

STATE OF CALIFORNIA  
**Budget Change Proposal - Cover Sheet**  
 DF-46 (REV 08/15)

Fiscal Year 2016	Business Unit 8660	Department Public Utilities Commission	Priority No. 005
Budget Request Name 8660-005-BCP-BR-2016-A1		Program 6680055 - ENERGY	Subprogram

**Budget Request Description**  
 Ongoing SB 1414 (Wolk, 2014) Implementation of Demand Response Programs

**Budget Request Summary**

This proposal seeks approval to increase the Public Utilities Commission Utilities Reimbursement Account (Fund 0462) by \$131,000 for one (1) permanent Public Utilities Regulatory Analyst (PURA) III position to continue to implement certain provisions of SB 1414, a demand response (DR) related bill enacted in 2014. Some SB 1414 provisions (e.g., DR as resource adequacy) were already being implemented by the Public Utilities Commission (PUC) prior to passage of the bill, and that implementation continues with existing resources. Other provisions (e.g., consumer protection related) began implementation prior to passage of the bill but are anticipated to be expanded considerably as DR grows as a third-party implemented resource. Still other provisions (e.g., back up generation rules (BUGs) and DR as a transmission and distribution resource) are only just now beginning implementation. The current PURA III position is a limited term position that is due to expire on June 30, 2016. While the resource adequacy-related DR work can continue without additional resources, the consumer protection and BUGs provisions cannot be fully implemented without additional resources. This workload is expected to continue for the foreseeable future; thus the request is for a permanent position.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed
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Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date
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For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

FSR       SPR      Project No. \_\_\_\_\_      Date: \_\_\_\_\_

If proposal affects another department, does other department concur with proposal?     Yes     No  
*Attach comments of affected department, signed and dated by the department director or designee.*

Prepared By Cynthia Walker <i>Cynthia Walker</i>	Date 03/29/16	Reviewed By Jack Dwyer <i>Jack Dwyer</i>	Date 03/29/16
Department Director Timothy J. Sullivan <i>Timothy J. Sullivan</i>	Date 03/29/16	Agency Secretary	Date

**Department of Finance Use Only**

Additional Review:  Capital Outlay     ITCU     FSCU     OSAE     CALSTARS     Dept. of Technology

BCP Type:       Policy       Workload Budget per Government Code 13308.05

PPBA	Original Signed By: Ellen Moratti	Date submitted to the Legislature APR 01 2016
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## Analysis of Problem

### A. Budget Request Summary

This proposal seeks approval to increase the Public Utilities Commission Utilities Reimbursement Account (Fund 0462) by \$131,000 for one (1) permanent Public Utilities Regulatory Analyst (PURA) III position to continue to implement certain provisions of SB 1414, a demand response (DR) related bill enacted in 2014. Although some SB 1414 provisions were already being implemented by the PUC prior to passage of the bill and can continue with existing resources (e.g., DR as resource adequacy), other provisions also began implementation prior to passage of the bill but are anticipated to be expanded considerably as DR grows as a third-party implemented resource (e.g., consumer protection related), and still other provisions are only just now beginning implementation (e.g., back up generation rules and DR as a transmission and distribution resource).

The current PURA III position is a limited term position that is due to expire on June 30, 2016. While the resource adequacy-related DR work can continue without additional resources, the consumer protection and BUGs provisions cannot be fully implemented without additional resources. This workload is expected to continue for the foreseeable future, thus the request is for a permanent position.

### B. Background/History

As set forth in Public Utilities Code 454.5(b)(9)(c) and the Energy Action Plan, demand response (the reduction of electricity usage to balance grid needs through various signals or incentives to end-use customers) is a "preferred resource" by the PUC, meaning that utilities shall first meet their unmet resource needs through all available energy efficiency and DR resources that are cost effective, reliable, and feasible. Since 2005, the PUC has authorized ratepayer funding (now approximately \$300 million annually) in support of utility operated and administered economically-dispatched DR programs that end-use customers can participate in. Within that same time span, the PUC has also issued at least 12 policy decisions that have advanced its objectives to increase and improve DR resources in California.

SB 1414 amends Public Utilities Code section 380 which governs the PUC's resource adequacy (RA) program. It directs the PUC to:

- Advance the role DR plays in RA, such as facilitating economic dispatch of DR and making DR an explicit resource for a load serving entity's RA requirements
- Establish a mechanism to value load modifying DR resources, such as the ability of such resources to help meet distribution and transmission needs
- Implement consumer protection rules for residential customers who participate in DR programs
- Establish rules for how and when backup generation may be used with DR programs and monitoring/verification requirements to enforce those rules
- Ensure that DR is accounted for in various state energy planning proceedings

The table below provides a summary of the workload history on DR policy work, in general, and specific SB 1414 related work, since the bill was passed in 2014. Further description is provided below.

