Stage 1 Business Analysis

Department of Technology, SIMM 19A, Revision 7/1/2015

1.1 General Information

Agency or State Entity Name:
Public Utilities Commission

Organization Code:
8660

Proposal Name:
Renewables Portfolio Standard (RPS) Database

Proposal Description:
Project to enhance the capabilities of the CPUC's existing RPS Database.

Proposed Start Date: **January, 2017**

Delegated Cost Threshold (Optional): ○ Over ◉ Under

Department of Technology Project Number: 8660-081

1.2 Submittal Information

Contact Information:

Contact First Name: Robert

Contact Last Name: Blackney

Contact Email: robert.blackney@cpuc.ca.gov

Contact Phone Number: (415) 703-3072

Submission Date: 8/8/2016

Submission Type:

○ New Submission
◉ Updated Submission (Pre-Approval)
○ Updated Submission (Post-Approval)
○ Withdraw Submission

Sections Updated (For Updated Submissions Only)

☑ 1.1 General Information
☑ 1.2 Submittal Information
☐ 1.3 Preliminary Assessment
☐ 1.3.1 Reportability Assessment
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☐ 1.8 Strategic Business Alignment
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☐ 1.3.2 Impact Assessment

☑ 1.10 Business Problem or Opportunity and Objectives Table

☑ 1.4 Business Sponsor and Key Stakeholders

☑ 1.11 Business and Stakeholder Capacity

☐ 1.5 Business Driver(s)

☑ 1.12 Organizational Readiness

Summary of Changes:

Sections selected above were updated with minor changes. Revisions 11/28/2016

Project Approval Executive Transmittal:

Project Approval Executive Transmittal - RPS Database S1BA.pdf
Adobe Acrobat Document
680 KB

1.3 Preliminary Assessment

1.3.1 Reportability Assessment

	Yes	No
1. Does the Agency/state entity anticipate requesting a budget action to support this proposal?	○	◉
2. Does the Agency/state entity anticipate the estimated total development and acquisition cost to exceed the Department of Technology's established Agency/state entity delegated cost threshold **and** the proposal does not meet the criteria of a desktop and mobile computing commodity expenditure?	○	◉
3. Does this proposal involve a new system development or acquisition specifically required by legislative mandate **or** is subject to special legislative reporting or review as specified in budget control language or other legislation?	◉	○

Anticipated Reportability

Is this proposal anticipated to be reportable?	◉	○

Planned Reporting Exemption

Does the Agency/state entity anticipate seeking an exemption from project reporting? (Answer only if Anticipated Reportability above is "Yes.")	○	◉

1.3.2 Impact Assessment

	Yes	No
1. Has the funding source(s) been identified for this proposal?	◉	○

If "Yes," select applicable funding source(s) and enter the fund availability date. If funding source is "Other Funds," specify below:

FUND SOURCE Mark all that apply	FUND AVAILABILITY DATE
☐ General Fund	
☐ Special Fund	

☐ Federal Fund		
☑ Reimbursements	FY 2016-17	
☐ Bond Fund		
☐ Other Funds		

2. Will the State possibly incur a financial sanction or penalty if this proposal is not implemented? If "Yes," provide details in Section 1.9 Business Problem or Opportunity Summary. ○ ◉

3. Is this proposal anticipated to have high public visibility? If "Yes," provide details in Section 1.9 Business Problem or Opportunity Summary. ◉ ○

4. On a scale of 1 to 3 (1 = None, 2 = Partially, 3 = Fully), indicate how well the current business processes are documented, communicated and available for review. 3

1.4 Business Sponsor and Key Stakeholders

Executive Sponsors

Title	First Name	Last Name	Business Program Area
Deputy Executive Director	Ryan	Dulin	CPUC Executive Management
Deputy Director	Cynthia	Walker	Energy Division Senior Management

Business Owners

Title	First Name	Last Name	Business Program Area
Program Manager	Judith	Ikle	Energy Division Policy and Procurement - Program Manager
Supervisor	Paul	Douglas	Energy Division Policy and Procurement - Supervisor
PURA	Robert	Blackney	Energy Policy and Procurement - Analyst

Key Stakeholders

Title	First Name	Last Name	Business Program Area/Group	External
Chief Information Officer	Reza	Yazdi	Information Technology	☐
Information Security Officer (ISO)	Jesse	Mann	Information Technology	☐
Project Manager	Liza	Tano	Information Technology - Project Management Office	☐
REAT Liaison	Al	Alvarado		

			Supervisor of Renewable Energy Action Team (REAT)	☑
CEC Liaison	Emily	Chrisholm	Analyst California Energy Commission (CEC)	☑
California Information Security Officer (ISO) Liaison	TBD			☐

1.5 Business Driver(s)

Mark all that apply

Financial Benefit:
- ☐ Increased Revenues
- ☑ Cost Savings
- ☑ Cost Avoidance
- ☐ Cost Recovery

Mandate(s):
- ☑ State
- ☐ Federal

Improvement:
- ☑ Better Services to Citizens
- ☑ Efficiencies to Program Operations
- ☐ Improved Health and/or Human Safety
- ☐ Technology Refresh

Security:
- ☐ Improved Information Security
- ☐ Improved Business Continuity
- ☐ Improved Technology Recovery

1.6 Statutes or Legislation

Statutes or Legislation:
- ○ New Statutes
- ○ Potential Legislation
- ◉ Changes to Existing Legislation
- ○ Not Applicable

Bill Number: SB 350 (2016)

Legal Reference: **Pub. Util. Code §§ 399.11-399.20**

Additional Information: SB 350 modifies the RPS requirements for California load serving entities (LSEs) from 33% in 2020 to 50% in 2050.

Statutes or Legislation:
- ○ New Statutes
- ○ Potential Legislation
- ◉ Changes to Existing Legislation
- ○ Not Applicable

Bill Number: SB 697, 2015

Legal Reference:	**Pub. Util. Code §§ 913.5, 913.11, 913.12, 913.13**
Additional Information:	SB 697 (2015) adopts the Public Utilities Commission Accountability Act of 2015. The bill recasts certain of the commission's reporting requirements, including several RPS reporting requirements, to an article within the Public Utilities Act pertaining to reports by the commission to the Legislature and make other conforming changes.

