**RFP-22-805**

**March 15, 2023**

**QUESTIONS AND ANSWERS**

**SB 100 Technical Support**

This document’s purpose is to answer questions for the above solicitation. The following answers are based on the California Energy Commission (CEC) staff’s interpretation of the questions received.

# General

1. Please find this request for a copy of the RFP 22 805 SB100 bidders list so I can assemble a comprehensive team to tender the above solicitation.
	1. The attendee list has been posted at: <https://www.energy.ca.gov/event/funding-workshop/2023-03/pre-bid-conference-rfp-22-805-sb-100-technical-support>.
2. Is there any additional meeting or process for small businesses, teams to partner with other partners as subcontractors?
	1. The Energy Commission does not facilitate the formation of teams for the solicitation. See the response to Question 1 for the attendee list.
3. Due to the complexity of the methodical response submission, we respectfully request you to extend the submission deadline by 2 weeks.
	1. The deadline for this solicitation will not be extended.
4. Is the award for this contract precluded from participating in follow up on SB 100 Joint Agency report. For instance, the drafting of the report, or is further support for finalizing the report expected as part of the full 1.5 million dollar bid?
	1. This contract should include everything that we would need to model and provide information on the modeling approach and modeling results for the SB 100 report. The selected contractor and its subcontractors are precluded from bidding on future solicitations that are recommended by or arise out of the work under this contract. However, the selected contractor and its subcontractors are not precluded from bidding on future solicitations under SB 100 that are not related to or the result of their work under this contract.
5. The budget states that the initial budget is $500,000.00 with a ceiling of $1,500,000.00. What is the possibility of that budget increase from the initial amount? Will there be a contract amendment in case the additional budget is appropriated?
	1. An increase in the budget from $500,000 to $1,500,000 will depend on the availability of funding and need for support. A contract amendment is not anticipated to be necessary to add funding up to the full amount of the contract.
6. Is CEC anticipating a single or multiple award(s)?
	1. There will be one award for this RFP.
7. Can you provide any information on how the scope of work for this RFP might interact with other analysis or support contracts going on in parallel to produce the SB100 report? Would any of the work under this contract overlap or interact with other outside contractors supporting CEC staff?
	1. The overall SB 100 analysis and report development will consist of multiple workstreams, which will be completed by CEC staff or through contract support. It is anticipated that CEC will use contract support for other workstreams separate from this contract. The contractors will be expected to work through CEC staff for all work on the SB 100 and not work together independently from CEC staff. As stated in the Task description, the CEC CAM will prioritize the work performed by the contractor. Work under other contracts may influence the priority placed on different analytical aspects; eliminate, replace, or increase the need for specific support; or provide information that can support the efforts of the selected contractor. The CEC CAM will endeavor to minimize any duplication of efforts among workstreams, and prioritize work base on CEC need, contractor skills, and deadlines.

# Bidder Eligibility

1. Is work restricted to California firms?
	1. The work is not restricted to California firms. Bidders, and subcontractors, must meet the eligibility requirements described on page 2 of the solicitation manual.
2. (RFP Page 5 Background) EAD is requiring support for this work from a consultant team with expertise in developing this type of analysis.
Q1. Can the contract resource be a combination of onshore and offshore resources? We have resources in international countries that have experience with the PLEXOS Energy Analytics and Decision Platform.
	1. See response to Question 8.
3. (RFP Page 6 Agreement Management) Program Kick-off Meeting and resources required. The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. Expected Total Hours: 15. Expected General Classifications: Analyst, Scientist, Engineer, Project Manager, Director.
Q1. Can the contract resource be a combination of onshore and offshore resources? We have resources in international countries that have experience with the PLEXOS Energy Analytics and Decision Platform.
Q2. Is this RFP limited to the 5 roles listed in the RFP?
	1. See response to Question 8.

	The “expected generation classifications” are broad categories that the CEC expects to apply to most, if not all, of the specific classifications used in applications. Bidders should identify the actual classifications used by the bidder in the budget form.
4. (RFP Page 9 Technical Support) Modeling Surge Capacity: While it is the intent for CEC staff to conduct modeling, there are times when CEC may require additional modeling support due to the nature of the modeling or the volume of modeling necessary.
Q1. Can the contract resource be a combination of onshore and offshore resources? We have resources in international countries that have experience with the PLEXOS Energy Analytics and Decision Platform.
Q2. Is this RFP limited to the 5 roles listed in the RFP?
	1. See response to Question 8 and Question 10.
5. (RFP Page 9 Technical Support) Modeling Surge Capacity: Support may be needed to run production cost models, capacity expansion models, or other models as required to supplement or compliment CEC staff efforts.
Q1. Can the contract resource be a combination of onshore and offshore resources? We have resources in international countries that have experience with the PLEXOS Energy Analytics and Decision Platform.
Q2. Is this RFP limited to the 5 roles listed in the RFP?
	1. See response to Question 8 and Question 10.