**Workload History**

Workload Measure	PY - 4 FY 2010-11	PY - 3 FY 2011-12	PY - 2 FY 2012-13	PY-1 FY 2013-14	PY FY 2014-15	CY FY 2015-16
Decisions.				1/3	2/2	1/1
Workshops					2/7	2/3
Staff Proposals					2/2	1/1
Advice Letters					0/23	13/20

Note: The nomenclature [x] / [y] means: y is the total number for DR work products and x is the subset directly (or indirectly) related to SB 1414. Also, workload history for all DR related work prior to passage of SB 1414 is not provided.

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In 2013-14, the PUC adopted three DR decisions, one of which set the ground work for SB 1414 implementation:

- Approval of two years of bridge funding (2015-2016) to support existing utility DR programs (D.14-01-004)
- Approval of various program improvements to existing utility DR programs (D.14-05-025)
- Approval of a "bifurcation" policy for DR, effectively categorizing DR resources into "supply DR" which are DR resources that are integrated in California Independent System Operator (CAISO) markets, and "load modifying DR" which are DR resources that modify the overall demand. This policy decision established the policy framework that was needed to implement the load-modifying valuation work required in SB 1414 (D.14-03-026)

In 2014-15, the PUC adopted two more policy decisions to advance its DR policies. Both of these decisions are related to SB 1414 implementation:

- Established 2018 as the year bifurcation begins and authorized a new procurement mechanism for supply DR from 3<sup>rd</sup> party providers: the Demand Response Auction Mechanism (DRAM) pilot. This policy decision advanced the bill's directive to the PUC to make DR a more explicit part of Resource Adequacy (D.14-12-024)
- Authorized cost recovery for utility back office functions and infrastructure to support Rule 24/32, which sets the roles and responsibilities for utilities and 3<sup>rd</sup> party DR providers for the bidding of DR into CAISO wholesale markets (D.15-03-042)

Two workshops (out of seven) and two staff proposals directly contributed to these decisions. The PUC DR staff also processed 23 advice letter filings in the fiscal year, although none were focused on implementing other DR objectives not related to SB1414.

In 2015-16, the PUC adopted one policy decision that further implemented SB 1414:

- Revised the DR cost-effectiveness protocol and established a policy on how to value load-modifying DR resources (D. 15-11-042)

Two workshops and a staff proposal are currently under consideration for future Commission action related to SB 1414 implementation (back up generation implementation and load modifying resources). Additionally 20 advice letter filings have been processed in the current fiscal year, 13 of which are related to SB 1414 implementation. These include finalization of Rule 24 details, DRAM auction details and results, and consideration of backup generation data collection plans.

### C. State Level Considerations

The bill requires the PUC, the CAISO and the California Energy Commission (CEC) to jointly ensure that DR is accounted for in their various energy planning forecasts and proceedings. This requirement is to ensure that DR resources can displace supply-side generation and can also help integrate renewable resources. Additionally, SB 1414's requirements have implications for the PUC's DR rulemaking which is attempting to develop new DR policies and programs that further advance and improve the resource. The CAISO is an active participant in this rulemaking.

### D. Justification

The current limited term PURA III position, which expires on June 30, 2016, was added to the PUC's budget to develop and implement the consumer protection requirements of the bill. The PUC has completed work to fulfill these requirements. For example, the PUC has clarified and strengthened the rules concerning the registration and bonding requirements for 3<sup>rd</sup> party DR providers (DRPs) who intend to provide DR services for residential and small commercial customers. These recent clarifications have effectively closed certain "loopholes" in the existing rules that were at risk of being exploited by DRPs that attempt to elude PUC oversight or that did not have adequate bond coverage. Closing these loopholes improves consumer protection for California ratepayers.

The PUC is also in the process of evaluating the utilities' residential DR programs to ensure that such programs have adequate consumer protection. This evaluation will be completed in 2016 and will result in more monitoring and compliance efforts by PUC staff. The PURA III position will be necessary to continue this work.

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SB 1414 provided a second limited-term position (PURA I) that will also expire on June 30, 2016. The PUC is able to re-direct existing resources from other assignments to absorb the work of the second position, and is therefore not requesting that it be made permanent.