1.7 Program Background and Context

Public Utilities Code §§ 399.11 – 399.20, established in 2002 under Senate Bill 1078 (Sher) and modified in 2006 under Senate Bill 107 (Simitian), requires retail sellers (investor-owned utilities (IOUs), electric service providers (ESPs) and community choice aggregators (CCAs)) regulated by the California Public Utilities Commission (CPUC) to procure an additional 1% of retail sales per year from eligible renewable sources until 20% is reached, no later than 2010.

In 2011, Senate Bill SB 2 of the First Extraordinary Session (SB 2 (1x)) (Simitian) (Stats. 2011, ch.1) made significant changes to §§ 399.11-399.20; it increases the renewable target to 33% by 2020 and requires both retail sellers and publicly-owned utilities to achieve a 33% RPS. The CPUC and the California Energy Commission (CEC) are jointly responsible for implementing California's 33% RPS program. More recently, Senate Bill 350 revises the current RPS target to obtain 50% of total retail electricity sales from renewable resources by December 31, 2030, with interim targets of 40% by December 31, 2024, and 45% by December 31, 2027.

The staff working on the CPUC's Renewables Portfolio Standard (RPS) program (http://www.cpuc.ca.gov/RPS_Overview/) deals with a high volume of RPS renewable power plant (project) information on a daily basis. Specifically, RPS staff manage information for over 700 existing/active RPS projects, more than 600 terminated or expired RPS projects, and an extensive amount of renewable bid information from utility renewable procurement solicitations, e.g., between 200 and 3,000 bids per solicitation, per year. Managing this volume of data is very challenging for Energy Division staff because RPS information changes frequently (i.e., monthly); ensuring data completeness and accuracy is very labor intensive; and staff are regularly responding to internal and external stakeholder data requests that are used to inform California renewable policy, renewable procurement decisions, and electricity resource planning.

In order to effectively manage this information, the CPUC initiated in 2012 the development of a RPS project database to store and track RPS project information. The large IOUs are required to update their RPS information through five different submittal files.

1.8 Strategic Business Alignment

Strategic Business Goals	Alignment
SD-06 Consumer Education, and Assistance; SD-12 Communication and Engagement	A database system that collects records in bulk and will increase reporting efficiency and decrease the administrative burden that is required to produce RPS reports to the legislature. Additionally, a centralized database system will allow ED staff to establish and define data definition confidentiality rules, which will enable Energy Divisions staff to produce a public website, e.g., the California Solar Initiative (CSI) (https://www.californiasolarstatistics.ca.gov/). Giving the public access to RPS information will increase the transparency and public visibility of the RPS program. Lastly, increasing the amount of publically available information would also decrease the numbers of public inquires that are fielded by ED

	staff.
SD-03 Reliability and Resiliency	The CPUC, in conjunction with the California Energy Commission (CEC) and the California Independent System Operator (CAISO) oversees the resource planning and procurement of renewable energy resources. Access to up-to-date RPS project data will enable staff to accurately assess RPS procurement need and the associated need for additional transmission. This information is used to assure an adequate supply of regulated services and adequate infrastructure to deliver the services.
SD-13 Decision-making Process	The Commission receives urgent data requests from the CPUC Commissioners, the Legislature, and the office of the Governor. The implementation of a complete database system would allow staff to quickly and accurately address the concerns of major decision makers.
SD-14 Coordination with Other Governmental Entities	As stated above the CPUC, in conjunction with the California Energy Commission (CEC) and the California Independent System Operator (CAISO) oversees the resource planning and procurement of renewable energy resources. The RPS database will be used as a tool to share data between the CAISO, the CEC, and the CPUC, and provide better information to inform California RPS procurement and resource planning decisions.
Strategic Plan Last Updated	7/16/2016

1.9 Business Problem or Opportunity Summary

As stated above Energy Division staff are responsible for managing several thousand existing RPS projects and several thousand more potential RPS projects. In order to assist in managing this information, the CPUC initiated in 2012 the development of a RPS project database to store and track RPS project information. The large IOUs are required to update their RPS information through five different submittal files. Each of the different submittal files are transmitted to the Energy Division database through an online portal and once submitted, each file is automatically validated by a series of formulas through an independent SQL database. Any of the monthly IOU data files that fail the data validation testing are rejected and the IOU has to correct the errors before the data upload will be accepted. Lastly, RPS information in the SQL database is downloaded to a Microsoft Access front end, which allows RPS staff to use pre-set data queries to quickly respond to numerous date requests and populate charts and graphs that internal and stakeholders request on a frequent basis.

The existing database system is approximately 80% complete and RPS staff needs additional consultant assistance to finish the implementation of all of the features in the new database system and ensure long-term IT maintenance and technical support once the database is complete. The additional consultant work products include the following:

- Assisting Energy Division staff in managing the completed IOU data submittal files, and developing two new submittal files:
    - "Monthly Contract" file provides updates on RPS contract variables that change on a month-to-month basis. **Status - Completed**
    - "Annual Contract" file provides more static RPS contract information that does not change on month-to-month basis. **Status - Completed**
    - "RPS Procurement and Generation" file reports the actual amounts of RPS procurement purchased in a given year. **Status – New File – Needs to be completely developed**
    - "Transmission" file provides information related to the transmission systems that relate to specific RPS projects. **Status – New File – Needs to be completely developed**
    - "RPS Offer" file provides information on the bids received through various RPS solicitation

processes. **Status - Completed**

- Revise the data validation schemes used to ensure that the information submitted through the new files is complete and accurate
- Modify the online portal to accept the submission of GIS files to the RPS database system
- Modify the existing database system to store and access database files. including the ability to access individual GIS files and plot several GIS files on a map of California
- Modify the Access user interface to streamline RPS staff data queries
- Development of a public website portal for the database that can be used by stakeholders
- Develop and test data confidentiality rules for the data stored in the database

Once the database is complete, RPS staff intends to use the database system to inform the numerous RPS reports required by legislation; inform renewable procurement and resource planning decisions; and give the public the ability to run a limited set of data queries. Note – The partially completed database is already performing some of the above functions on a limited basis.

