's Large~~ Generator Interconnection Process (~~L~~GIP), has posted its Letter of Credit and is in compliance with all CAISO or utility requirements for maintaining queue position, or (ii) the project is in the Serial Study Group and has initiated its Facilities Study.
	~~8~~	~~The project can interconnect through CAISO Small Generator Interconnection Procedures.~~

	~~4~~5	For transmission and distribution level interconnection, ~~E~~either (i) the project is in Phase I of the ~~CAISO's L~~GIP and is in compliance with all CAISO or utility requirements for maintaining queue position; or (ii) the project is in the Serial Study Group and has initiated its System Impact Study.
	2~~3~~	The project has submitted its Interconnection Request to the CAISO or Utility.
	0	None of the above.
LSA Comment: The current criteria are based on terminology specific to the CAISO system and should be generalized to apply to interconnections on other systems. Specifically, for interconnection to the utility's distribution system (e.g., secondary feeders), which has not been turned over to the ISO for operational control, GIP does not apply. Therefore, the second criterion should be modified to read: For transmission and distribution level interconnection, either (i) the project is in Phase II of the Generator Interconnection Process (GIP), if applicable, has posted its Letter of Credit and is in compliance with all CAISO or utility requirements for maintaining queue position, or (ii) the project is in the Serial Study Group and has initiated its Facilities Study.		

Category and Criteria	Score	Definition
Development Milestones		
Transmission and Distribution Upgrade Requirements	10	No transmission or distribution system upgrades required pursuant to a signed Interconnection Agreement; or any upgrades required for the project have received CAISO and CPUC approval, if necessary.
	7~~8~~	~~Transmission access expected in less than 2 years.~~ Required transmission or distribution upgrades are approved or conditionally approved by the CAISO, if necessary; and a Certificate of Public Convenience and Necessity or a Permit to Construct has been filed with the CPUC, if necessary.
	~~6~~	~~Transmission access expected in less than 3 years.~~
	4	Transmission access expected in less than 5 years.
	2	Transmission access expected in greater than 5

		years.
	0	None of the above.
LSA Comment: Criterion two should be expanded to include projects that have executed LGIAs in place. As written, there is a large gap between the first criterion and the second, and the differential is neither justified nor well-tailored to the purpose of this criterion. The transmission access, rather than based on an arbitrary number of years an in the proposed scoring, should instead rely on the forecast commercial operation date. Specifically, criteria three and four should be deleted and replaced with a criterion with a score of 5 for projects where "Transmission access is expected before the forecast commercial operation date."		

Category and Criteria	Score	Definition
Development Milestones		
Reasonableness of Commercial Online Date (COD)	10	Utility reasonably expects the project will achieve its~~s~~ COD. ~~to occur within 12 months of the proposed online date~~ Utility should validate the reasonableness of project's ~~commercial online date (~~COD~~)~~ based on the scores given for criteria above.
	5~~8~~	Utility reasonably expects project's COD to occur within 12~~ – 24~~ months of the ~~proposed online date~~ COD.
	3~~6~~	Utility reasonably expects project's COD to occur within 12 - 24 ~~24 - 36~~ months of the proposed ~~online date~~ COD.
	~~2~~	~~Utility reasonably expects project's COD to occur within 36 - 48 months of the proposed online date.~~
	0	Utility reasonably expects project's COD to occur more than 24~~48~~ months after the proposed ~~online date~~ COD.
LSA Comment: The changes in these criteria do not appear to be well-justified or reasonably tailored to CODs that are more than five years ahead. To the extent that these reasonableness assessments are based on transmission, this appears to be duplicative of the criteria above. There appears to be a typo in the second criterion: "proposed" should not be deleted.		

Proposed Changes for Project Viability Calculator – Category Weighting

Please comment on the strengths and weaknesses of the increasing the weighting of the

Development Milestones category. For further detail, or to test the effect of changing the Category weightings, see the "Calculator" tab in the project viability calculator. (A link the Project Viability Calculator is provided on page 1.)

Category	Original Weighting	Revised Weighting
Company / Development Team	25%	15%
Technology	35%	30%
Development Milestones	40%	55%
LSA Comment: LSA agrees that weighting the criteria more heavily to development milestones is sensible. We recommend adjusting the weighting for the company/development team and technology as follows: Company/Development Team 20% Technology 25%		