# **RFP-22-806**

# **June 9, 2023**

# **QUESTIONS AND ANSWERS**

# **Distributed Energy Resource Programmatic and Technical Analysis**

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

**Q1:** **Task 2.1 describes analysis of system benefits "by utility territory, across all utility territories for which CEC has data, or somewhere in between." Should this be taken to mean that analyses on a scale more granular than a utility service territory (e.g., distribution system benefits) are out of scope for this task?**

A1:Analyses on a scale more granular than utility service territory are not out of scope for this task. For example, the California Energy Demand Forecast uses 20 forecast zones which are more granular than utility service territory.

**Q2: Is there any expectation regarding the winning contractor's ability to ingest, manage, secure, and process large amounts of AMI or other data?**

A2: As stated on page 7 of the solicitation manual, the contractor will need an analytic platform that can ingest the customer energy use data (including AMI data, as available), conduct statistical or regression analysis on and with the data, develop quantitative results, provide reports of results in appropriate CEC format so they can used for public review, and provide briefings on the results to decision makers, staff, and the public. The platform must satisfy security requirements laid out in the RFP and be able to work with data on the scale of tens of terabytes.

**Q3: Is there anything that prohibits the winner of this RFP bidding on implementation of future decarbonization programs?**

A3:During the term of the contract, individuals performing Task 2 work under the contract will have restrictions on outside work with individuals or entities that have or are likely to have a financial interest in DER analytical studies using customer energy use data developed under Task 2. Additionally, those individuals are subject to restrictions of the Political Reform Act on post-governmental activity. Please see Attachment 8, Exhibit G for more details on the conflict-of-interest provisions that will be included in the resulting contract.

**Q4: What computing costs can be included in the budget for this contract, if any? Should cloud computing costs be included as materials/miscellaneous costs or another category?**

A4: Computing costs can be included in the budget and would be included in materials/miscellaneous. Cost justification within the proposals should clearly describe assumptions made relative to the costs included.

**Q5: Page 33 of the RFP Application Manual specifies various "application architecture components" (i.e., programming languages) that "shall" be used for any software development under this contract. These differ from the preferred programming languages specified during the pre-bid conference (Python, R). Can you clarify the process for requesting exceptions to the required programming languages in the RFP and the CEC's preferences for this particular contract**?

A5: Multiple questions in this document pertain to development, costs, hosting, and delivery of both custom software and analytic products. This answer attempts to summarize the answers to those questions.

Software and Technology

Work authorizations under this contract will not require the development of custom software for delivery to the CEC, and therefore software development requirements described in section VI of the RFP will not apply. For the same reason, there are no licensing concerns. Analytical work will be done on contractor systems using a technology stack of your choice, assuming the contractor and systems meet the security screening and requirements described in in the RFP (see Attachment 8 Exhibit E for details). In the event that a work authorization requires continued use of a contractor-developed tool, the authorization will include maintenance and operations of the tool by the contractor.

Analytic Products

Work authorizations may require the delivery of products such as custom analyses, data transformations, and models. In these cases, no custom software or user interface will be required. The CEC prefers that such products be delivered using commonly available, open-source tools such as Python and R (for example, in a Jupyter Notebook). In these cases, the products should use standard or commonly-available code libraries and not require the installation or procurement of additional software or services without approval from CEC staff. Other solutions, such as Microsoft Excel, are also acceptable if the contractor and CEC staff agree they are more appropriate.

**Q6: Are there any insurance requirements for the winning bidder, beyond the requirement for workers compensation insurance (e.g., related to data security)?**

A6:No.

**Q7: Will the tools developed to support targeting and assisting with project/measure selection (task 2.3) be hosted on CEC servers, or should our proposed scope include the long-term costs of hosting and system maintenance?**

A7: See Q5. Contractor-developed tools will be maintained and operated by the contractor. Access to the tool by CEC staff may be required in a work authorization to enable staff to use the tool for targeting analysis.

**Q8: Please confirm that we should follow the structure as shown on page 14 of the RFP, not ordered as on page 15 (page 14 says resumes come after references, but page 15 includes them under relevant experience and qualifications).**

A8: Applicants should follow the structure described on page 15 of the solicitation manual. The list on page 14 inadvertently listed Key Personnel Resumes as a separate item. This will be corrected in an addendum.

