



CALIFORNIA ENERGY COMMISSION

2013 Energy Standards Nonresidential Compliance Documents (Forms)

Christopher Olvera
California Energy Commission
Outreach and Education Unit

San Joaquin Valley Chapter ICC

Tulare, CA

June 30, 2015



Goals of this Session

- Provide a general overview of the nonresidential compliance forms
- Clarify the purpose of nonresidential compliance forms
- Identify when nonresidential compliance forms are required
- Simplify verification of nonresidential compliance forms for Plans Examiners and Field Inspectors



QUESTIONS...

- **Please feel free to ask at anytime!**
 - During training
 - At break
 - Afterwards
- **Your questions will enhance this training**





A Little CEC History

- Section 25402 of the Public Resources Code (known as the **Warren Alquist Act**)
- The act created the Energy Commission in 1974 and gave it authority to develop and maintain Building Energy Efficiency Standards
- Requires the Standards and new requirements to be cost effective over the economic life of the structure
- Requires the Energy Commission to update the Standards periodically (about every 3 years)



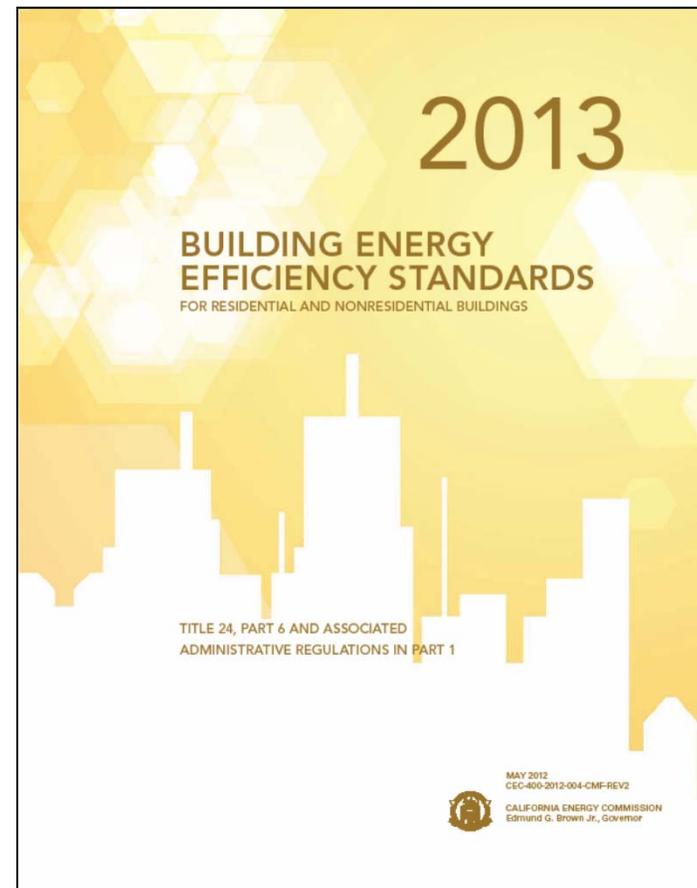
CALIFORNIA ENERGY COMMISSION

*Let's discuss the 2013
Building Energy Efficiency
Standards*



2013 Building Energy Efficiency Standards

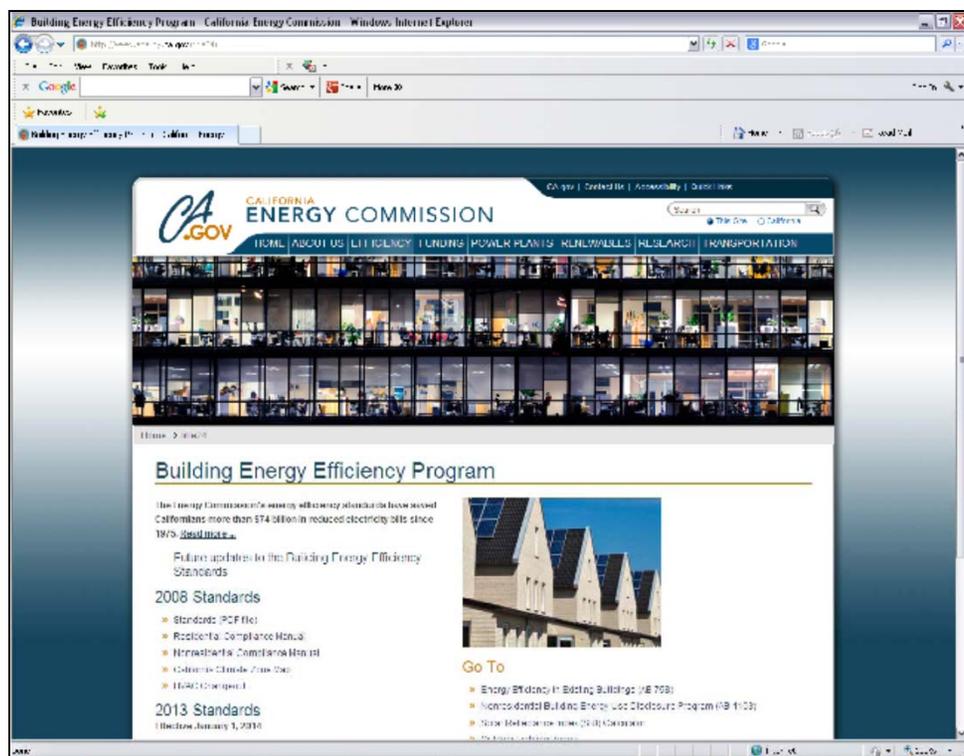
- **Effective on July 1, 2014**
 - Building permit applications submitted on or after this date
- **Larger projects in plan review may be affected:**
 - Need to resubmit if permits pulled on/after effective date





2013 Documents

- Building Energy Efficiency Standards
- Nonresidential Compliance Manual
- Reference Appendices
- All docs. available online at:



www.energy.ca.gov/title24



CALIFORNIA ENERGY COMMISSION

*Let's talk about the
nonresidential compliance
forms*



What are compliance forms?

- Documents completed to demonstrate compliance with the Energy Standards
