NSHP Energy Efficiency

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NSHP Training Workshop
Efficiency Requirements

• Incorporated 2013 Building Energy Efficiency Standards
  – Code Compliant Incentive Level
  – Tier I
    • 15% compliance margin for residential buildings
    • 10% compliance margin for non-residential buildings
  – Tier II
    • 30% compliance margin for residential buildings, 30% space-cooling compliance
    • 15% compliance margin for non-residential buildings, 15% space-cooling margin

• Solar Compliance Credit (2013 Standards only)
  – Available for single family projects in Climate Zones 9-15
  – Credit available only when 2015 federal AC standards are used
  – Cannot be claimed for 2013 Code-Compliant projects
  – Can be claimed for 2013 Tier I and Tier II projects.
Efficiency Requirements (cont.)

- Revised Title 24, Part 6 form names for 2013

<table>
<thead>
<tr>
<th>Previous Name</th>
<th>Revised Name</th>
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<tbody>
<tr>
<td>CF-6R Certificate of Field Verification</td>
<td>CF-2R Certificate of Installation</td>
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<tr>
<td>CF-4R Certificate of Field Verification and Diagnostic Testing</td>
<td>CF-3R Certificate of Verification</td>
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- Revised NSHP Efficiency Verification Form Name

<table>
<thead>
<tr>
<th>Previous Name</th>
<th>Revised Name</th>
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<tbody>
<tr>
<td>CF-4R-EE NSHP Certificate of Field Verification</td>
<td>NSHP EE-3 Additional Energy Features Checklist</td>
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NSHP EE Requirements

• Any building whose electric load is offset by the PV system must meet NSHP EE requirements.

• For Common Area PV System incentives:
  – Residential Subdivision
    • All Homes meet NSHP EE requirements
  – Multifamily Development
    • All least one residential building must meet NSHP EE requirements
Code Compliant Incentive Level Requirements

• Compliance documentation may be completed by anyone legally authorized to 2013 Title 24, Part 6 compliance documentation (Licensed architect, engineer, building designer).
• Not allowed to claim solar compliance credit.
• Must submit a copy of the Title 24 compliance documentation run using an approved version of the 2013 compliance software (CBECC, EnergyPro, etc).
  – Same as documentation submitted to local building department
• Must select a HERS Rater for the PV inspection
  – No NSHP specific energy efficiency verification will be required
  – All HERS verification for Title 24 purposes is still required
Utility New Construction Program Participants

- Complete Utility EE Requirements, not NSHP EE requirements
  - Do not submit any EE documents to NSHP
    - CF-1R
    - Electronic input files (.bld, .mp8, .ribd)
    - Plan Set and Checklist Items – no NSHP Plan Check
  - Do not need to complete NSHP EE Verification
    - NSHP EE-3 does not need to be filled out
    - Only PV Verification by a HERS Rater needs to be completed
- Required Documentation
  - Utility EE Program Approval Letter with Reservation Application
  - Submit Utility EE Program Payment Letter to NSHP with Payment Claim Application
NSHP Plan Check Requirements

• NSHP Plan Checks Required for all projects except:
  – 2013 Code-Compliant NSHP projects
  – Projects with compliance documentation signed by a CEA certified for the 2013 Standards
  – Projects participating in a utility new construction energy efficiency program

• Projects that have their NSHP Plan Check waived do not need to submit:
  – Construction Plan Set
  – Electronic input files (.bld or .mp8)
  – Plan Set and equipment specification sheets
Plan Check Documentation

• Plan Check Checklist listed in Appendix C

• Construction Plan Set
  – Architectural, Electrical, Mechanical, and Plumbing
  – Window/Door Schedule showing sizes and including ALL skylights
  – Elevation, wall, roof, floor construction assemblies
  – Floor finish schedule (if CF-1R shows high mass design)
  – A site plan with a North Arrow (custom homes)
Plan Check Documentation

- **Title 24 Compliance Documentation**
  - CF-1R-prepared by a Certified Energy Plans Examiner or Certified Energy Analyst
  - Digital input file (.bld, .mp8, .ribd)

- **Equipment and Materials Spec Sheets**
  - Windows, Glazed Doors, Skylights
  - Space Heating
  - Air Conditioning([www.ahridirectory.org](http://www.ahridirectory.org))
  - Water Heating

- **To reduce plan check turnaround time, applicants should provide information about where**
Plan Review Process

• Plan Checker is verifying that information on CF-1R matches the Plan Set

• Applicants should provide information about where in their plan set (sheet number) the following information can be found
  – Insulation R-Values (ceiling/attic, floor, walls)
  – Water Heater efficiency values
  – HVAC efficiency values
  – Window dimensions and efficiency values

• If required information is missing, project may be disapproved
NSHP HERS Provider

• CalCERTS and CHEERS are the only HERS registries certified for 2008 NSHP EE and PV field verification

• Only CalCERTS is currently certified for 2013 NSHP EE and PV verification

www.cheers.org  www.calcerts.com
HERS Registry Process

• Parties Involved:
  – Project Created by: Energy Consultant/HERS Rater or CEC
  – Project Owned by: HERS Rater
  – Project Shared with: Energy Consultant, HERS Rater (PV and EE), CEC

• Steps Involved:
  – Approved CF-1R and NSHP PV-1 uploaded to registry by CEC
  – If not created by HERS Rater, project is transferred to Rater and shared
  – If Rater not on transfer list, CEC contacts Provider to have Rater added
  – Homeowner requested to sign off on CF-1R
  – After homeowner signoff, Rater can access CF-1R and can upload inspection results
  – If changes are made to building, a new CF-1R must be submitted for review
Energy Efficiency Inspection

• Before EE Inspection:
  – Rater must obtain applicable CF-2R(s) from installer
  – Rater must obtain NSHP EE-3 from registry

• HERS rater will verify installed features listed on form
  – Pre-drywall inspection
    • HERS Rater may need to come on-site
    • Pictures, invoices and CF-2Rs can be used as verification. Must be okayed by HERS Rater first.
    • QII must be completed pre-drywall
  – Final inspection
    • HERS Rater completes NSHP EE inspection (NSHP EE-3)
PERF-1 Projects

• No way to currently upload a PERF-1 to CalCERTS registry
  – Applies to non-residential buildings and high-rise residential buildings greater than three stories

• Must submit final building permit and any applicable HERS Test Results to the CEC for review.
  – After reviewing the submitted documents, the CEC will sign off that the project has met all NSHP EE requirements
Photovoltaic System Inspection

- **Before PV Inspection**
  - Rater must obtain applicable NSHP PV-2 (formerly CF-6R-PV) from installer
  - Rater must obtain PV checklist from HERS registry

- **During PV Inspection**
  - HERS rater will verify system installation matches NSHP PV-1 and NSHP PV-2

- **After PV Inspection**
  - HERS Rater uploads verification results to registry to generate NSHP PV-3
Questions ???

2008 Documents available at:
http://www.energy.ca.gov/title24/2008standards/

2013 Documents available at:
http://www.energy.ca.gov/title24/2013standards/

Energy Standards Hotline
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1-800-772-3300

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