**Q9: Page 14 shows that labor hours by personnel and task should be included in Section 2 between relevant experience & qualifications and client references, but we do not see it mentioned on subsequent pages. Can you confirm this is something to include as stated in Section 2 and is not part of the budget Excel file to be submitted separately? Is there a requested format you’d like us to follow for the labor hours information if we are to include that in Section 2?**

A9: The list on page 15 of the solicitation manual contains an omission. The list on page 15 should include the item Labor Hours by Personnel and Task. This will be corrected in an addendum.

**Q10: Can the CEC expand on the programs and policies they are hoping this analysis will inform (i.e. build out this bullet in more detail "Program Development and Implementation")?**

1. **Is the CEC interested in analyzing different types of rates/rate structures (i.e. current rate options and novel rate designs such as dynamic retail rates)?**

A10: CEC anticipates that this contract will be used for the Equitable Building Decarbonization program and federal stimulus programs, at a minimum. It may also be used to target additional investment targeting or program evaluation, examples include efforts under the Strategic Reliability Reserve and implementation of the Clean Energy Reliability Investment Plan. CEC will evaluate the potential for the contract to support other programs during the course of the contract. Policy evaluation will be scoped in work authorizations to be determined.

1. CEC has an interest in exploring different rate structures and may use this contract to explore options. If CEC uses this contract for analysis, that scope will be developed in a work authorization.

**Q11: Will the CEC consider proposals that use pre-existing IP or commercial software that do not become the property of the CEC and for which the CEC is not granted an irrevocable license? Will the CEC consider proposals that require an annual license fee for ongoing use of the software tools or data hosting?**

A11: The CEC will consider proposals with pre-existing IP or software. CEC will not commit to annual license fees after a work authorization ends.

**Q12: Is the CEC interested in understanding how load profiles may change through customer response to retail rates or utility programs?**

A12: Yes, CEC is interested in understanding how load profiles may change in response to changes in retail rates and structures.

**Q13: Is the CEC interested in leveraging these load shapes to estimate customer bills on existing rates vs. on potential future rate options?**

A13: Yes.

**Q14: Is this raw consumption data for each residential and commercial customer across the various utilities in CA - or is this aggregate load profiles?**

A14: The granularity of CEC data depends on the utility, energy type, and meter in question.

Billing-level data: CEC has both billing and consumption data for each gas and electric meter in the six utilities covered by Title 20 Section 1353 (PG&E, SCE, SDG&E, SMUD, LADWP, SoCalGas) by billing cycle. In the vast majority of cases billing cycles are monthly. Some customers, particularly gas customers, have 2-month billing.

Interval data: CEC has consumption data (also referred to as “interval meter data” or “AMI”) for each smart electric meter in PG&E, SCE, SDG&E, and SMUD territories by interval. The intervals readings match the frequency that a particular meter collects. For example, CEC has 15-minute interval data for 15-minute meters. Nearly all residential meters are 60-minute meters.

Data for all utilities except SMUD begins in January 2018. SMUD data begins in August 2018. Data collection is ongoing and more recent data may be made available to the contractor as it is collected.

**Q15: Is the resolution hourly or 15-minute, and approximately how many years’ worth of data is available?**

A15: See response to question 14.

**Q16: Has this data gone through VEE process? Any comments on the quality of the data (percent of missing data, bad values, duplicates, etc.)**

A16: The data is collected with at least a 90-day lag to allow utilities time to perform whatever internal quality checks and corrections/estimations they normally do. We have flags to indicate which values are estimated by the utility. CEC does not do any filling or estimations, but CEC does remove duplicates. Missing data is rare.

**Q17: Any estimate on the volume of this data (GB)?**

A17: For 2018-2022, data is approximately 30,000 GB (30 TB).

**Q18: For NEM participants, does each interval data point has two values: delivered and received (export) energy or there is one net energy value?**

A18: For interval data, CEC collects the two channels (delivered and received) separately. For billing-level data, CEC has a single net value.

**Q19: Address information is for each customer? And includes street name and zipcode?**

A19: The data CEC collects is the full street address, including zip code and county, for each meter.

**Q20: Can you clarify what you mean by billing-level electric data? Did you mean AMI or is it different – typically billing data refers to monthly reads not interval data.**

A20: See response to Q14.

