

RTR Appendix

Southern California Edison, Pacific Gas and Electric, Southern California Gas, and San Diego Gas and Electric (“Joint Utilities” or “Joint IOUs”) developed Responses to Recommendations (RTR) contained in the evaluation studies of the 2010-2012 Energy Efficiency Program Cycle. This Appendix contains the Responses to Recommendations in the report:

HVAC Impact Evaluation FINAL Report (2014, DNV-GL, Calmac ID# CPU0100.01)

The RTR reports demonstrate the Joint Utilities’ plans and activities to incorporate EM&V evaluation recommendations into programs to improve performance and operations, where applicable. The Joint IOUs’ approach is consistent with the 2013-2014 Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan (version 3) ¹ and CPUC Decision (D.) [07-09-043](#)².

Individual RTR reports consist of a spreadsheet for each evaluation study. Recommendations were copied verbatim from each evaluation’s “Recommendations” section.³ In cases where reports do not contain a section for recommendations, the Joint IOUs attempted to identify recommendations contained within the evaluation. Responses to the recommendations were made on a statewide basis when possible, and when that was not appropriate (e.g., due to utility-specific recommendations), the Joint IOUs responded individually and clearly indicated the authorship of the response.

The Joint IOUs are proud of this opportunity to publicly demonstrate how programs are taking advantage of evaluation recommendations, while providing transparency to stakeholders on the “positive feedback loop” between program design, implementation, and evaluation. This feedback loop can also provide guidance to the evaluation community on the types and structure of recommendations that are most relevant and helpful to program managers. The Joint IOUs believe this feedback will help improve both programs and future evaluation reports.

¹ Page 336, “Within 60 days of public release of a final report, the program administrators will respond in writing to the final report findings and recommendations indicating what action, if any, will be taken as a result of study findings. The IOU responses will be posted on the public document website.” The Plan is available at http://www.energydataweb.com/cpucFiles/pdaHomeDocs/2/2013-2014_Energy_Efficiency_EMV_Plan.zip (visited on 10/1/14).

² Attachment 7, p.4, “Within 60 days of public release, program administrators will respond in writing to the final report findings and recommendations indicating what action, if any, will be taken as a result of study findings as they relate to potential changes to the programs. Energy Division can choose to extend the 60 day limit if the administrator presents a compelling case that more time is needed and the delay will not cause any problems in the implementation schedule, and may shorten the time on a case-by-case basis if necessary to avoid delays in the schedule.”

³ Recommendations may have also made to the CPUC, the CEC, and evaluators. Responses to these recommendations will be made by Energy Division at a later time and posted separately.

EM&V Impact, Process, Market Assessment Study Recommendations

Study Title: HVAC Impact Evaluation Draft Report WO32 HVAC - Volume 1: Report (CPU0100.01); Published August 27, 2014