As noted earlier, SB 1414 requires the PUC to implement several other policy objectives for DR which justifies the need for a PURA III position. These policy objectives are outlined below along with the work involved:

### Backup Generation and DR:

SB 1414 requires the PUC to establish rules for how and when backup generation may be used with DR programs and monitoring/verification requirements to enforce those rules. The PUC developed the policy options in 2015 and is currently considering several new policies and rules for adoption. Among them is an explicit prohibition on the use of backup generation with DR, and the imposition of meters on the backup generation units as a means to ensure that the unit is not being used for DR. A metering enforcement mechanism carries with it many implementation details such as ensuring the right type of meters are installed and that utility and DRP billing systems are set up to adjust incentive payments (in the event a participant uses its backup generator for DR). Other considerations include the use of tariff or contractual mechanisms or directing participants to sign attestation forms in which they pledge not to use their backup generation units with DR. We are reviewing the need for utilities or 3<sup>rd</sup> party DRPs to implement site verification practices when participants claim they have no backup generation units on their premises.

While the PUC has not yet reached a decision on these enforcement details, it is clear that an analyst will be needed regardless of which approach the PUC adopts. Specifically, the PURA III analyst will be needed to assist in the policy decision for this issue and then oversee the implementation of the rules/practices by the utilities and 3<sup>rd</sup> party DRPs to ensure that these third-party implementers will be effective at enforcing the policy. The effort will be significant in that all DR programs and contracts will have to be modified and participants will need to be educated about the new rules. Implementation of the policy involves reviewing, analyzing, and writing a disposition document for advice letters, along with subsequent program management and compliance efforts, all of which are described in the accompanying Workload Analysis document.

### Resource Adequacy Requirements:

SB 1414 also modifies the existing Public Utilities Code (PU Code) by making DR an explicit resource for a load serving entity's RA requirements, and it requires the PUC to establish a mechanism to value load modifying DR resources, such as the ability of such resources to help meet distribution and transmission needs. DR is already considered as a resource that can be counted toward a Load Serving Entity's (LSE's) RA requirement. The bill's requirement that it be explicitly recognized as an RA resource and that it be economically dispatched will lead to significant changes for the resource in the coming years. First, the explicit recognition of DR as an RA resource will certainly encourage its growth as market participants take note that it is no longer just a preferred PUC resource, but a resource defined in law as legitimate for providing RA. Second, the emphasis on economic dispatch means that these resources must participate in the CAISO wholesale markets, which requires significant changes to the way existing DR programs are designed and operated by utilities and 3<sup>rd</sup> party DRPs. The PUC has already made several advancements in this area by working with the CAISO to ease certain requirements for DR, but more work is needed to ensure that CAISO requirements are closely aligned with PUC requirements for the resource. All of these efforts will involve formal proceeding work, subsequent advice letter filings, and program management and compliance oversight by the PURA III (see Workload Analysis document).

### Load Modifying DR Forecasting:

SB 1414 requires the PUC to work with the CEC and the CAISO to ensure that changes in demand caused by load modifying DR are reflected in the CEC's official energy forecasts and in the PUC and the CAISO planning proceedings and initiatives. Since the bill was passed, the PUC has directed the utilities to implement default time-of-use (TOU) rates for residential customers by 2019 (D.15-07-001). TOU is a load modifying DR resource and its impending implementation across millions of residential customers will require careful coordination between the PUC, the CEC and the CAISO in terms of how its impacts will be accounted for in the CEC's official energy forecast as well as in planning proceedings. The implementation of TOU could lead to additional load modifying resources, as well, such as critical peak pricing and real time pricing tariffs that will also need to be measured and accounted for. The PURA III analyst would be providing the necessary analyses and coordination in support of these activities. This will involve primarily program management and

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compliance activities, such as coordinating meetings with the state agencies, data collection and analyses, and oversight of utility load measurement activities.

### E. Outcomes and Accountability

The work described in Section D above will likely result in the workload products shown in the Projected Outcomes table below. The PURA III will be expected to provide support for a policy decision on backup generation and DR, and this is likely to be followed by a workshop on implementation and timing details. Following that workshop will be at least three advice letters (one for each utility) that implement the specific rules and processes for the policy.

For the Resource Adequacy Requirements work, the PURA III will support a future decision on DR program design as the DR resources are further aligned with CAISO market requirements. This will involve at least one workshop and three subsequent advice letter filings. For the Load Modifying DR Forecasting work, the PURA III will coordinate participation in working group or interagency meetings, and review utility reports or compliance filings. It is likely that a formal staff proposal will be needed for this area as DR continues to grow.