**Q21: What is the resolution of the gas billing data – monthly reads or intervals? Please specify the interval resolution.**

A21: See response to Q14.

**Q22: For NEM participants can you comment on how you’d prefer deriving gross building consumption (any model, approaches you have used)?**

A22: CEC is looking for proposals for the approach.

**Q23: The RFP prescribes in section VI, under “Software Application Development”, a specific Microsoft application architecture.**

* 1. **Are newer versions of Microsoft SQL Server and Microsoft SQL Reporting Services permitted? (Some tools says “version *x* and up”, but SQL Server only says version 2008 R2)**
	2. **Does the bidder need to include costs for licensing the required software and deploying/hosting servers, or will CEC provide a cloud or hosted environment with the necessary servers and licenses?**
	3. **Is this specific architecture required to be used for all aspects of the project, including data analysis conducted by the bidder where the deliverable is data/insights, and not an application?**
	4. **In the pre-bid conference Jason mentioned that CEC prefers using Python or R, which is not listed in this section. For which tasks does CEC prefer to use Python/R, and for which tasks does it require the use of the described Microsoft application stack? Can bidders use an application architecture that is primarily based on Python and related tools?**

A23: See response to Q5. The contract will not require development of software using a predefined technology stack or architecture.

**Q24: How will software developed by the bidder be licensed? Will licensing for code used by the bidder to develop analysis products be separate from licensing for software applications and external tools developed on behalf of CEC?**

A24: See response to Q5. The contract will not require the delivery of custom software and use of contractor-developed tools will be on a maintenance and operation basis.

**Q25: Does the bidder need to plan for any software server costs to access data in snowflake or will that be provided?**

A25: CEC will provide access to the data warehouse (Snowflake) for the purpose of extracting data into the contractor’s own environment. You do not need to budget for these costs. This does not include costs for data analysis, which must be performed in the contractor's own environment.

**Questions asked during the workshop:**

**Q26: Does a proposer have (must) secure a CA SOS registration before selection to perform the work. We have previously been registered in CA but since we have not had any work for several years we did the official withdrawal several years ago, in good standing.**

A26: The specific language in the solicitation manual that pertains, beginning on page 2 of 38 reads:

"*All corporations, limited liability companies (LLCs), limited partnerships (LPs) and limited liability partnerships (LLPs) that conduct intrastate business in California are required to be registered and in good standing with the California Secretary of State prior to its project being recommended for approval at an Energy Commission Business Meeting. If not currently registered with the California Secretary of State, bidders are encouraged to contact the Secretary of State’s Office as soon as possible to avoid potential delays in beginning the proposed project(s) (should the application be successful). For more information, contact the Secretary of State’s Office at SOS Website. Sole proprietors using a fictitious business name must be registered with the appropriate county and provide evidence of registration to the Energy Commission prior to their project being recommended for approval at an Energy Commission Business Meeting."*

**Q27: We searched the CEC’s solicitation website by both RFP number and by title, and the project does not come up for us. Has this been posted?**

A27: The solicitation manual and all the attachments are on the CEC website and were posted on May 18. The solicitation was posted in the GSS immediately after the workshop.

**Q28: Slide 23 mentions specified page limits, but we do not see page limits mentioned in the RFP (starting on page 13). Can you confirm there are no page limits?**

A28: Slide 23 contained an error, there are no page limits specified in the solicitation manual. However, in an addendum, CEC is specifying a 20-page limit that applies to Section 2, Technical and Cost Proposal subsections A, B, and C. The page limit does not apply to Client References, Previous Work Products, Budget forms or associated attachments.

**Q29: How far out is the CEC hoping the forecast would extend? 2050?**

A29:The CEC will project electricity and gas demand through 2050.

**Q30: Regarding the ability to make data publicly available, is there an expectation the contractor would be able to host the data or just arrange/configure the data?**

1. **What is the CEC Planning Library?**

A30: Data that will be made publicly available will be hosted by the CEC.