Program: HVAC

Author: DNVGL

Item #	Page	Findings	Best Practice / Recommendations	Recommendation Recipient	Disposition (Accepted, Rejected, or Other)	Disposition Notes (e.g. Description of Specific Program Change or Reason for Rejection or Under Further Review)
1	39	The programs do not provide training or incentives regarding minimum outdoor air damper position to improve energy efficiency. Maintenance programs require retro-commissioning prior to other repairs to address minimum outside air regardless of the whether new sensors or controllers are added. The primary functional components such as linkages and dampers need to be working as a prerequisite to adding or improving sensors and controllers. While programs provide incentives for repairing non-functional economizers, none of the technicians performed economizer repairs while being observed. If contractors view repairs as "retro-commissioning" not maintenance, then these measures could be replaced by others to reduce unnecessary outside air, such as sealing the junctions of economizers to units, or expanding the program to include both retro-commissioning and maintenance items.	IOU programs should coordinate to establish differences between maintenance, repair, and retro-commissioning. These efforts started with the IOUs and industry through the WHPA in 2013 after publication of the interim results memo. For example, maintenance related to economizers would involve sealing economizer and unit leakage while repairs require functional testing and additional cost services for parts and labor. Full retro-commissioning further entails setting integrated controls based on measuring outdoor airflow and reducing minimum outdoor air damper position to code levels on economizers. Explore ways to integrate maintenance, repair and retro commissioning measures into the program design to maximize energy savings potential from the program.	All IOUs	Other	<p>Retrocommissioning before QM is not cost effective and is a tough sell for customers. Furthermore retrocommissioning before QM is not part of Industry Standard Practice (ACCA 180). However, the IOUs agree that outside air measurement and setting needs improvement and that most maintenance technicians are not qualified to assess or adjust outside air ventilation.</p> <p>The statewide IOU team is investigating ways to improve economizer measures and conduct more comprehensive maintenance cost effectively. Examples include:</p> <p>PG&E is working on a program modification which would combine one-time tune-ups, quality maintenance and early retirement programs to best serve our customers and create the largest energy efficiency savings possible. Specifically, PG&E will merge the Commercial Quality Maintenance and with our one-time maintenance programs in 2016. The new program will offer "gold" and "silver" levels of engagement – corresponding to the tune-up measures with and without ongoing maintenance – with higher incentive levels for the gold solution. PG&E plans to issue two contracts for this program. The Program Management contract will focus on logistical aspects, program delivery, portal management, contractor relationship management and recruitment, sales training. The Technical contract will focus on inspections, technical training, and advising PGE program managers on the technical aspects of program design. PG&E is also researching additional economizer measures.</p> <p>SCE is working on program modifications that would more clearly distinguish between discreet energy efficiency actions including tune-ups, and maintenance actions that are ongoing and serve to prolong the life of EE measures installed and the systems on which they are performed. SCE is working on integrating these modifications into the programs through Quality Renovation, with technicians who are qualified for this work.</p> <p>SDG&E's Emerging Technologies continuously reviews, vets and works with third-party HVAC program implementers to deploy technologies that support increased energy savings and/or more comprehensive services during HVAC maintenance visits. For example, guest room controllers became a central part of the program's hotel strategy since 2010; economizer repair measures were supplemented with economizer replacement and Advanced Digital Economizer controls in 2013 and incentives for variable-speed drives for supply fans were introduced shortly thereafter. In late 2013, programmable communicating thermostats were deployed to achieve integrated demand-side management during HVAC service visits, and to promote broader adoption of this technology. Other important measures under consideration are compressor cycling devices, evaporative pre-cooling units, fan maintenance and airflow diagnostics.</p>
2	39		The evaluation team also recommends piloting approaches to provide more effective energy efficiency measures, training, tools, protocols, and data collection and based on demonstrated success, and focus the program activities on those approaches which achieve measureable savings.	All IOUs	Other	<p>The IOUs agree that we need to fine-tune recommendations regarding service actions and to add new measures. However, we believe it is more effective to treat HVAC units as interconnected and interdependent systems in a more comprehensive approach. Piecemeal approaches employed in the past have led to poor quality work, gaming, and ultimately poor realization of savings. HVAC operates as a system, and it is clear that some small adjustments may not result in measureable savings when performed in isolation. A comprehensive approach addresses major and minor issues for an overall result in which the impact of individual actions cannot be distinguished or isolated. The 2010-2012 WO32 effort was valuable in identifying a few potential areas of improvement, but failed to evaluate the impact of the program in a statistically sound manner. Future EM&V efforts should focus on establishing savings for the overall package of measures at the program level, and should not focus on the contribution of individual actions to the savings achieved. WO 32 recommends moving away from incentivizing industry protocol tasks that do not achieve measurable savings. We note that some industry protocols are intended for customers to assume responsibility (such as section 4 of the Standard 180), including enforcing customer compliance. These types of activities are neither necessary nor sufficient to support energy savings and add considerable burden to contractors, technicians and participants, while increasing the costs of achieving energy savings.</p> <p>Examples of program changes or research the IOUs are conducting in the spirit of this recommendation include:</p> <p>PG&E is currently doing a gap analysis to understand and improve inspection and training methods used in the programs. PG&E is putting out an RFP to have a separate contract for training and inspections.</p> <p>SDG&E deployed approaches to reduce contractor burden, streamline data collection, improve training and diversify the offered measures. Examples include streamlining data collection forms and data input screens, reducing required on-site data collection visits from three to one by combining inventory collection and inventory QC with the baseline visit.</p>