# Proposal Format

1. Should each section, administrative, technical, commercial, be in separate documents, or just one document?
	1. You can submit files section by section or you can just submit all the individual files. If you have large files, be aware of the file size limitations.
2. In the section “Required Format for a Proposal”, there is a defined limit of 10 pages for the technical proposal. We would like to confirm that this is correct. If it is correct, what counts and does not count toward the 10-page limit?
	1. The page limit applies to all information described as being part of Section 2 beginning on page 11 of the solicitation manual, except the information included in an appendix (where allowed in the solicitation manual), examples of work products, and information submitted in a CEC provided form (client references, Attachment 6).

	Information to be submitted in an appendix includes:
		1. “…any additional detail on project qualifications the Bidder wishes to share in an appendix to the Proposal.”
		2. “…the location of the Bidder’s and Subcontractor’s headquarters and satellite office(s) and proposed methods of minimizing costs to the State.”
		3. “…resumes for key team members. Include in each resume the job classification, relevant experience, education, academic degrees and professional licenses.”

See page 11 of the solicitation manual for full text.

# Budget and Cost Proposal

1. (RFP Page 7 Agreement Management) Invoices (150 hours), Manage Subcontractors (150 hours), Progress Reports (150 hours)
Q1. Are these hours based on a fixed bid for this RFP?
Q2. Can the RFP accept time & materials bids?
	1. These are expected hours to be used in the Total Expected Labor Costs scoring section. See page 17 of the solicitation manual. As state in the solicitation manual on page 2, “This is an hourly rate plus cost reimbursement contract…” The contractor’s invoices will detail the time and materials for which they are seeking payment.
2. (RFP Page 8 Technical Support) Technical Support (6,000 hours).
Q1. Are these hours based on a fixed bid for this RFP?
Q2. Can the RFP accept time & materials bids?
	1. See response to Question 15.
3. RFP Page 8 Technical Support) Support could also include creating approaches to integrate multiple assessments into a cohesive analytical strategy to support the 2025 SB 100 Report, including production cost modeling, capacity expansion modeling, land use screens, distributed energy resources, and social costs and non-energy benefits, identifying appropriate granularity of modeling, and optimizing approaches.
Q1. Will the support for the 2025 SB 100 Report be a separate RFP and Budget after the 2023 RFP completes?
	1. This RFP will include support for the SB 100 report due January 1, 2025. Language above indicates that the awardee may be asked to provide the support identified. Work specific to any or all of those examples is not guaranteed, though in most cases it is likely the CEC will prioritize contractor support in many, if not all, of those areas.
4. If there is any California spend requirement?
	1. There are no requirements surrounding funds spent in California.
5. Should this solicitation be capped at a maximum 1.5 million or a maximum 500,000?
	1. CEC commits to initial funding of only $500K to support analysis in the scope of this contract. CEC may add funding beyond the current $500K, and up to $1.5M, as funding becomes available. We're expecting bidders to bid up to the maximum of $1.5M, in case that the funding is available at that point.

	See response to Question 5 for additional information.
6. Does CEC have any initial thinking on how much of the contract effort will be placed on input research and development vs. model advising and modeling? E.g. is it expected to be 50%/50% split between the two or more weighted to one or the other?
	1. The level of effort placed on data collection and developing inputs and tools to support modeling vs. advising on modeling methods and performing analysis will depend on the approach proposed by each bidder, including models and software that are used, what current CEC inputs need to be adjusted to create a consistent modeling environment, and the final scope of the SB 100 analysis. An even split between input development and modeling work (advising or actual model analysis) is reasonable, but bidders should account for the need to be flexible based on the needs that are identified during the contract term.

	All work performed under this contract should be directly applicable to current CEC modeling work. Research and development of new model software or methods are not in alignment with the intended purpose of this RFP.
7. Should the cost proposal include the model and surge capacity costs? If so, how much support is expected. Number of hours, number of simulations, etc.
	1. Bidders should account for anticipated costs of running models consistent with the approach they are proposing, including the introduction of new modeling software into the CEC’s set of tools.