- Completed by designers, architects, engineers, consultants, builders, contractors, technicians, HERS raters, etc.
- Submitted to enforcement agencies for verification
 - Certificate of Compliance (NRCC)
 - Certificate of Installation (NRCI)
 - Certificate of Acceptance (NRCA)
 - Certificate of Verification (NRCV)



When are forms required?

- When the Energy Standards are applicable
- Both residential and nonresidential projects
- Newly constructed buildings, additions, alterations
- Different forms are required at various stages of the permit/construction process
 - Permit/Plan Review
 - Final Inspection



Which forms are required?

- **Depends on:**
 - Building type (res/nonres)
 - Project type (new, addition, alteration)
 - Scope of the project (i.e. outdoor lighting, covered process, etc.)
 - Depends on compliance approach (Prescriptive vs. Performance)



Where can I find the forms?

Appendix A of the 2013 Nonresidential Compliance Manual

CA.GOV CALIFORNIA ENERGY COMMISSION

Contact Us | Accessibility | Quick Links | Translate / Traducir

Search This Site California

Home | About Us | Analysis & Stats | Efficiency | Funding | Power Plants | Renewables | Research | Transportation

Home → title24 → 2013standards → nonres compliance forms

2013 Nonresidential Compliance Forms

Parent Directory

Name	last modified <small>Color dates added today</small>	Size
2013 NR Appendix A.pdf	May 29, 2015	144.7 kb
NRCA	May 18, 2015	4 kb
NRCC	May 29, 2015	4 kb
NRCI	May 18, 2015	4 kb
NRCV	May 18, 2015	4 kb

http://www.energy.ca.gov/title24/2013standards/nonres_compliance_forms/



What is the NRCC?

- **Nonresidential Certificate of Compliance**
- Required with/on plans at permit
- Demonstrates compliance at design phase
- Completed by designer, architect, energy consultant, engineer, etc.
- Plans Examiner verifies NRCC matches specs on plans



What is the NRCI?