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3	38-40	<p>The programs do not provide training or incentives regarding minimum outdoor air damper position to improve energy efficiency. Maintenance programs require retro-commissioning prior to other repairs to address minimum outside air regardless of the whether new sensors or controllers are added. The primary functional components such as linkages and dampers need to be working as a prerequisite to adding or improving sensors and controllers. While programs provide incentives for repairing non-functional economizers, none of the technicians performed economizer repairs while being observed. If contractors view repairs as "retro-commissioning" not maintenance, then these measures could be replaced by others to reduce unnecessary outside air, such as sealing the junctions of economizers to units, or expanding the program to include both retro-commissioning and maintenance items.</p> <p>Participating technicians in one program received incentives for 1,136 economizer tests in 2010-12. The IOUs paid a total of 438 repair incentives for wiring, damper motor, sensor/controller, and linkage repairs. Although it is not indicated in the tracking data, an individual unit likely required multiple repairs.</p> <p>Assuming all repaired units received new sensors, we estimate repairs were made on 148 units or 13%. In another program, 11 out of 16 economizers at one site were reported as repaired, but only 5 were still working one year later and 11 were not. These findings indicate that there are significant economizer savings available.</p>	<p>We also recommend that incentives be provided for measures with the highest probable applicability, FDD repair rate, and savings. Low cost measures that have simplified implementation and verification procedures would be a recommended target for maintenance measures. Measure recommendations include:</p> <p>Seal Unit Leaks. New measures, such as sealing junctions between economizers and units, may have large opportunities as they are not part of routine maintenance. Pilot efforts should measure the change in performance in the field and use reliable sealing methods such as properly rated metal taping.</p> <p>Reconsider Diagnostic-Based Refrigerant Charge Measures. Identifying and adjusting units with low charges proves to be extremely difficult on commercial units with outdoor air intakes due to problems making accurate measurements of coil entering wet bulb temperature and general unreliability of diagnostic protocols. Units with a low refrigerant charge and outside air intake may not be properly adjusted with general or manufacturer recommended protocols. In addition, laboratory results presented in the following chapter show minimal savings impacts from reducing charge of overcharged units back to factory charge. High charge creates a potential for compressor damage and reducing high charge may have non-energy benefits. Evacuation and recharge is recommended as the best method to assess exact charge level. The evaluation team adopted evacuation and recharge to factory-level as the EM&V method of choice late in the evaluation. This EM&V method is recommended in future evaluations. The evaluation team understands that this method may not be cost-feasible for program implementation and thus the program recommendation is to follow unit specific manufacturer diagnostic procedures. The verification of the measure remains relatively expensive.</p> <p>Use Manufacturer Maintenance and Diagnostic Protocols. Manufacturer protocols provide important instructions on troubleshooting multiple faults for units including refrigerant charge. For certain troubleshooting outcomes, evacuation and recharge may be recommended. Manufacturer protocols also may provide new measures by adjusting airflow based on pressure measurements. Energy savings potential exists by adjusting fan settings to factory specifications and following fan-belt alignment and tensioning guidelines. Air flow adjustment can be verified by visual inspection of the fan settings. Savings can be established through a sample of pre and post measurements and surveys of pre-adjustment settings.</p> <p>Develop Criteria to Replace Rather than Repair Economizers. Programs are adding and considering measures to add more advanced sensors and controllers to economizers. In order for these technologies to achieve their potential the existing economizer requires basic functionality and compatibility. Repairing old economizers in general can be expensive and difficult due to part availability and old design issues. Economizer replacement offers an option that may overcome some of the fundamental economizer repair issues and should be explored.</p>	All IOUs	Other	<p>Criteria for replacing economizers was developed in 2013 and deployed in the 2013-2014 cycle. The criteria have since been modified for 2015 based on REA guidelines, using the 1/3 RUL rule, which unfortunately limits the applications where replacement is feasible to units no more than 10 years old. In regard to unit/economizer sealing, we are in agreement that this is an area of opportunity for savings. This year we will put this through our product development process and investigate the feasibility of a workpaper. In general we agree that additional measures and approaches should be investigated and added (see previous response regarding our support of a more comprehensive approach to HVAC systems). However, IOUs caution that cost-effectiveness could be an issue with the ideas presented in this recommendation with the possible exception of "seal unit leaks". A weigh-out refrigerant charge methodology takes hours to properly perform, and presents additional risk of refrigerant contamination or loss to the atmosphere (refrigerant is a greenhouse gas, and some also deplete ozone). This method should only be undertaken when there is a leak, contaminated refrigerant, or a refrigerant system component in need of replacement - all of which would require recovery of the refrigerant anyway.