	See the response to Question 20 for additional information.
8. Can bidders propose using a portion of funding to support licensing beyond the termination of the contract? For example, could funding go toward a 3-year licensing agreement, which would span into 2026, even though the contract would end in the middle of 2025?
	1. No. The budget must be for expenditures, materials and services provided during the contract term only.

# Background

1. (RFP Page 5 Background) The first California legislation report, published March 2021, evaluated scenarios but did not evaluate the reliability of those scenarios. The report recommended that the next report include a comprehensive reliability assessment.
Q1. Can this assessment be provided in PowerPoint format?
Q2. How many weeks or hours can be applied to the Assessment phase of the program?
	1. Information on the 2021 SB 100 Joint Agency Report can be found online at <https://www.energy.ca.gov/sb100>, with additional information on workshops for that analysis found here: <https://www.energy.ca.gov/sb100/sb-100-events-and-documents>

	The reliability assessment performed for the next SB 100 report will be scoped as part of the joint agency process. Work done pursuant to the contract will inform the scope of the reliability assessment. Specific contributions to this assessment by the contractor will be determined by the CAM based on priorities for the contractor at the time, the capability of CEC staff to perform the analysis (or portions of the analysis), and the deadlines for completing the analysis.
2. Please provide a definition for reliability as it pertains to the RFP. Is this a traditional definition of 0.1 loss of load events per year and are there any assumptions tied to this definition?
	1. The CEC is requesting technical support which includes reliability modeling to help identify reliability metrics such as loss of load events and expected unserved energy. The CEC does not have an official definition of reliability but has used a 0.1 loss of load event metric that aligns with the analyses done by the CPUC. For these purposes an event has been defined as all outages that occur in a calendar day.

# Technical Support

1. Does the CEC have a timeline for technical support that will support the SB 100 report due in January 2025?
	1. Specific timelines have not been set; however, bidders should expect aggressive timelines. In general, the CEC anticipates having a functional analytical framework, including the models, data, and tools necessary to enact that analysis, by the end of 2023. The analytical work should be largely complete in the first half of 2024, and the remainder of the contract term will include support on previously provided work, and continued improvements and development of the CEC analytical framework.
2. Is the CEC seeking to leverage existing State planning tools for this work, or to develop additional new long-term electricity planning models, such as a new path expansion tools? Or is the CEC seeking scope as part of this support to determine which of these paths go down.
	1. The CEC is open to leveraging existing State planning tools for this work, or the development of additional long-term electricity planning models. Bidders should propose an approach that includes software, models, and methods that the bidder can use for SB 100-type analyses and which can support the integration of those tools into an analytical framework that includes the CEC’s current PLEXOS software models. Bidders should be prepared to support the CEC as it improves and expands its existing models, incorporates new models and/or modeling software into its processes, and equips CEC staff to maintain and use all models and modeling software that is included in the proposed structure.
3. Can you provide any information on the requirements for staff training anticipated for using new models (e.g., how many staff, level of experience with pertinent modeling platforms)?
	1. Bidders suggesting the use of modeling software different from PLEXOS should be prepared to train and equip between two and four CEC staff to maintain, update, and perform analyses with the models in the proposed software. All remaining staff should have a working knowledge of the software necessary to support updates, analyze results, and make use of outputs in other modeling platforms.

	Currently there are five CEC staff working on production cost models, all with at least two years’ experience with the PLEXOS software. However, bidders should be prepared to train new staff with little or no experience with production cost models.
4. Can you provide any information on the level of documentation staff would require for sharing with public stakeholders, particularly for potential models that the CEC would license but would not be publicly accessible?
	1. Documentation for the models used by the CEC should be sufficient for stakeholders to understand the contents of the model, suggest areas for improvement, and make use of the data consistent with the intended design in our models. Documentation on model software would only need to be a high-level description of how the software simulates the models, with more detailed information on specific options in the software that could be considered part of the model.