<u>Informing the numerous legislative reports that RPS staff produce</u>

Energy Division staff are responsible for producing various reports to the Legislature that discuss the progress of the RPS program. Specifically, Energy Division staff are required to produce accurate figures for the total amount of RPS capacity online/in development, total RPS generation online/in development, number of contracts submitted to the CPUC, number of contracts approved by the CPUC, the cost ($/kWh) of RPS electricity that was generated in a given year, and many other quantitative figures. The RPS database will allow Energy Division staff to have more accurate, up-to-date information to include in reports to the legislature, and will allow staff to create charts, graphs, and tables in minutes rather than hours. The specific reports that will be directly impacted by the RPS database are:

- Annual Pub. Util. Section 913.3 Report - Pub. Util. Section 913.3 requires the California Public Utilities Commission to provide an annual report to the Legislature on the investor-owned utilities' (IOUs) direct and indirect costs and costs avoided (savings) with the RPS program and distributed generation programs.
- Annual Padilla Report (Pub. Util. Section 913.4 Report) - Senate Bill 836 (Public Utilities Code § 913.4) requires the California Public Utilities Commission to report to the Legislature "the costs of all electricity procurement contracts for eligible renewable energy resources, including unbundled renewable energy credits, and all costs for utility-owned generation approved by the Commission."
- RPS Quarterly Report (Pub. Util. Section 913.5 Report) - The California Public Utilities Commission issues a report on the RPS program every quarter pursuant to the 2006 Budget Act Supplemental Report Item 8660-001-0462. This report focuses on RPS procurement progress of California's three large IOUs: Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E).
- RPS Biennial Reports (Pub. Util. Section 913.6 Report) - The California Public Utilities Commission, in consultation with the California Energy Commission (CEC), must report to the Legislature by January 1 of every even-numbered year on all of the following: (a) the progress and status of RPS procurement, (b) the status of permitting and siting RPS resources and transmission facilities, (c) the projected ability of each electrical corporation to meet the RPS requirements pursuant to the cost limitations established by Section 399.15(d), and (d) barriers to, and recommendations for, achieving the RPS requirements.

<u>Responding to internal and external stakeholder data requests</u>

Energy Division staff respond to a variety of data requests from internal and external RPS stakeholders. Specifically, Energy Division staff receive frequent questions from CPUC Management and Commissioners, Legislature, Governor's Office, reporters, students, and concerned ratepayers. Completing the RPS database will allow Energy Division staff to respond to data requests in a quick and efficient manner.

- The database system's automatic data validation system will reduce Energy Division staff's need to validate and normalize RPS information that is required to process internal and external data requests.
- The database system will have a series of standardized outputs that would enable staff to process data quickly, accurately, and efficiently.
- The database will include a series of confidentiality rules/validation formulas that will ensure any information released by Energy Division staff is public, thus avoiding the need to be reviewed by staff to determine if the data is confidential.

Public database portal for external stakeholders

The RPS database will help the Commission achieve the stated policy of providing the public with accurate and transparent information. Each month, Energy Division staff post an Excel spreadsheet on the RPS website that lists the status of RPS projects that have been submitted to the Commission for approval. Although the current process allows stakeholders to have some information on the RPS program, the Commission could use the RPS database system to create a public website portal that is much more transparent and useful for external stakeholders.

- Since the database will have the ability to determine what RPS data is public versus confidential, Energy Division staff will be able to establish a new RPS website that would allow members of the public to access RPS data in ways that were not previously possible.
- The proposed website would be able to make all RPS information available to the public immediately after the IOUs submit the data files to the CPUC via our confidential online portal.
- Public users would be able to update specific charts, graphs and tables using the most up-to-date RPS information.
- Stakeholders would be allowed to query the database for customized statistics, or to download customized datasets.

Informing RPS procurement and resource planning decisions

Energy Division staff would like to use the RPS database to provide up-to-date RPS information for RPS modeling and transmission planning purposes, i.e., the RPS calculator. The RPS Calculator is a model used by Energy Division staff to develop plausible renewable scenarios for use in the CPUC's Long-Term Procurement Planning Proceeding (LTPP) and the California Independent System Operator's (CAISO) Transmission Planning Process (TPP). The model creates plausible portfolios of renewable resources needed to meet RPS policy goals. To build a plausible portfolio, the RPS Calculator iteratively executes an annual project selection process in which bundles of renewable resources and transmission upgrades compete with each other to serve CAISO loads in accordance with the RPS requirement for that year.

A crucial input for the RPS Calculator is the location of new resources contracted by utilities through the RPS program. The location of new resources reduces the available transmission capacity in that area, potentially pushing subsequent project selection to a different geographic region. Simple latitude and longitude values submitted by utilities are frequently inaccurate and are especially susceptible to clerical and data-handling errors such as sign changes. In contrast, Geographic Information Systems (GIS) based data, such as polygons representing project areas, are much more likely to be correctly generated in the first place, and are also more likely to maintain their fidelity through multiple transfers across different platforms. As a result, Energy Division staff would like to enhance the functionality of our existing database system to receive, store, and make available GIS information for use in the RPS Calculator.

- Energy Division staff have collected GIS information for a majority of California RPS projects (pursuant to Commission Decision (D.)14-11-042).
- Using the GIS information that is in house would allow Energy Division staff to provide more accurate assessment of the location of existing RPS projects.
- GIS information could be used to identify the location of potential/theoretical projects that have bid into an RPS solicitation, and provide more accurate information about where future RPS projects will likely be located.
- Energy Division staff would like to create an interface with the GIS information so that Energy Division staff can easily access GIS information and review the location of RPS projects.