</p> <p>We note that manufacturer protocols are often difficult to find, and there is no evidence that they work better than the best "generic" FDD methods available. The SCE QM and AirCare Plus program both allow (SCE) or require (ACP) a state of the art automated field FDD tool to be used, but this tool was not assessed by the evaluators. The evaluators only investigated the inferior methodologies. IOU labs should coordinate to test several state of the art tools against manufacturer methodologies. Manufacturer methodologies also present a serious logistical challenge in the case of a mass market program. It is not feasible for the program to maintain a comprehensive database of manufacturer methodologies for each unit, so technicians would need to be relied upon to obtain and follow the procedures. QA/QC of the technician data against the manufacturer methodology would be far too difficult to automate. Also, there is no indication of how manufacturer methodologies perform against each other. The result would be a scatter gun approach with unpredictable and unauditible results. A much better investment of ratepayer money would be development of a standardized open protocol for FDD. These are all machines that exist within the laws of physics using the vapor compression cycle. There's no reason that a single protocol cannot be used universally, provided it is sufficiently sophisticated to recognize variability between different systems.</p>
4	11,40	<p>The evaluation team conducted laboratory tests to evaluate economizer operation and performance and system faults for dual and single-compressor roof top units (RTUs). Master technicians oversaw laboratory technicians who fully instrumented and tested packaged HVAC units in an AHRI-certified laboratory. The laboratory performed tests at a range of "outside" dry bulb and wet bulb temperature conditions to simulate temperature variations across the California coastal, inland, mountain, and desert climate zones. Additional laboratory tests continue currently and will be performed in the future on packaged units from additional manufacturers.</p>	<p>We recommend that additional field and laboratory tests and additional analyses be conducted to further research the impacts of HVAC maintenance and diagnostic issues identified in this report. HVAC manufacturers, industry associations, state licensing boards, and DOE can help by supporting improved technician competency standards, FDD protocols, and service instrument standards.</p>	All IOUs	Accept	<p>The IOUs are fully supportive of ongoing laboratory testing and have been actively collaborating and participating. We have organized quarterly meetings to get all major stakeholders together to discuss important results. Topics have included FDD procedures and fault characterizations, establishment of a consolidated lab testing data repository, and characterizing economizer issues among many others. Many of these results have provided valuable information that have been used in evaluations. Going forward, we have recommended that laboratory testing be geared also toward the realities that technicians face in the field. Since technicians generally have a lower knowledge base, limited tools and less time to devote to diagnosing problems compared to experts in the laboratory, developing procedures and information that can be taken to the field is essential. We also recommend that laboratory testing address the feasibility of measuring savings and providing maintenance in a comprehensive, full system metered approach as opposed to a measure by measure approach. Finally, we are interested in using laboratory testing to characterize multimeter devices technicians can use for standardized troubleshooting and data collection for use in evaluations.</p>
5	18,41	<p>There were two program types for commercial quality maintenance (CQM): the statewide program that was based on the ACCA 180 standard with an assumed package of measures, and the third-party/local programs that continued to implement individual measures including refrigerant charge similar to 2006-08 programs, as well as coil cleaning, economizer repair, and thermostat adjustments. Within the statewide programs there were also claims in 2010 based on the previous program models with individual measures.</p>	<p>Continue ACCA 180 efforts as non-resource market transformation effort, focus on measures and providing savings in resource programs to maximize savings</p> <p>Measures that are part of routine maintenance such as changing air filters and cleaning coils with water could be part of non-resource training efforts to ensure they are done.</p>	All IOUs	Accept	<p>Certain aspects of this recommendation remain unclear. The IOUs would like to work together with the CPUC and evaluators to better understand this recommendation so as to avoid any misunderstandings and/or misapplication of guidance. However, we note that separating the standards-based protocols from the tasks that produce energy savings would likely support broader deployment of QI and QM by overcoming cost-effectiveness barriers. We currently do not claim savings for cleaning coils and fans, and air filter changes.</p>

