



Subcommittee Summary

Subcommittee	<i>Savings Below Code</i>
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Final Deliverable(s)	Technical position paper that: <ul style="list-style-type: none"> • Describes and documents circumstances where “below code” savings are not being captured. • Summarizes work (such as pilots) and analysis in California and other jurisdictions that are completed or underway on characterizing, quantifying and capturing below code savings. • References other work to comprehensively answer how to best capture below code savings while preventing free ridership and double counting of claims. Working Papers on select issues, as needed. See Appendix for working list of issues to be addressed.
Commencement Date	January 2015
Conclusion Date	December 2015

I. Subcommittee Objective

The objectives of the subcommittee will be to

- To characterize circumstances where savings below code are not currently being captured, and
- To quantify cost-effective savings from ‘below code’ activities that can be achieved through program intervention such that



- PAs and implementers may capture otherwise stranded savings opportunities
- Expenditure of ratepayer dollars on ‘free rider’ activities is minimized
- Savings claims are not “double counted.”

The final deliverable will be a technical position paper for review and approval of the full TF detailing the recommendations and supporting reasoning resulting from subcommittee discussion and consensus to meet the above objectives. The subcommittee will not duplicate existing or ongoing research on this subject; rather, it will strive to leverage other efforts, summarize results when appropriate, and in general fill in the gaps in the current analysis.

II. Description of Issues

There is a need to characterize activities where baseline should be lower than code such that savings from upgrading to code can legitimately be claimed.¹ Determining the ‘rule set’ for each distinct activity, and what data should be collected during program implementation and/or EM&V to confirm that the rules have been met is an essential component of this work. Examples of below-code activities for consideration include:

- Early replacement
- “Repair indefinitely” equipment
- Actions that are not required by code, but that trigger code (such as installing a skylight)
- Existing buildings where owners are not required to upgrade, but program incentives or other program activity cause them to upgrade, and
- Code non-compliance

The ‘rule sets’ for each of these circumstances must be structured to avoid subsidizing free-ridership and prevent double counting of savings in both the utility portfolios and the CEC long-term forecast.

III. Background information

The subcommittee will identify relevant work that is underway in California, and elsewhere when relevant, and serve as a central clearinghouse of information so as to avoid duplication of work. Cal TF’s existing work assisting with other statewide work put this subcommittee in an excellent position to help leverage efforts and reduce overlap.

- TF member Doug Mahone is preparing a white paper on “Below Code” activities and how to capture “Below Code” savings for PG&E. The subcommittee will help peer review this work as well as reference its findings and recommendations in its own Position Paper.
- The Local Government Sustainable Energy Coalition (LGSEC) has already begun work cataloging energy efficiency code noncompliance across the state. The LGSEC has expressed strong interest in working together with the Cal TF subcommittee on this issue. The subcommittee will consider leveraging the LGSEC’s data for its own analysis.
- TF member Doug Mahone has also presented to the Forum an ACEEE paper that offers a new measure category—Repair Indefinitely—as a solution for capturing savings below code.

¹“We understand party claims that there is a high level of non-compliance with codes and standards... however these claims are unsubstantiated by any empirical evidence.” *Proposed Decision of ALJ Edmister in R13-11-005*, Mailed 9/16/2014, p.72.



- Armen Saiyan, TF member from LADWP, has presented to the TF a possible solution for targeting and accounting for savings otherwise stranded by code updates.
- The CEC is working with other parties to better understand the effects of increasing below code claims on statewide forecasts. Both the CEC and POU's are willing to draft hypothetical below code measures for the subcommittee to use in testing its proposed approach.
- Cadmus Group and others have recently published impact evaluations characterizing levels of non-compliance in new construction and retrofit circumstances.
- Cal TF staff have researched ACEEE papers for the 2014 and 2012 Summer Studies and will provide bibliography of relevant research to the group.
- "To Code" Pilots that the three California IOUs are designing and must conduct.
- Multiple parties commented on the importance of trying to capture "Below Code" savings from existing buildings in their Prehearing Conference Statements in the Rolling Portfolio proceeding, including LGC, NAESCO, SCE, TURN, CSE, First Fuel, Efficiency Council, MCE, UC, PG&E.
- In comments to the draft 111(d) rule, the Joint Utilities noted that the ability to capture "Below Code" savings would be critical for California's ability to comply with 111(d) requirements.

IV. **Schedule**

The subcommittee will meet through 2015 the first and third Thursday of every month. Meetings will be held via teleconference from 9:30 am to 11:00am. The full TF will also be periodically updated throughout the process.

Date	Agenda	Next Steps
1/29/15	<ul style="list-style-type: none"> • Overview of Subcommittee Summary • Identify additional background work that should be considered. • Agreement on Deliverable • Agreement on Objectives • Agreement on number of meeting to hold • Discussion 	Subcommittee members to consider issues discussed, prepare comments for next meeting
February – June, 2015	<ul style="list-style-type: none"> • Discuss past/current "Below Code" research/analysis, and applicability to position paper. • Identify gaps in knowledge. • Discuss various items, as identified in the attached Appendix. 	Cal TF staff to incorporate results of discussion into technical position paper.
TBD	<ul style="list-style-type: none"> • Discuss LADWP proposal and other PA proposals 	Subcommittee members to consider alternate approaches applicable to other PAs. Cal TF staff to incorporate results of discussion into subcommittee proposal.



TBD	<ul style="list-style-type: none">• Create “rule set” so that implementers can easily determine whether activity/intervention will achieve “below code” savings that would not have been captured absent program intervention.	Cal TF staff to compile final draft Cal TF technical position paper for full TF review.
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V. **Appendix A: List of Possible Topics for Working Papers**

- Research from other jurisdictions on capturing below code savings and documenting non-compliance.
- List of “Repair Indefinitely” measures with proposed data collection strategy for validation.
- List of existing conditions that are code triggers and therefore not upgraded with proposed data collection strategy for validation.
- Validation of DEER EULs with other existing data.
- Summary of relevant code non-compliance studies, results, and newly available data.
- Calculating and mitigating free-ridership in a below code setting.