More details about will be provided about the ability to process the large amount of data in Stage 2 – Alternatives Analysis.

Saving time of Commission Staff and Commission Management

Energy Division staff spend a significant amount of time processing data to respond to ad hoc data requests, from RPS stakeholders, Energy Division Management, CPUC Commissioners, and the office of the Governor. Additionally, Energy Division staff are responsible for producing data, charts and tables for 7-8 reports to the legislature, per year. Completing the RPS database will allow Energy Division staff to dispose of

ad hoc data requests much more efficient, and will automate several of the RPS tables and graphs that are used in the many RPS reports to the legislature.

1.10 Business Problem or Opportunity and Objectives Table

ID	Problems or Opportunities
1	Problem: The database system that the CPUC began implementing in 2012 is incomplete. Energy Division staff needs consultant resources to finalize the design, development and deployment of the existing RPS database and open database connectivity (ODBC) to interface with the CPUC internal Access database front end. This work will focus on the specification and development of the "Generation" file, the "Transmission" file, and the submission of a legacy file for terminated and expired RPS renewable contracts.

Obj #	Objective
1.1	Collaborate with the Large IOUs to create data definitions for the "Generation" and "Transmission" files. The "Generation" file will be used to collect the total number of MWh that were generated by RPS resources in the Large IOU's portfolios, and the total procurement expenditures per RPS resource. The "Transmission" file will be used to collect important development milestones and the status of transmission lines.

Metric	Baseline	Target	Measurement Method
An incremental submission file - Transmission and/or Generation file.	The database has various other submission files, but not the Transmission or Generation files.	Two incremental submission files - Transmission and Generation file.	Staff will review the final Transmission and Generation files and determine if the information included in each file is adequate. Energy Division staff will work with consultant until the final Transmission and Generation files are data adequate.

Obj #	Objective
1.2	Assist Energy Division staff in defining all data fields that will be added to the RPS database, as well as specific rules that can be utilized by the SQL backend of the database to validate database submissions. For example, a project that is designated a status of "Terminated" must have a date in the "Termination Date" field.

Metric	Baseline	Target	Measurement Method
A successful submission of all 5 submittal files.	To date, Energy Division has received data via the monthly submittal file, but not from the any of the other submittal files.	A successful submission from the Monthly, Annual, Offer, Transmission and Generation files.	Staff will review the total number of file types that are used to submit information to the database, and will continue to work with consultant until all 5 files have been used to submit information to the database system.

Obj #	Objective
1.3	Improve the existing RPS database upload site and enable retail sellers to submit the "Generation" and "Transmission" files.

Metric	Baseline	Target	Measurement Method
An incremental submission file - Transmission and/or	The database upload portals has	Two incremental submission files -	Staff will monitor the submission of data to the database, specifically the

Generation file.	the ability to accept the Monthly and Offer files, but does not have the capability to accept the Transmission or Generation files.	Transmission and Generation file.	submittal of the Transmission and Generation files. Energy Division staff will work with consultant until there have been several submissions of the final Transmission and Generation files.

Obj #	Objective
1.4	Create customizable database exports from the Access side of the RPS project database, which allow other members of Energy Division staff (outside of RPS) to export specific subsets of generation and/or transmission information.

Metric	Baseline	Target	Measurement Method
A unique chart, graph, or table exported from the RPS database.	No exports have been performed to date.	The ability to export over 20 different charts, graphs, tables. The ability to create a custom export with custom fields.	Staff will review the consultant's final graphs and tables and will continue to work with consultant until all necessary tables and graphs can be automatically exported from the database.

Obj #	Objective
1.5	Create process documents for retail sellers that outline the contents of each of the database submittal files, e.g., provide specific definitions for each data field and provide guidance on the various steps required to submit database files to the RPS database system via the online submittal portal. Additional process documents should be created for CPUC staff that provide instructions on how to access RPS information and create various database exports.

Metric	Baseline	Target	Measurement Method
A process document that describes all of the information in Objective 5.	No process document exists.	A complete and comprehensive process document.	Staff will review the consultant's work products and will continue to work with consultant until a comprehensive process document has been completed. A complete process document must include all steps for submitting information to the database system, how to seek IT support, and a glossary of data definitions.

ID Problems or Opportunities

2	Energy Division staff need to know the exact locations of existing and proposed RPS projects to the CAISO transmission planning process. Energy Division staff have collected GIS coordinate information for hundreds of existing RPS projects, and for RPS projects that submitted a bid in 2014. Energy Division needs assistance in developing a GIS database to archive RPS generation project GIS shapefiles, create an online web portal for the large IOUs to submit GIS information directly to the CPUC, and create a user-friendly font-end for CPUC staff to access the GIS information.

Obj #	Objective
2.1	Develop a database system capable of storing thousands of existing GIS files specific to RPS projects

throughout the Western Electricity Coordinating Council (WECC) that are online and/or in development. The Western Electricity Coordinating Council is a non-profit corporation that exists to assure a reliable Bulk Electric System in the geographic area known as the Western Interconnection. WECC has been approved by the Federal Energy Regulatory Commission (FERC) as the Regional Entity for the Western Interconnection. The North American Electric Reliability Corporation (NERC) delegated some of its authority to create, monitor, and enforce reliability standards to WECC through a Delegation Agreement.

Metric	Baseline	Target	Measurement Method
A completed GIS database system.	Energy Division staff has the information to populate a database, but doesn't have a system to store the information.	A completed GIS database system.	Staff will review the final GIS database tracking system and determine if the system meets the needs of the Commission.