	The solicitation manual has been revised to include the CEC’s preference for making data available to the public in the scoring criteria.
5. Follow up question: Should in person and virtual model trainings for CEC Staff to be included?
	1. The CEC is not specifically requiring virtual or in-person training. The selected bidder will be required to engage with CEC staff on various aspects of the technical work and model design. Bidders should propose what they believe to be the best approach to prepare and equip CEC staff to take on future updates and perform analysis using the models developed in this contract.
6. (RFP Page 8 Technical Support) Support could include, but is not limited to, recommending models or model enhancements to increase analytical capabilities, optimize existing or future models, developing tools to analyze data inputs and results, identifying appropriate granularity of modeling, and optimizing approaches.
Q1. Is there a current analytics strategy roadmap that the CEC is following, or does it need to be developed?
	1. The CEC does not have a current analytics strategy roadmap that covers the scope of work in this RFP.
7. (RFP Page 9 Technical Support) Guide development of approaches to validate model inputs, assumptions, and results, including validation metrics such as reasonable confidence levels.
Q1. What are the key considerations when selecting a model and comparing results across models?
Q2. Is there a current analytical strategy roadmap that the client is following, or does it need to be developed?
Q3. Is there a strong preference to continue using any of these models?
Q4. What factors are most important to the CEC when selecting a model and comparing results across models?
Q5. What are the key success metrics that you would most like to impact on this project? What specific targets are you seeking to achieve in each of these?
	1. The CEC is looking for bidders to propose the best way to develop a set of integrated models that can analyze what resources could and should be built under a variety of scenarios, how various resources would operate and comply with policy targets, and the reliability of those resources under a wide variety of system conditions. The CEC expects the set of models we will need to include a capacity expansion model (which CEC staff does not have experience with) and production cost models, including deterministic and stochastic models. At this time the CEC expects to retain the PLEXOS software to run production cost models but is not set on PLEXOS being the only tool for the purpose of analyzing system operations and reliability.

	The results of this project will include completion of the SB 100 analysis using the set of models that the selected bidder will help build and run. Optimally, the analysis would be executed by CEC staff with support from the contractor; however, based on the final scope for the SB 100 project, the set of models developed, and staff resources, it will be acceptable for the awardee to perform portions of the analysis at the determination of the CAM.

# Models - General

1. How does the CEC distinguish between models and modeling software?
	1. When referring to models, the CEC is generally referring to the data, constraints, simulation options, and relationships that are entered into software platforms or coded from scratch in a programing language. For example, the CEC maintains models in the PLEXOS software, it does not consider the PLEXOS software itself to be a model.

	Please note that the CEC places preference on software tools that have the option for ongoing technical support beyond the contract term.
2. Related to the Scope of Work, Task 2, Modeling, is the CEC looking at certain models or the contractor may suggest the models?
	1. As stated in the evaluation criteria, 1(g), “Experience with and working knowledge of PLEXOS software, published by Energy Exemplar, or providing support for organizations using PLEXOS is preferred.” However, the CEC is looking for bidders to propose the best way to develop a set of integrated models that can analyze what resources could and should be built under a variety of scenarios, how various resources would operate and comply with policy targets, and the reliability of those resources under a wide variety of system conditions. The CEC expects the set of models we will include a capacity expansion model (which CEC staff does not have experience with) and production cost models, including deterministic and stochastic models.

	The CEC maintains models in the PLEXOS software and expects to continue the use of PLEXOS software for production cost models. CEC is looking for the bidder to recommend an approach for capacity expansion modeling that is complementary to the use of PLEXOS for production cost modeling. The work done under this contract will be used to support, enhance, and expand the PLEXOS based models used by the CEC, not replace it. Additionally, if models are built in other software platforms, such as capacity expansion models, they will need to be designed with the CEC’s continued use of the PLEXOS software in mind.

	Bidders may suggest alternative modeling software; however, bidders proposing alternative software for production cost models work should clearly explain why an alternative software is preferred, how models used in both the alternative and PLEXOS software can be calibrated for consistency, and that the benefits of additional software for a production cost model are sufficient to justify the costs of building and maintaining models in multiple software platforms.

	Please note that the CEC places preference on software tools that have the option for ongoing technical support beyond the contract term.
3. Does the CEC expect bidders to propose the development of capacity expansion models exclusively using the PLEXOS software?
	1. No. Bidders may suggest alternative modeling software for capacity expansion. However, bidders will need to consider how those alternative software tools can be used in conjunction with the existing and improved models in the PLEXOS software that the CEC plans to maintain going forward.
4. Are these SCOPF [Security Constrained Optimal Power Flow] at type models? Does CEC use other power flow software for reliability?
	1. The CEC does not currently use power flow software for reliability analysis. Power flow modeling is not a high priority under this contract due to time constraints and existing expertise.

# Models – Current CEC Models

1. Can you provide details on models or tools currently used by CEC staff for: capacity expansion, production cost modeling, and electric reliability assessment? This information can help bidders understand where they may be able to support improvements or propose alternatives.
	1. The CEC currently has models in the PLEXOS software platform (published by Energy Exemplar) for production cost modeling, both a deterministic WECC-wide model and a stochastic model of the CAISO territory, and an hourly stack analysis that was developed in house using the Python programming language. The CEC has built several tools in Excel and Python to support the development of inputs and to facilitate the analysis of results.