For budget year 2016-17, the PURA III position will be expected to support a follow up policy decision on load modifying DR and how it helps meet distribution and transmission needs. In support of that decision, there will need to be at least one staff proposal and two workshops (one for distribution needs and the other for transmission). Following the decision, there will need to be implementation activities which require the filing of advice letters by the utilities. Two advice letters per utility (six total) would be needed (one for distribution changes and the others for transmission-related changes).

Projected Outcomes

Workload Measure	CY	BY	BY+1	BY+2	BY+3	BY+4
Decisions.	1	1				
Workshops	2	2				
Staff Proposals	1	1				
Advice Letters	6	6				

### F. Analysis of All Feasible Alternatives

#### Alternative 1: Amend SB 1414 to implement major provisions statutorily

The PUC could seek to amend SB 1414 to implement major provisions statutorily. For example, the provision on back up generation has reached a point of record development in the PUC DR proceeding (R.13-09-011), where a specific definition of prohibited resources and an enforcement and verification regime could potentially be codified in statute. Ongoing enforcement oversight activities could require fewer staff resources. Other SB 1414 provisions, such as consumer protection provisions, are still at a nascent stage of development in the DR proceeding, and so will require substantial analyst resources. In sum, some staff resources would still need to be redirected off other work (as in Alternative 3), but it may be less than would otherwise be the case.

Cost: \$0

Pros: Could eliminate one or more PUC decisions on certain SB 1414 provisions, but PUC staff would need to advise lawmakers closely to ensure that codification of detailed provisions is done effectively.

Cons: Codification of detailed rules (e.g., back up generation definitions and enforcement rules) by statute is risky and can result in potential unintended consequences that become more difficult to unwind if discovered after the fact. This alternative only partially reduces staff workload because only certain provisions might be candidates for implementation by statutory changes. This option would still require redirection of some staff resources (though perhaps less than under Alternative 3).

#### Alternative 2: Hire a consultant to do some of the work

This alternative would involve putting out to bid a consultant contract to do the work of the PURA III. The consultant would be hired to do some of the work described in the BCP. There are currently no consultant dollars available for doing the work described in the BCP. There is approximately \$1 million in existing funds for demand response research that could possibly be accessed, but a re-purposing of research funds to do the work of the PURA III would require a formal Commission decision. That decision would take anywhere from

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three to six months to complete. Following that, the work would be put out for bid, and a consultant selected and then signed to a contract. That process would likely take another four months to complete.

Cost: Unknown at this time.

Pros: Possibly less costly than hiring a permanent position to do the work, although consultant hourly rates are typically higher than staff analysts', so this option could end up being more expensive.

Cons: The contract would be only a temporary solution, as the funds might not necessarily be extended once they are exhausted. The contracting process would cause delays. This option would still require redirection of some staff resources to review advice letters and do other regulatory work (though perhaps fewer than with Alternative 3).

### Alternative 3: Divert existing staff to fulfill the requirements of the bill

Currently there are ten full time analysts/engineers and one supervisor fully dedicated to oversight of DR policies and programs within Energy Division. However, four positions are expiring on June 30 (SB 1414 and AB 327 limited term authorizations). If this proposal is not approved, one existing analyst will be re-assigned to implement the requirements of the bill.

Cost: \$0

Pros: Less costly than hiring a permanent position to do the work.

Cons: SB 1414 provisions may not be fully and effectively implemented or full implementation may be delayed, or, if existing staff resources are diverted to fully implement SB 1414, the following work would no longer be done:

- Evaluation of the DR load impacts for planning purposes (not settlement): Load impacts are the benefits provided by DR programs (measured in kilowatts or megawatts). Modeling and regression analyses are used to calculate load impacts and the results are relied on for a variety of purposes such as determining the cost-effectiveness of the programs as well as adjusting the amount of supply-side generation that the utilities are authorized to procure. Because there is nothing in the Public Utilities Code that specifically directs the PUC on how to calculate load impacts for planning purposes, the PUC oversight of this important feature of DR would no longer be implemented. This means that the utilities' methods of determining load impacts for planning purposes would no longer be tested and verified by the PUC.
- DR integration with other demand-side resources such as energy efficiency and distributed generation: The PUC has pursued a policy objective of determining how to best combine/coordinate/integrate demand-side resources so that end-use customers can make well-informed choices on where to invest their money in pursuing green energy. The PUC has opened a new policy rulemaking that will explore the integration of demand-side resources. Since this rulemaking is not statutorily mandated, it would no longer be supported by the DR staff, in order to free up the resources needed to implement SB 1414.
- Maintenance of the DR database and website: Since 2012, the utilities provide daily reports throughout the summer to the PUC and the CAISO on the dispatch of their DR programs. These reports are intended to give the state agencies and the Governor's Office a real-time sense of how DR programs contribute to reliability and stability of the grid. Since these reports are not statutorily mandated, they would no longer be monitored, collected, and analyzed in a database as they currently are. The PUC also maintains a DR website that provides the public and the PUC's stakeholders on-line information about its DR proceedings, utility DR programs, and other developments in DR. Since the maintenance of the website is not statutorily mandated, staff would be diverted to support SB 1414.