Obj #	Objective
2.2	Develop an online web portal that allows the large IOUs to submit GIS shapefiles relating to bids submitted in a utility-scale RPS RFO,[1] RPS projects that are executed through bilateral agreements[2] or RPS offers that are submitted though a renewable auction mechanism (RAM) auction [3] and/or during a feed-in-tariff[4] offer period. [1] The RPS solicitation process is the primary procurement mechanism for the California RPS program. The Investor-Owned Utilities' (IOUs') utility-scale solicitations or requests for offers (RFOs) are competitive processes conducted by the IOUs and overseen by the Commission. [2] A bilateral agreement is reciprocal arrangement between an IOU and developer where each party promises to perform an act in exchange for the other party's act, e.g., the developer will develop the RPS facility and the IOU will purchase a specified quantity of RPS electricity and RECs from the developer. [3] The Renewable Auction Mechanism, or RAM, is a simplified market-based procurement mechanism for renewable distributed generation (DG) projects greater than 3 MW and up to 20 MW on the system side of the meter. [4] Effective July 24, 2013, the AB 1969 Feed-in Tariff (FIT) program is closed. The program has been replaced by the SB 32 FIT program, featuring the renewable market adjusting tariff (ReMAT).

Metric	Baseline	Target	Measurement Method
A completed GIS submission website system.	Energy Division staff do not have any website system specific to GIS files.	A completed GIS submission website system.	Staff will review the final GIS submittal portal website system and determine if the system meets the needs of the Commission.

Obj #	Objective
2.3	Create inter-database relationships with the existing RPS database system that link GIS shapefiles with other project-specific information/details, e.g., technology type, project origination year, capacity (MW).

Metric	Baseline	Target	Measurement Method

A completed GIS database system.	Energy Division staff has the information to populate a database, but doesn't have a system to store the information.	A completed GIS database system.	Staff will review the capabilities of the final database to determine if the system meets the needs of the Commission. Staff will work with consultants as necessary.

Obj #	Objective
2.4	Design intra-database queries that will use contract information to identify specific project information related to specific GIS shapefiles. Ideally, Energy Division would like to set specific parameters (e.g., technology type and MW capacity) and have the database graphically plot GIS shapefiles of existing, pending, and potential RPS projects and transmission lines on a map of the WECC.

Metric	Baseline	Target	Measurement Method
A unique table or dataset exported from an RPS GIS database.	n/a	Several unique table or dataset exported from an RPS GIS database, and the ability to create customizable queries of the database information.	Staff will review the final database queries to determine if they meet the needs of the Commission, and will continue to work with consultants as necessary.

Obj #	Objective
2.5	Develop a database query that overlays GIS shapefiles of RPS projects onto a map of California. The database should also have the capability to illustrate the state's transmission network and substations, and identify the total capacity and available capacity of each transmission line and substation.

Metric	Baseline	Target	Measurement Method
Export a map of CA as described in Objective 5 from the RPS GIS database.	n/a	Export a map of CA as described in Objective 5 from the RPS GIS database.	Staff will review the database's final GIS map export function and will continue to work with consultants until the system can export a map of California with RPS projects overlaid on the map.

Obj #	Objective
2.6	Develop a conversion tool that would allow Energy Division staff to convert different types of GIS shapefiles into files formats that can be imported and used with the California Energy Commission's "DataBasin" system, e.g., ArcGIS and NetCDF. [1] [1] Additional information on DataBasin's systems and acceptable file formats can be found at: http://databasin.org/datasets/

Metric	Baseline	Target	Measurement Method
Convert and export a GIS dataset as described in	n/a	Convert and export a GIS	Staff will review the capabilities of the database's final GIS conversion tool

Objective 6 from the RPS GIS database.		dataset as described in Objective 6 from the RPS GIS database.	and will continue to work with consultants if necessary.

ID Problems or Opportunities

3	Some of the information that exists in the RPS database is confidential and cannot be released until the project that the information is associated with has achieved certain milestones. Energy Division staff would like to implement the Commission's confidentiality rules within the RPS database. This work will focus on creating various validation rules that revolve around the rules/orders of Commission Decisions, [1] and the development of a fully automated confidentiality system that will automatically determine what utility data is confidential pursuant to CPUC rules. [1] RPS confidentiality rules are established in Commission Decision (D.) 06-06-066 (available at: http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/57772.htm) , as modified by D.08-04-023 (available at: http://docs.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/94606.htm).

Obj #	Objective
3.1	Coordinate with Energy Division staff and the legal departments at each of the Large IOUs to develop database confidentiality rules for the “Transmission” and “Generation” files.

Metric	Baseline	Target	Measurement Method
A confidentiality data definition for every data field in the RPS Transmission and Generation submittal files.	n/a - neither the Generation or Transmission files exist.	A confidentiality data definition for every data field in the RPS Transmission and Generation submittal files. The total number of fields will be determined when Energy Division staff create Transmission and Generation files.	Staff will review the consultant's confidentiality definitions, and will continue to work with consultant until a comprehensive set of confidentiality rules have been developed.

Obj #	Objective
3.2	Coordinate with Energy Division staff, CPUC Legal staff, and the legal departments at each of the Large IOUs to automate the RPS confidentiality process. Ideally, the database will automatically determine which database fields are public versus confidential, on a project specific basis, across the database submittal files. [1] [1] RPS information is submitted to the RPS database through various different submittal files. The “Monthly Contract” file provides updates on RPS contract variables that change on a month-to-month basis. The “Annual Contract” file provides more static RPS contract information that does not change on month-to-month basis. The “ Transmission” file provides information related to the transmission systems that relate to specific RPS projects. The “RPS Procurement and Generation” file reports the actual amounts of RPS procurement purchased in a given year. Lastly, the “RPS Offer” file provides information on the bids received through various RPS solicitation processes.

Metric	Baseline	Target	Measurement Method
An algorithm that can export	The CPUC does not	An algorithm that	Energy Division staff will audit several

RPS data pursuant to CPUC legal standards.	have an algorithm that can export RPS data pursuant to CPUC legal standards.	can export RPS data pursuant to CPUC legal standards.	exports from the database and ensure that the database doesn't have any errors.

Obj #	Objective
3.3	Design an IOU officer attestation form that can be quickly and easily populated by retail sellers' upper management, and submitted with each of the database submittal files.