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6	62	<p>The QJ program did result in energy savings, but the realization rates were generally low. Table 27 summarizes the field findings compared to the workpaper assumptions.</p> <p>In particular, ex ante workpapers claimed higher duct leakage than found in the baseline group. Duct leakage—a major source of HVAC energy loss—was lower in participating households than in non-participating households by a statistically significant amount, with a mean total leakage of 11.5% of nominal airflow for participants versus 16.6% for non-participating homes. While this meets the QJ program goal of 12% total leakage, the baseline leakage was somewhat lower than the 24% leakage value assumed in the workpaper. This resulted in lower actual savings than expected.</p> <p>There was not a statistically significant difference in per-ton airflow between participants and non-participants, nor was there a significant difference in per-CFM power draw between the two groups. The evaluation team modeled the mean differences to develop savings estimates as the collected data represented the best information available since the workpaper relied on assumed values. The evaluation team measured greater airflow for participants, but the non-participant results had high variation contributing to the lack of statistical significance of the difference. Power draw (in watts per CFM of measured airflow) was below the recommended maximum of 0.58W/CFM for participants and non-participants alike.</p> <p>The evaluation team found that the QJ program resulted in the majority of systems (41 out of 49) sized within one-half ton of the size recommended by Manual S calculations. This compares to only 15 out of 50 non-participant systems being “right-sized.” However, the average sizing ratios calculated to be similar as there were both under and oversized non-participant units, but there were primarily right sized and a few oversized participant units. The workpaper assumed an average amount of oversizing and used the sizing ratio to represent this in simulations. The</p>	<p>Use a difference of differences approach for workpapers and evaluation to allow separate estimates of gross and net savings. This requires re-defining program workpaper assumptions where the baseline is code. Participants would have a specific estimate of exceeding one or more aspects of Title-24 code. The 2013 Title 24 code should be reviewed to determine opportunities to exceed code. The net to gross is then defined as the difference between common practice and the code baseline. The net to gross would be greater than one if common practice is worse than code and less than one if common practice exceeds code. Since there is a cost to meet code the adjustment to savings and costs in cost effectiveness works conceptually as well.</p>	All IOUs	Other	The IOUs have engaged the CalTF in the review of the RQJ work paper. We will bring this recommendation to their attention for consideration as we explore the revision of the work paper. We note also that net-to-gross methodologies and determinations fall under the purview of the CPUC and we encourage them to address this recommendation.
7	61-62		<p>Revise workpapers to consider that the baseline is comprised of a range as opposed to a point estimate. Gross savings vary by CZ and measure SEER level. In this case the net savings may also vary by code jurisdiction correlated to CZ and unit cost correlated to SEER level. This includes under and oversizing and a range of duct leakage and airflow after installation. The findings suggest that about half of the installations outside the program perform similar to the program participants and the other half perform poorly.</p>	All IOUs	Reject	We agree with the idea behind this recommendation. However, we do not believe sufficient data is available at this time to undertake a comprehensive overhaul of QJ workpapers to incorporate accurate parameters-specific to each climate zone.
8	62-63		<p>Baseline system oversizing was closer to 13% than the assumed 20%. Manual S allows up to 140% sizing relative to Manual J which leads to participant systems that don't meet the workpaper assumption that all participant systems are sized to the load. Increasing savings due to sizing requires that participant oversizing be eliminated and undersizing be allowed where possible to create a significant difference with common practice and recommended code.</p>	All IOUs	Reject	Manual S requires systems be sized from 95-115% of the load unless a particular unit is not available in a size that is compatible. 140% refers to heating load (RQJ).