	The CEC does not currently have a capacity expansion model that is maintained or run by staff.
2. What is the name of the model that you are currently using?
	1. See response to Question 36.
3. What modeling tools (both inhouse and commercially available proprietary and nonproprietary) modeling software currently used by CEC are relevant to meeting the technical support outlined in callouts for modeling strategy, data inputs and assumptions and improvements, model validation, and model surge capacity? This request is specific to evaluation criteria 1a, 1b, 1e, and 1g. Please list and classify the models used by source and type (e.g. PLEXOS (Energy Exemplar), production cost).
	1. See response to Question 36.
4. (RFP Page 8 Technical Support) Provide broad support to improve modeling approaches to address multiple end-uses to the production cost model.
Q1. What current analytics tools the CEC is using in addition to PLEXOS?
	1. See response to Question 36.
5. (RFP Page 8 Technical Support) Provide broad support to improve modeling approaches to address multiple end-uses to the capacity expansion model.
Q1. What current analytics tools the CEC is using in addition to PLEXOS?
	1. See response to Question 36.
6. Do you use tools other than capacity expansion. Can you give examples of what you currently use for these other capabilities?
	1. See response to Question 36.
7. (RFP Page 8 Technical Support) Support may include, but is not limited to, identifying, or evaluating inputs and assumptions, gathering data on relevant system characteristics (e.g., power plants, transmission systems, fuel supplies, and system operations) and conducting evaluations to support improvements in assumptions.
Q1. Are these data inputs stored in the PLEXOS platform?
Q2. Are there any other in-house systems that store this input data?
	1. Data used in the CEC’s PLEXOS software-based models are stored in PLEXOS and accompanying CSV files. Other models store data largely in Excel and CSV type files. The CEC is open to alternative storage methods that will make the data easier to store, share, and use for multiple purposes.
8. (RFP Page 8 Technical Support) This may also include providing insight on state policies, utility plans, and trends that impact electricity supply and demand throughout the Western Electricity Coordinating Council (WECC) area and how modeling can account for WECC resources and trends.
Q1. Are these data inputs stored in the PLEXOS platform?
Q2. Are there any other in-house systems that store this input data?
	1. See response to Question 42.

# Models – Licensing

1. If a new model is created for this work, can it be made publicly available (free of charge) and not be classified as a CEC in-house model that is proprietary?
	1. The CEC intends to provide public access to the electricity system models and data that are produced pursuant to this contract to the maximum extent feasible. This could include the publication of electronic files containing the models, individual files containing data, or model software developed under this contract. The solicitation manual has been revised to include the CEC’s preference for making data available to the public in the scoring criteria.
2. If, when I propose to work to include a new model to support the CEC. What would the CEC’s relationship to model be? Presumably the model needs to be able to stay behind with CEC staff. Are there licensing constraints?
	1. Models, meaning the data used to simulate the electricity system in simulation software, that are developed under this contract will be owned by the CEC. The CEC intends to make this information available to the public to the maximum extent feasible. The solicitation manual has been revised to include the CEC’s preference for making data available to the public in the scoring criteria.

	Referring to the software or code written to simulate models, the special terms and conditions of the agreement (Exhibit D) contains additional information regarding CEC’s ownership of data under the agreement. Any electronic data processing program, model or software system developed or substantially modified by the Contractor in the performance of this Agreement at the Energy Commission's expense, shall be the property of the Energy Commission
3. Can you provide any information on expectations structure and anticipated level of support associated with licenses for models? Pertinent details include, but are not limited to, expected license duration, model performance requirements within the contract associated with the license, and any expectation of ongoing support once the license expires.
	1. Applicants proposing the use of software that requires licensing should include all license costs associated with the use of the software for the duration of the contract for a minimum of five CEC staff. Information for ongoing licensing may be included in the proposal, but ongoing licensing costs cannot be included in the cost proposal. The CEC has a preference for software that has the option of ongoing technical support beyond the contract term. The solicitation manual has been updated to reflect this in the scoring criteria.

	Bidders suggesting the use of licensed models, meaning the data and settings used in the software, but not necessarily the software itself, should describe how the data contained in that model(s) can be shared with the public. The CEC has a strong preference of relying on publicly available data and the ability to share the complete models used by the CEC with the public. The solicitation manual has been revised to include the CEC’s preference for making data available to the public in the scoring criteria.