Metric	Baseline	Target	Measurement Method
An officer attestation form that can be submitted via the CPUC's online portal.	n/a	An officer attestation form that can be submitted via the CPUC's online portal.	Staff will review the consultant's work products and will continue to work with consultant until an officer verification form been developed.

ID Problems or Opportunities

4 Energy Division staff needs assistance with the technical implementation of the MS-Access front end of the database system that will export RPS charts and graphs for use in RPS reporting. These reports include (but are not limited to) the database downloads required for the RPS Calculator, [1] charts and graphs for legislative updates and reports, as well as internal reports for CPUC use. Consultants will develop a report/query that the CPUC can use on a monthly basis that includes input fields needed for the RPS Calculator. *The Access system should be able to produce charts and materials necessary to complete a variety of Energy Division reports.*

[1] The RPS Calculator was first created in 2009 to inform the Commission's 33% Renewables Portfolio Standard Implementation Analysis ("Version 1.0") and updated in 2010 (and several times since) to provide plausible portfolios for use in long-term generation and transmission planning ("Versions 2.0 – 5.0"). The RPS Calculator occupies an integral role in current planning functions at both the Commission and the California Independent System Operator (CAISO). The RPS Calculator, utilizing data originally developed as part of the Renewable Energy Transmission Initiative (RETI) and other sources, has been used widely for scenario analysis of portfolios of renewable resources that achieve the state's 33% RPS targets. The RPS Database exports project information for existing and in development RPS facilities that the calculator uses to help determine the current resource mix in California, as well as where Additional information available at: http://www.cpuc.ca.gov/PUC/energy/Renewables/hot/RPS+Calculator+Home.htm

Obj #	Objective
4.1	Implement an Access system that can produce charts and materials necessary to complete the RPS Quarterly Legislative Reports: The 2006 Budget Act Supplemental Report Item 8660-001-0462 requires the CPUC to report on a quarterly basis the following: Progress by California's IOUs in meeting RPS goals, as defined in Section 387 or as modified by subsequent Commission rulings that accelerate the statutory goals; For each investor-owned electric utility, an implementation schedule to achieve the RPS goals, including all substantive actions that have been taken or will be taken to achieve the program goals; A work plan, schedule, and status report for all substantive procurement, transmission development, and other activities that the Commission has undertaken or plans to undertake to ensure that the state's investor-owned electric utilities achieve the goals and requirements of the RPS.

Metric	Baseline	Target	Measurement Method
A unique chart, graph, or table exported from the RPS database.	No exports have been performed to date.	The ability to export over 20 different charts,	Staff will review the consultant's final graphs and tables and will continue to work with consultant until all

		graphs, tables. The ability to create a custom export with custom fields.	necessary charts, graphs, and tables can be automatically exported from the database and used in RPS reports.

Obj #	Objective
4.2	Implement an Access system that can produce charts and materials necessary to complete the Biennial Project Development Progress Report. SB 2 (1X) requires the Commission to file a report to the Legislature on the progress and status of eligible renewable resource procurement activity by January 1st of every even numbered year. The report must include information on: 1) the progress and status of procurement activity by each retail seller; 2) the status of permitting and siting renewable resources and transmission facilities, 3) the projected ability of each electrical corporation's ability to meet RPS procurement requirements under the provided cost limitations, and 3) any barriers to, and policy recommendations for, achieving RPS requirements.

Metric	Baseline	Target	Measurement Method
A unique chart, graph, or table exported from the RPS database.	No exports have been performed to date.	The ability to export several different charts, graphs, and tables to show the progress of the program. The ability to create a custom export with custom fields.	Staff will review the consultant's final graphs and tables and will continue to work with consultant until all necessary charts, graphs, and tables can be automatically exported from the database and used in RPS reports.

Obj #	Objective
4.3	Implement an Access system that can produce charts and materials necessary to complete the Public Utilities Section 913.3 Report. SB 2 (1X) added Section 913.3 to the Public Utilities Code. Section 913.3 requires the CPUC to provide an annual report to the Legislature on IOUs direct and indirect costs and costs avoided (savings) with the RPS program and distributed generation programs. Section 913.3 also requests decision numbers, changes in retail sales, and qualitative and quantitative information about IOUs' diversity goals primarily related to its workforce directly involved in the RPS program.

Metric	Baseline	Target	Measurement Method
A unique chart, graph, or table exported from the RPS database.	No exports have been performed to date.	The ability to export several different charts, graphs, and tables to show the progress of the program. The ability to create a custom export with custom fields.	Staff will review the consultant's final graphs and tables and will continue to work with consultant until all necessary charts, graphs, and tables can be automatically exported from the database and used in RPS reports.

Obj #	Objective

4.4	Implement an Access system that can produce charts and materials necessary to complete the Public Utilities Section 913.4 Report (aka the Padilla Report). Senate Bill 836 and SB 2 (1X) added Section 913.4 to the Public Utilities Code. Public Utilities Code § 913.4 requires the California Public Utilities Commission to report to the Legislature "the costs of all electricity procurement contracts for eligible renewable energy resources, including unbundled renewable energy credits, and all costs for utility-owned generation approved by the Commission.

Metric	Baseline	Target	Measurement Method
A unique chart, graph, or table exported from the RPS database.	No exports have been performed to date.	The ability to export several different charts, graphs, and tables to show the progress of the program. The ability to create a custom export with custom fields.	Staff will review the consultant's final graphs and tables and will continue to work with consultant until all necessary charts, graphs, and tables can be automatically exported from the database and used in RPS reports.

ID Problems or Opportunities

5	Energy Division staff needs assistance to develop a public reporting system that would allow members of the general public to access and/or interact with Energy Division's data. Consequently, Energy Division would like to develop an interface for the public to access the information in the database. Ideally the public implementation would allow the public to search RPS contracts and projects and create graphs and other user-friendly data outputs, similar to the California solar initiative (CSI) program (see http://www.californiasolarstatistics.ca.gov/reports/8-04-2010/Dashboard.html for an example of the CSI's data site). All public facing exports should adhere to the confidentiality rules that will be established under Problem/Opportunity 3.