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9	62-63		Revise workpaper assumptions to reflect the findings with respect to baseline values in addition to reconsidering the meaning of the assumed net-to-gross ratio. Baseline total duct leakage was around 16.6% rather than the assumed 24%. Participant total duct leakage was near the claimed 12%. We found that directionally the non-participant airflow per ton of cooling was about 300 CFM, lower than the baseline value of 350 CFM assumed in the workpaper. The difference between participants and non-participants was not statistically significant, but since both groups had lower airflow than assumed there may be additional opportunity to capture airflow savings.	All IOUs	Other	In general, the IOUs are supportive of workpaper and DEER updates when they are based on reliable data and EM&V. We anticipate the duct leakage recommendation will be addressed in the RQJ subcommittee of the California Technical Forum. We note that participant airflow is required to meet Manual S. In-field verifications of QI projects rarely show airflow out of specification. Keep in mind systems may be designed at 350 cfm/ton, but the airflow test requires 85-115% of design.
10	62-63		Investigate program overlaps between Quality Install and the Energy Upgrade California Home Upgrade Program. Efficient installations made up a large portion of program participants and some of these installations may be appropriate to include in Energy Upgrade California Home Upgrade jobs.	All IOUs	Other	Significant gaps exist between training for EUC and QI contractors and installation requirements. QI can be performed in EUC, as long as QI standards are maintained and current process is followed.
11	62-63		Expand non-participant sample to support evaluation of QI programs and "to code" pilots. Using a consistent data collection approach would allow expansion of the sample in any given climate zone given the relatively small size of the sample in this study. The pilots will collect detailed compliance verification data. Comparing non-pilot and pilot jurisdictions may require larger samples of non-participants.	All IOUs	Other	We recognize that budgets are limited, but we encourage the CPUC to expand sample sizes in line with this recommendation. A lack of statistically significant results inhibits well informed program adjustments. We recommend future studies focus on the difference between standard practice (which includes some code installs) and QI. Determining the practice for code installs should be a separate effort that can then be compared to standard practice and QI.
12	62-63		Ultimately the programs can influence savings for actions that exceed Title 24 requirements if they exist. Participant systems did not all meet assumed values which could be improved by program inspections. Exceeding code will improve realization rates, but it is unknown if cost effective saving remain, especially relative to the new code. Common practice was worse than code in this study, but not as much as assumed in workpapers. The evaluation team recommends the IOUs explore a few areas where Title 24 can be exceeded or does not have requirements: Explore downsizing to reduce peak demand. The program sizing aligned much better with Manual J load calculations than non-participants, but did not eliminate all cases of oversizing. Non-participants did not systematically oversize, but rather there was a wide range of sizing relative to load calculations. A focus on reducing the installed size compared to the unit that is being replaced would have peak demand benefits if the reduction in size can be documented. Explore duct sealing to reach a lower target leakage, such as the 6% threshold that is set for new ducts systems. Explore air handlers/furnaces, filters, and duct modifications that reduce pressure drop and improve fan system efficiency. Explore whether all ANSI/ACCA QI elements in programs impact energy use and align with workpapers. Emphasize the energy saving aspects in programs focusing on specific elements in workpapers.	All IOUs	Other	We agree that program inspections are essential in promoting acceptable QI and to transform the market. Sizing reduction compared to the previous size should not be performed without confirming the needed size through Manual J and S calculations. A utility promoting potentially undersized systems could lead to unsatisfied customers, especially when there is a change of occupancy and could short-circuit code compliance. 6% duct leakage could be a difficult standard for existing homes, even with a new duct system, some configurations could prevent this standard from being achieved. Additional savings due to duct leakage documented below required programs values should be accounted for in NTG savings calculated through evaluations, but should not be explored as a program requirement. Fan efficacy should be promoted through duct modifications. ANSI/ACCA QI elements should be followed, but programs should not limit energy savings pathways to those elements."
13	62-64		Determine if there are specific locations where common practice baseline is worse than estimated in this evaluation. The non-participant sample covered large areas and many code jurisdictions. Further study could determine specific areas where common practice is worst and target program activities toward those locations.	All IOUs	Accept	We agree that establishing an accurate baseline, even for relatively small areas should take priority over expanding the study to a larger area. However, both are important and as in our reply above, we encourage the CPUC to expand QI/QM sample sizes. The IOUs are considering a comprehensive billing analysis to target homes that would benefit the most from QI.

