

George J. Nesbitt

Environmental Design/Build

HERS Rater (I &II), GreenRater, **CEPE** (Res & Non Res), Passive House Consultant, Building Performance Contractor

Docket **06-NSHP-1** Comments on the; Staff Workshop on the Proposed Revisions to the New Solar Homes Partnership

Steering Committee;

To address the NSHP in a comprehensive manor requires that ALL the major stakeholders (CEC, CPUC, IOU's & MU's (program administrators & plan checkers), CBIA, the Solar Manufactures & Installers, CABEC, the HERS Providers & Raters) need to meet informally to be able to understand each others internal processes, to work through and streamline the process for everyone's benefit. Some of the problems are outside of the guidebook.

Application Process:

The application process has not been easy or fast, and has been described as arbitrary. Applications are rejected (after weeks of review) for minor little error or discrepancies (dotting I's and crossing T's) without chance of making corrections. Re applying takes extra time & effort and costs money, especially when we go through a Guidebook revision or an incentive change.

I agree with the proposal that; All "errors" should be given time to be revised. The 10 BUSINESS days is acceptable, but 15 would be preferable. Depending on the project & complexity, and how many people are involved, and how major the changes are, there is a need for more time.

I agree with eliminating the Equipment Purchase Agreement (except for a self install system where there is no Installation Contract), and the removal of the (Solar as an option) Build-Out Schedule and Progress Report.

The Building Permit requirement (and proof that a remodel / addition) should be removed for projects that are Plan Checked though another Utility Rebate Program (CAHP, CMFNH, SMUD, etc.). Since this and the other (exempted) Energy Efficiency documentation (permits, plans, T24 pt6) are required for those plan checks.

Removing the 180 day window between final / occupancy permit and solar permit is a bad idea. This may make Solar as an Option, not an option. PV is installed late in construction (when it's "standard") near final. But as an option, it's only exercised when a homeowner purchases a home and chooses PV as an option. This may be before or after completion of the home (and final), depending on the market. What is the difference between a new home and an existing? A new home has never been occupied, and existing home has / and or is, or was occupied. How ever, it may make sense to state that the home has to have had a HERS Rater involved in the project pre drywall to verify insulation, or require that it was in a program that requires HERS Verification (Energy Star, utility rebates, EEM, etc.)

All forms (in the Guidebook and online) should include a version # and / or date. I've been rejected for not having the "current" form, when new was available at the time of application). You could make the Guidebook version a write in field if nothing else changes. This would make reviewing applications, and keeping current with documents easier.

Removal of GoSolar Retailer / Installer registration requirement; This is ok, except that you want to know and track who the installer is on projects. It may be more work if this information have to be entered for every application. There is nowhere on the application or payment forms to record installer info (only the webtool).

The webtool has issues with uploading large files, that than need to be snail or e@mailed.

Incentive's

Changing the incentive reservation "hold" from the "completed application" to the "complete submitted application" makes some sense, especially with some (not all) of the proposed changes, and with my additional changes above. The upside is greater certainty of incentive level. The downside is there could be a flood of applications for projects that are less viable (and don't complete), and cause viable projects to get lower incentive, because they could not apply soon enough.

Changing the incentive levels for Affordable Housing System Owner(s) based on tax status (non-profit) is a bad idea. The goal is to provide some social equity to occupants (tenants or homeowners) that can not afford to buy a system. The developer has no financial incentive to install PV for which it gets no benefit from when the PV is connected to the tenant meter (physically or through virtual metering). And the intent is that the PV serves the residential units and not common areas.

Solar as an Option; eliminating the 50% cap on reservations may be a bad idea. They could reserve more, but than install far less systems. That would tie up money at a given tier, and more viable projects would get a smaller incentive (since unused money in a tier is reallocated to the next tier). I think that in late 2011 with the funding issues, that there were a lot of reservations made that were not going to be used. Require solar as an option project to use HERS Raters to verify 100% of the homes for EE.

Reservation flexibility: I agree that there should be some flexibility in reservations, perhaps being able to transfer a reservation from one project to another. However the original project should have to reapply at current levels. The downside could be making reservations for a project without intending to use it, and applying it to a future project that can not apply yet.

Explore new incentive structures; I'm not sure a checklist of energy "widgets" is any easier, or better than the performance method where you have flexibility on how to comply. Generally we need to not incentivize "widgets". Incentivizing quality installation, like QII, refrigerant charge, proper airflow, etc., would be a better way to go.

ZNE; it would be a great idea to incentivize ZNE homes as we move towards our 2020 ZNE goal (as well as others like AB32). It could be a Tier II incentive level (even if the building qualifies at Tier I), a kicker incentive, or a ZNE tier (higher than Tier II). This would be based on the HERS II Rating System. (I certified the 1st new SF home in CA as ZNE, and am working on 80 MF new ZNE homes too) There are misconceptions that the HERS II Rating system can be used on new & MF construction.

Payment Process;

The idea of a partial payment upon completion is an interesting one. The questions are; does the CF-4R-PV have to be signed (EE is supposed to be completed before PV), or just completed (assuming everything matches the CF-1R-PV)? What if the EE requirements are not met? It may be more work having to process 2 payments, and dealing with problems if all the requirements are not met.

Increase of Funding Requests; I agree that any adjustment (upward) should be made at final payment, and at current levels.