Obj #	Objective
5.1	Develop the interface for a public database in order to allow the public to search RPS contracts and projects and create graphs and other user-friendly data outputs. Additionally, Energy Division staff will need support to develop a web interface that will allow the large IOUs to access the information that has been submitted to the RPS database system. The large IOUs will need the ability to browse and download their historic submission files, as well as run a number of pre-set queries that export subsets of their company's RPS information. This separate system must incorporate CPUC confidentiality rules and only allow the large IOUs to access RPS information related to their company's RPS database submissions.

Metric	Baseline	Target	Measurement Method
A public website with the ability to access RPS information from the RPS database.	n/a - No such website exists.	A public website with the ability to access RPS information from the RPS database.	Staff will review the consultant's final website product and will continue to work with consultant until the website meets the needs of the Commission.

ID Problems or Opportunities

6	The REAT, the CEC and the CPUC each have a database that has been developed to track program milestones and RPS project information. Despite the wealth of information across these various sources, there is no coordination between the CPUC and other local, state/federal environmental permitting

agencies. Energy Division staff would like to modify the existing RPS database to interface with the database systems of the California Energy Commission (CEC), the Renewable Energy Action Team (REAT) agencies, [1] and other local and federal permitting agencies responsible for permitting California RPS projects.

[1] The REAT is comprised of staff at the California Department of Fish and Game (DFG), the California\ Energy Commission (CEC), the United States Bureau of Land Management (BLM), and the United States Fish and Wildlife Service (USFWS).

Obj #	Objective
6.1	Create a unique "permitting ID number" system for all RPS projects that exist in the databases of the CPUC, CEC, REAT agencies and other local and federal permitting agencies. This process includes creating unique ID numbers for all existing projects and the development of an online website to assign a permitting ID number to all new RPS projects that intend seek environmental/land-use permits.

Metric	Baseline	Target	Measurement Method
A unique ID per RPS project in the REAT, the CEC and the CPUC's database.	ID numbers exist for the CPUC's data.	A unique ID per RPS project in the REAT, the CEC and the CPUC's database.	Staff will review the consultant's CPUC ID scheme and identification process. Staff will continue to work with consultant until the website meets the needs of the Commission.

Obj #	Objective
6.2	Assist Energy Division staff in hosting a series of meetings to explain the existing RPS contract data fields and data definitions to staff members at the REAT agencies, and at other local, state and federal permitting agencies the information.

Metric	Baseline	Target	Measurement Method
A workshop to present the existing RPS database.	n/a	A workshop to present the existing RPS database.	Staff will review the consultant's presentation materials to ensure that they meet the needs of the Commission. Staff will host a workshop in collaboration with the consultant.

Obj #	Objective
6.3	Create a web portal for local, state and federal permitting agencies to upload RPS project information for RPS projects seeking environmental and/or land-use permits. In addition to accepting data relating to new RPS projects, the web portal should allow users at various permitting agencies to download various subsets of RPS data as needed.

Metric	Baseline	Target	Measurement Method
A portal for local, state and federal permitting agencies to upload RPS project information for RPS projects seeking environmental and/or land-use permits.	n/a	A portal for local, state and federal permitting agencies to upload RPS project information for RPS projects seeking environmental and/or land-use	Staff will review the consultant's final website submittal portal and will continue to work with consultant until the website meets the needs of the Commission.

	permits.

ID Problems or Opportunities

7	The current database system only includes information specific to RPS projects that have been executed by the three large IOUs. Energy Division would like to expand the scope of the RPS database systems (both Access and SQL) to accommodate additional information specific to all California retail sellers, including Community Choice Aggregators (CCAs) and direct access Electric Service Providers (ESPs).

Obj #	Objective
7.1	Create a temporary system that would enable Energy Division staff to upload CCA and ESP information to the existing RPS database system.

Metric	Baseline	Target	Measurement Method
A workshop to present the existing RPS database.	n/a	A workshop to present the existing RPS database.	Staff will review the consultant's presentation materials to ensure that they meet the needs of the Commission. Staff will host a workshop in collaboration with the consultant.

Obj #	Objective
7.2	Create a web portal for CCAs and ESPs to upload their own information directly to the RPS database system.

Metric	Baseline	Target	Measurement Method
A web portal for CCAs and ESPs to upload their own information directly to the RPS database system.	Energy Division has created a portal for the Large IOUs to submit information to the CPUC, but there is no system for the CCAs and ESPs.	a web portal for CCAs and ESPs to upload their own information directly to the RPS database system.	Staff will review the consultant's final website submittal portal and will continue to work with consultant until the website meets the needs of the Commission.

Obj #	Objective
	Assist Energy Division staff in preparing for several in-person group meetings to introduce all non-Large IOU retail sellers to the RPS contract database and the database submission process. Preparation for working group meetings will include developing presentation materials and assisting Energy Division staff in the presentation of materials during multiple in-person working group meetings. Additionally, Energy Division will require assistance in drafting a detailed process handbook that describes the RPS contract database and the database submission process.

Metric	Baseline	Target	Measurement Method
Several working group meetings to present the existing RPS database.	n/a	Several working group meetings to present the existing RPS database.	Staff will review the consultant's presentation materials to ensure that they meet the needs of the Commission. Staff will host several in-person working groups in collaboration with the consultant.

ID Problems or Opportunities

8	The CPUC lacks the technical expertise to provide database maintenance and technical support to the users

of the RPS database, both from the perspective of the retail sellers (those who submit information) and Commission staff (those who use the information). Consequently, Energy Division staff will need a contractor to provide information technology (IT) assistance to CCAs, ESPs and the large IOUs that submit RPS project information to the RPS database.

Obj #	Objective
8.1	Maintain an IT point of contact for CCAs, ESPs, and the large IOUs to contact in the event of technical difficulty. The IT point of contact should be able to guide CCA, ESP and large IOU staff through minor technical difficulties and notify Energy Division staff of major difficulties that could create inefficiencies/delays in the data submittal process.