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14	93-94	Based on responses to the questions on sales volume by tier levels (examined more closely in Market Effects Work Order 54), we found that most sales occur in Tier 0 (standard efficiency) and Tier 1 categories. The lack of sales above Tier 1 could be due to rebate levels and/or due to manufacturer's limited product offerings. .	The program may want to re-evaluate incentive caps and rebate levels for higher efficiency equipment above Tier 1. The program may want to expand to ultra-large tonnage (in excess of 60 tons) and offer larger rebates for the higher tier levels. Based on the data collected from the sales volume questions, distributors' sales primarily occur in Tier 0 (non-program qualifying) and tier one, the first level of participation. Evidence of this was identified through the sales-volume questions as reported in the Market Effective WO54	All IOUs	Accept	Incentive caps and rebate levels are tied to DEER and workpapers specify savings for higher efficiency equipment above Tier 0. With the 2013 Title 24 Update, many Tier 1 units are now standard and others have significantly reduced savings (and corresponding incentives). A critical issue is that DEER savings include part-load and full-load ratings. Clarification is needed as to whether both part-load and full-load efficiencies must be met to claim savings. If both must be met, many of the CEE Tier 1 units do not qualify and many CEE Tier 2 units may only qualify for Tier 1 DEER savings. Based on actual program data, the program realizes more participation in Tier 2 and occasionally Tier 3, than in Tier 1. However, the Program could achieve higher participation in Tier 3 and Tier 4 through higher incentives. The IOUs are currently working on incentive proposals for 2015 that take into account this recommendation, along with our goal of reducing overall budget and \$/kW, while maintaining participation and TRC.
15	93-94	How distributors utilize Upstream rebates is discretionary. The program in its current design allowed distributors (if they so choose) to steer market demand towards high efficiency equipment by lowering equipment costs, by covering equipment carrying costs, or by increasing stocking and sales attention given to high efficiency units. Non-stocking distributors had a very small share of the claimed rebates and had less opportunity to use them due to uncertainty of rebate availability because of long sale cycles.	Individual marketing support may help distributors, particularly those who are less successful at claiming rebates. It appeared some distributors don't know how to "go to market" with the rebate. Some of the challenges included obtaining unit installation information from contractors and how to market a rebate-discounted unit. Distributors may benefit from a marketing or inventory analysis and sales plan. The program should not assume distributors necessarily know how to use the rebates to their advantage, particularly given some may be risk averse. Marketing to increase demand for the highest tier of efficient equipment could create more demand for these units.	All IOUs	Other	We are working with distributors to determine the best way to use rebates. Marketing materials limit the distributors ability to utilize the rebate as they see fit. The rebate is for stocking high efficiency and is not always passed down to contractor or customer. Distributor sales materials have been developed and distributed for the upstream program. On the commercial side, marketing support should be aimed at customers and contractors to promote high-efficiency sales, permitting and quality installation. Because incentives are available through a hybrid approach, first-come, first-served, with reservations available to customers and contractors, the distributors would collect greater sales and stocking incentive if fewer customers were aware of the opportunity.
16	93-94	Non-stocking distributors had a very small share of the claimed rebates and had less opportunity to use them due to uncertainty of rebate availability because of long sale cycles.	Distributors who have long sale cycles or custom built (non-stocked) equipment would likely benefit in a reservation system or some guarantee, such as bridge funding. The absence of a guarantee for a limited number of distributors was cited as a challenge.	All IOUs	Reject	A reservation system has been discussed, especially in the commercial arena for long-lead items. However, given the frequency of DEER changes and the possible decrease in incentives to the distributor, such a system would be difficult to implement Juggling a reservation system with budget cycles, changing incentives, and trying to ensure continuous payments and a fair system for all distributors leads us believe our efforts are better devoted elsewhere. We have discussed this issue with distributors. Their main interest was a need to guarantee program funds. Distributors indicated they were at risk towards the end of each portfolio cycle (as project cycles could be long), which has been worrisome. In our view, program funding risks indeed likely reduce uptake. In D.14-10-046, the Commission guaranteed 10 years of EE funding until another ruling supersedes it. This move to what stakeholders call a "rolling portfolio" is designed to remove the funding cliffs associated with former program "cycles." In this case, IOUs are able to instill confidence in the marketplace that EE funds will be available for the long-term. Finally, the program has found that many of the large tenant improvement projects with high efficiencies that would otherwise qualify for distributor incentives have often already claimed incentives through Savings by Design or other programs. Offering distributors a reservation system would certainly benefit the upstream program, but may harm other specifiers/decision makers such as customers and contractors who currently claim these incentives. Currently, distributors primarily claim units that are not permitted because contractors and customers cannot qualify without a permit.