1. The California Energy Planning Library (CEPL) aims to create a central location for energy planning tools developed by the CEC and widely used by stakeholders. The CEPL will be launched in the next couple of months. More information can be found here: <https://www.energy.ca.gov/event/workshop/2022-04/iepr-commissioner-workshop-california-planning-library>

**Q31: Given the budget approved to date is $1M, but the total potential budget is $2M, would the CEC like the SOWs and budgets to clearly delineate tasks as less than or equal to $1M vs above $1M?**

A31: Bidders should project costs up to the $2M total.

**Q32: Can you provide more detail on what types of data are available, including increment of AMI consumption data (minutes, 5 minutes, etc.) and other data available?**

A32: See response to Q14.

**Q33: Many of the subtasks in Task 2 would seemingly require data beyond AMI data. For instance, any analysis related to EV charging would require knowing what customers have EVs. In my experience, utilities do not have this information. They know who is on an EV rate but many people with EVs are not on an EV rate. Is it assumed that relevant data will be available, for example car registration data from the DMV that can be cross-referenced by address? If so, the data tasks seem daunting. If not, I don’t see how these questions can be answered at all. Can you address this?**

A33: CEC will work with the contractor for each Work Authorization to identify necessary information to complete the work. CEC may be able to provide additional information to assist with these analyses. For example, CEC has access to DMV registration data and plans to merge these data with the AMI data; however, CEC will need to work with DMV to determine whether and how best to provide access to that data to a contractor. Using the Residential Appliance Saturation Study, CEC may be able to identify customers with particular characteristics or equipment. CEC also has a database of interconnections and can identify customers with solar PV and battery storage.

**Q34: Will the data include move-in/out dates? Rate schedule start date? Parcel IDs to link to other datasets? GIS data to relate to grid assets?**

A34:See below.

Move in/out: The CEC has start and end dates for every relationship between meters, service points, premises, and service accounts. This can be used to determine when a service account began or ended service at a particular premise or service point.

Rate schedule dates: Rate schedule changes can be inferred from billing-level consumption data, which includes the rate schedule associated with each meter in each billing period.

Location information: For each meter, CEC has a utility-provided Premise ID and the address associated with that premise. We do not have parcel IDs or other geocoded data such latitude/longitude or GIS data.

**Q35: how many years of data will be able to be accessed? Will voltage data also be available? This is important for future consideration of dynamic operating envelopes, voltage curtailment, etc.**

A35: See response to Q14 for years of data. Voltage data is not available.

**Q36: will statistical data be available to support sampling?**

A36: See response to Q14 for available data. If the contractor requires a particular statistical sampling or summary statistics, CEC will likely be able to provide those.

**Q37: will we be able to get customer gas billing data as well?**

A37: See response to Q14. Customer gas billing data is available for PG&E, SoCalGas, and SDG&E territories.

**Q38: Can you characterize the degree to which you view the deliverables for this RFP as specific data products/tables/figures developed and delivered once vs. the ongoing capability to provide updates and additions on a more ongoing basis? Are there cases where you would want to integrate methods/infrastructure into the CEC’s existing data infrastructure (vs. off-site IT infrastructure of the successful bidder)?**

A38: Specific requirements for each deliverable will be established in each work authorization. It is possible that a deliverable may be a specific analytical product or recurring updates to an analysis.

**Q39: Does the CEC have a preference WRT languages / platforms used for tools? Excel, Python, R, etc.?**

A39: See response to Q5. The CEC energy demand forecasting team primarily uses R and Python.

**Q40: Is there an option for an existing tool/software to be utilized that would utilize the grant funding to build features necessary to serve the specifics of the grant? In these cases, what are the IP and licensing requirements?**

A40: This is a contract, not a grant. Funding will be for conducting analysis not for developing software. Task 2.1 describes the analysis of Inform Policy Options. (Solicitation manual page 11)

**Q41: Will the CEC publish a list of pre-bid attendees?**

A41: Yes, the pre-bid attendees have been posted to the solicitation webpage.

**Q42: Are the customers with behind the meter PV, EV, or BES separated out? Or in other words assuming all the usage data is NEM, would you have production meter data for PV (separately metered)?**

A42: If a separate meter exists, CEC should have data for both that meter and the main meter. In all cases, NEM customers are identified with a flag.

**Q43: Searching the RFP shows no instances of commercial sector analysis. Is this mainly analytics for the residential sector or are you wanting broader coverage?**

A43: Unless specified, analyses include all sectors: residential, commercial, industrial, and agricultural.