Metric	Baseline	Target	Measurement Method
Provide IT support for the database.	Energy Division staff have IT support for the database until January 1, 2017.	Provide IT support for the database until 2023.	Since there is no baseline for IT support provided, and no meaningful way to measure whether or not adequate support was provided, an appropriate measurement method should be explored in Stage 2.

Obj #	Objective
8.2	Provide technical support to ESPs and CCAs during their submission of the Annual Contract and Monthly Contract files to the RPS database system.

Metric	Baseline	Target	Measurement Method
Provide technical support for the database.	Energy Division staff have IT support for the database until January 1, 2017.	Provide technical support for the database until 2023.	Since there is no baseline for IT support provided, and no meaningful way to measure whether or not adequate support was provided, an appropriate measurement method should be explored in Stage 2.

1.11 Business and Stakeholder Capacity

1.11.1 Business Program Priorities

	Yes	No
Does this proposal share resources (state staff, vendors, consultants or financial) with other business program priorities within the Agency/state entity?	◉	○

Internal resources are shared with other projects.

1.11.2 External Stakeholder Involvement

Engaged with and participation with REAT Liaison, California ISO and Energy Commission Liaison

1.11.3 New or Changes to Business Processes

	Yes	No
Does the Agency/state anticipate this proposal will result in the creation of new business processes?	◉	○
Does the Agency/state entity anticipate changes to existing business process?	◉	○

CPUC anticipates some minor changes to the existing business process.

1.12 Organizational Readiness

1.12.1 Governance Structure

	Yes	No
Does the Agency/state entity have an established governance structure for combined business and IT decision making, including information security and privacy?	◉	○

Project requests comes to IT via Service Desk ticket. The Enterprise Architecture Committee reviews the requests and meets with the business team to discuss requirements and resources. Decision makers are comprised of business and IT management team based on CPUC resource availability. Once the project is assigned the project manager meets with the project stakeholders to work on the project and provide project status during the process. In addition, change requests are also evaluated at these meetings. The project manager invites the Information Security Office to meetings to ensure security and privacy requirements are met. The ISO will make any final decisions regarding security. Organizational Change Management will be addressed during the project with the business sponsors and are fundamental deliverables for any project or enhancement that is released by the CPUC.

The Governance Structure will be further defined in Stage 2 - Alternative Analysis at that time.

1.12.2 Leadership Participation

Identify the levels of leadership that are aware of and engaged in addressing the business problem(s)/ opportunity(ies) identified in this proposal (check all that apply):

- ☑ Executive
- ☑ Senior Management Business/Program
- ☑ Mid-level Management Business/Program
- ☑ Senior Management IT
- ☐ Mid-level Management IT
- ☐ Enterprise Architect

Commission leadership at the Commissioner, Director, Program Manager, and Supervisor level support this project. The implementation of the existing database has been managed at the staff level, however, Energy Division staff have the full support of management and will assist in the implementation of the solutions to any of the problems/opportunities listed in this proposal, if necessary. Having said that, this is a low risk project that will likely continue to be managed at the staff level.

The Information Technology Branch will be involved in collaboration with the Energy Division.

1.12.3 Resource Capability/Skills/Knowledge for Stage 2 Alternatives Analysis

	Yes	No
Does the Agency/state entity anticipate requesting additional resources, through a budget request, to further study this proposal and/or perform procurement analysis?	○	◉

Of the Agency/state entity resources identified to perform Stage 2 Alternatives Analysis for this proposal, enter the number of staff who have had experience with planning projects of a similar nature. 1

CPUC IT Project Management Office will participate with Stage 2 - S2 Preliminary Assessment and S2AA - Alternatives Analysis.

1.12.4 Training and Organizational Change Management

	Yes	No
With respect to the magnitude of this proposal, does the Agency/state entity have resources, processes, and methodologies in place to provide training and organizational change	◉	○

management services?

Does this proposal affect business program staff located in multiple geographical locations? ○ ◉
If "Yes," specify the city, state, number of locations and approximate staff in each location:

City	State	Number of Locations	Approximate Number of Staff

Although this project seems large in nature, there will not be any changes to existing CPUC resources. All of the database SQL servers will be maintained on third party hardware and will be maintained by the contracted consultants. Additionally, the consultants will be responsible for designing, implementing , and maintaining the public facing website, at the direction of Energy Division staff.

Energy Division staff would be responsible for training other Energy Division staff. All training would be completed via one-on-one meetings between staff who helped to design the database system, and any potential new users. Additionally, Energy Division staff have created a User Manual for new users to review before they have are granted permission to use the Access database.

1.12.5 Enterprise Architecture

	Yes	No
Does the Agency/state entity have a documented target (or future state) enterprise architecture that provides the overall business and IT context for this proposal?	◉	○

An over arching enterprise architecture is currently in progress. The RPS Database is a stand alone system which does not impact the current infrastructure.

1.12.6 Project Management

Project Management Risk Score: 0.8

1.12.7 Data Management

	Yes	No
1. Does the Agency/state entity have an established data governance body with well-defined roles and responsibilities to support data governance activities?	○	◉
2. Does the Agency/state entity have data governance policies (e.g., data policies, data standards, etc.) formally defined, documented and implemented?	○	◉
3. Does the Agency/state entity have data security policies, standards, controls, and procedures formally defined, documented and implemented?	◉	○

(1) Does the Agency/state entity have an established data governance body with well-defined roles and responsibilities to support data governance activities? No well-defined roles and responsibilities but in practice some of requirement are addressed.
(2) Does the Agency/state entity have data governance policies (e.g., data policies, data standards, etc.) formally defined, documented and implemented? No documented or defined data governance policies
(3) Does the Agency/state entity have data security policies, standards, controls and procedures formally defined, documented and implemented? Partially developed policies and controls not documented.

The database SQL servers for the RPS database will be maintained on third party hardware and will be maintained by the contracted consultants. The CPUC will require an annual independent assessment of the security controls that are in place.

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