### Alternative 4: Rely on other public organizations to do the work

This alternative would require the cooperation of several organizations, as the work of the PURA III has several dimensions to it. For the back-up generation work, the PUC could engage local air quality management districts to institute new rules or enforcement mechanisms to prohibit back up generation from participating in DR programs.

Cost: \$0

Pros: Less costly than hiring a permanent position to do the work.

Cons: Air districts have permitting authority on only a subset of back up generation resources, and for those resources, the air districts are unlikely to have the necessary personnel or the infrastructure (metering) to enforce the prohibition (one of the reasons the PUC is considering implementing its own regulations is that current air districts' regulations/enforcement does not address the PUC's concerns). Hence, the risk with this

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alternative is that the PUC's policy would be only partially implemented, thereby resulting in ineffective GHG emissions. For the other tasks of the PURA III (resource adequacy requirements and load modifying recasting), the PUC would need to rely on the CAISO and the CEC to handle the majority of the work. While those organizations likely have the personnel to take on the work, it would be inappropriate for the PUC to completely rely on the CAISO to do the work of the PURA III because the CAISO is an active party in PUC proceedings, meaning that it advocates certain positions on these issues that the PUC must weigh objectively. Furthermore, abdicating the PUC's role in the implementation of SB 1414 to the CAISO and the CEC is potentially a violation of the SB 1414 which explicitly states that the PUC must work with those organizations in the implementation of the bill. Other than the CEC and the CAISO, there are no other known public organizations that have the resources or knowledge to implement SB 1414.

### G. Implementation Plan

If the proposal is approved, the PURA III limited term position would be transitioned into a permanent position on July 1, 2016. The incumbent would not need to re-apply for the position and therefore there would be no delays in continuing his/her work.

### H. Recommendation

We recommend adding one new full-time position to continue to implement certain provisions of SB 1414 and ensure that the Governor's and Legislature's climate goals for DR are attained. This is the most cost efficient and efficacious option for delivering on the intent and requirements of SB 1414.

The permanent PURA III position is needed to implement the consumer protection and back up generation provisions of SB 1414, which cannot be fully implemented without additional resources. The analyst will support decisions for rulemaking proceedings and new applications, convene and manage workshops, review and evaluate testimony and comments, conduct in-depth technical and policy analysis, review and approve advice letter filings, draft resolutions for Commission approval, and, in all other ways, administratively manage the implementation of select provisions of SB 1414.

Any of the feasible alternatives would likely (a) jeopardize the full and effective implementation of SB 1414 or delay full implementation, (b) cause unintended consequences that may be difficult to unwind, (c) potentially cost more, (c) or deleteriously impact other critical work. Collectively, these drawbacks would impact the state's ability to implement climate change action. Bringing on additional staff would be the most efficient use of resources to quickly and accurately implement the provisions of this law.

Department of Finance  
2016-17  
Finance Letter Worksheet

8660-001-0462-2016  
Prop 98: N

DEPT: Public Utilities Commission  
STATE OPERATIONS

8660-105-BCP-BR-2016-A1

Ongoing SB 1414 (Wolk, 2014) Implementation of Demand Response Programs

**Proposal Summary**

Add resources to support ongoing implementation of Chapter 627, Statutes of 2014 (AB 1414).

<b>Category Changes</b>	<b>Positions</b>	<b>Whole Dollars</b>
Salaries and Wages	1.0	72,000
Staff Benefits	0.0	29,000
Operating Expenses and Equipment	0.0	30,000
<b>Total Category Changes</b>	<b>1.0</b>	<b>\$131,000</b>
<b>Program Changes</b>		
6680 Regulation of Utilities	1.0	131,000
6680055 Energy	1.0	131,000
<b>Total Program Changes</b>	<b>1.0</b>	<b>\$131,000</b>
<b>Fund Changes</b>		
Amount Funded by 8660-001-0462-2016	1.0	131,000
<b>Net Impact to Item</b>	<b>1.0</b>	<b>\$131,000</b>

ASM CONSULTANT: CG  
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LAO DIRECTOR: BB  
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