VNM

Virtual Net Metering (VNM)-Standard Reservation Period; having a 36 month reservation period for all VNM projects seems reasonable, due to the added complexity.

Leased Systems

10% True-Up of NSHP Incentive; I agree that if the incentive is +/- 10% that the lease agreement should be modified reflecting the new incentive.

Solar Financing Models; Leased are the dominant method of system financing. My understanding is the cost per kWh to the customer (even with the up front cost reductions due to Federal Tax Credit, Depreciation, NSHP) is typically higher than ownership. It does not appear it needs or should be treated differently.

CEC PV Calculator

The excel based PV calculator has not always worked properly. It is awkward to print forms (done by individual pages that you have to then reassemble, or not). You can't save just the data inputted (just the whole workbook), if you change the workbook name it does not work. It would be nice to have it as part of the 2013 Compliance Engine.

(EE) Plan Check

Plan check is a very important step in the process to ensure above code compliance. The process can be frustrating. You are often asked for information provided, sometime denied being able to model thing correctly, and the focus is on some things more than others, with mistakes passing through. As a HERS Rater, I've always viewed my job as a "plan checker" when I'm required to sign off on a project involving the whole CF-1R / PERF-1. That includes areas, orientations, as well as all equipment specs.

Local Ordinances exceeding the Building Energy Standards; waving the (EE) plan check requirement would be a bad idea. The quality of plan checking at the local level is not as thorough as at the program level, increasing the likelihood of projects that don't qualify being allowed in the program. It would also create more problems for the HERS Raters when the CF-1R / PERF-1 does not match what was installed.

CEA requirement for 2013 Standard; waving the requirement for plan checking would be a bad idea. When the requirement for CEPE (some who are CEA's currently) was instituted the surprise was the poor quality of work that was being done (and still is). Some CEPE's struggle on every project submitted, still, after all these years (and decades that they have been doing this work). While the new CEA test will be harder, it won't stop the errors and fraud that is committed every day. The plan check is a very important step to ensure that the project actually is better than code.

Energy Efficiency Compliance Documents: Document Author; Removing the requirement that the CF-1R / PERF-1 be prepared by a CEPE (to become CEA) would also be a bad idea. Even though the work by CEPE's is not always great, at least they have had to study, and pass a test. While there are non-CEPE's who likely would do better work, it's likely that the amount of effort on the plan checkers would be increased. The idea for having a certification, and requiring it, is to build an industry of professionals that perform their work correctly. There would be no reason to get certified if it was not required.

HERS II Raters (WH-HERS, Whole House Home Energy Raters); HERS II Raters are trained & tested to do the energy modeling as well as the Verification, which is more extensive than the CEA requirements, plus there is QA on their work. Nationally HERS Raters perform both functions for Energy Star Homes, as well as other programs, and increasingly being required by local jurisdictions. HERS II Raters are recognized by EUC for SF & MF, as well as by the CTCAC for rehabs. HERS II Raters should be recognized and allowed to provide CF-1R / PERF-1 documentation as well as perform the Verifications.

2013 Building Code;

With the 2013 code update getting a specific % better than code will be harder, and with each code update even harder. Currently on 15% of projects are Tier II, yet as we move towards ZNE we would like to see higher participation at greater % improvements. 15% and 30% may not be the right numbers for the 2013 low rise residential, especially for MF (MF max out at about 40% on 2008, SF maxes at 60%+). Non Res is hard to get to 15% as it is (there are virtually no HERS credits available), 10% and 15% may be too high for 2013. The issue for MF is the 25% solar hot water fraction & plumbing distribution system (compact, demand control). We may see MF completely drop from Tier II, high rise MF may drop out completely, and the # of Tier II projects drop (except for high end custom homes).

HERS Verification

HERS Verification is the last and very important step. The local jurisdictions don't enforce the energy code very well. We often find things that were not done according to plans, specs, T24 pt6, or don't meet standards. HERS Raters are Special Inspectors (to the local jurisdiction). Yet it's not always understood that we are doing our jobs (failing things, retesting), sometimes not documenting in the registry.

A large % of jobs require revised CF-1R-PV's, and are often due to our Verifications. Sometime a different make of panels or inverter was installed, or a different model (capacity) of inverter, orientation (no correction for true vs. magnetic). The most frequent change is due to shading. It's very difficult to predict properly from plans, and can't be done until the panels are in place. The difficulty is the time it takes from doing a PV Verification, and getting the CF-1R-PV revised, resubmitted (plan checked), uploaded to the registry, so the Rater can sign off (I've observed 6 weeks from resubmital to plan check and getting on the registry). This caused some of the delay in collecting incentives. This is because the paperwork is linear. The Rater should be able to enter the actual data into the registry (noting what passes and fails, based on the original CF-1R/(PV), and the program administrator should adjust the incentive based on this (rerun the CF-1R/(PV), upload the corrected documentation, and then the Rater can provide final sign off. The rebate claim should be able to be submitted after the initial registry entry, but not paid until the proper incentive has been calculated. CMFNH revises the CF-1R with the Raters field verification data, and adjusts the incentive.

HERS Raters could use additional training in the CECPV Calculator, manual shading calculations (it's clear how to do with a suneye, but not manually), commercial water heaters, boilers, pumps, hvac (economizers) commercial equipment.

Accurate information (EE) does not always appear on the registry. I have seen issues with files from Micropas as well as EenergyPro.