- **Nonresidential Certificate of Installation**
- Required for Final Inspection
- Confirms compliance at installation
- Completed by builder or installing contractor
- Field Inspector verifies efficiency/components on NRCI matches installed equipment and systems



What is the NRCA?

- **Nonresidential Certificate of Acceptance**
- Required for Final Inspection
- Confirms compliance with acceptance testing requirements at installation (HVAC & Lighting)
- Completed by builder/installing contractor, OR an Acceptance Test Technician (ATT) when required
- Field Inspector verifies applicable tests and forms are complete/signed when required



What is the NRCV?

- **Nonresidential Certificate of Verification**
- Required for Final Inspection
- Confirms compliance with HERS testing requirements at installation (duct leakage & hot water piping)
- Completed by certified HERS rater, and forms must be registered with an approved HERS Provider
- Field Inspector verifies testing and forms are complete/signed when required



CALIFORNIA ENERGY COMMISSION

*Let's talk about the
Commissioning forms*



When are CRX forms required?

- For all “building” projects
 - Newly constructed buildings only (conditioned)
 - Nonresidential buildings/spaces only
- NOT applicable to additions and alterations
- Include specifications for building design review, commissioning, acceptance testing, simple and complex HVAC systems, etc.



NRCC-CRX Forms

- **NRCC-CXR-01 (Design Review Kickoff) ✓**
 - All projects; scope, design reviewer, etc. specified
- **NRCC-CXR-02 (Construction Documents) ✓**
 - All projects; mandatory design review per §120.8
- **NRCC-CXR-03 (Simple HVAC Systems) ✓**
 - Design review for packaged, simple split A/C and HPs
- **NRCC-CXR-04 (Complex HVAC Systems) ✓**
 - Design review for complex, built-up systems
- **NRCC-CXR-05 (Design Reviewer Signatures) ✓**
 - Completed/signed by qualifying reviewer per §120.8



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Envelope
forms*



When are ENV forms required?

- For all “building” projects
 - Newly constructed buildings and additions (conditioned)
- Alterations (applicable sections of forms completed)
 - Re-roofs
 - Fenestration replacements/additions
- Include specifications for insulation, fenestration (U-Factor, SHGC, and VT), cool roof solar reflectance and thermal emittance, etc.



NRCC-ENV Forms

- **NRCC-ENV-01 (Component Approach) ✓**
 - All projects
- **NRCC-ENV-02 (Fenestration Worksheet) ✓**
 - Prescriptive for maximum glazing areas
- **NRCC-ENV-03 (SRI Worksheet)**
 - Cool roofs using calc.
- **NRCC-ENV-04 (Daylit Worksheet) ✓**
 - Prescriptive when skylights required
- **NRCC-ENV-05 (Fenestration Certificate Label)**
 - For glazing using default values in §110.6
- **NRCC-ENV-06 (Area Weighted Worksheet)**

** Prescriptive requirements in §140.3*



NRCI-ENV and NRCA-ENV Forms

- **NRCI-ENV-01 (Certificate of Installation) ✓**
 - All projects
 - Efficiency values/components specified
- **NRCA-ENV-02 (Fenestration Acceptance) ✓**
 - Required for site-built fenestration
 - Completed by builder/installing contractor; NO certification required



CALIFORNIA ENERGY COMMISSION

*Let's talk about the
Mechanical forms*



When are MCH forms required?

- For all “building” projects
 - Newly constructed buildings and additions (conditioned)
- Alterations (applicable sections of forms completed)
 - HVAC changeouts/alterations
 - Duct replacements/additions
- Include specifications for HVAC equipment efficiency values, duct insulation R-value, system controls, testing results, etc.



NRCC-MCH Forms

- **NRCC-MCH-01 (Mechanical Systems)** ✓
 - Prescriptive for multi zone systems
- **NRCC-MCH-02 (HVAC System Requirements)** ✓
 - Prescriptive for multi zone dry and wet HVAC systems
- **NRCC-MCH-03 (Ventilation and Reheat)** ✓
 - Mandatory OSA and Prescriptive for reheat
- **NRCC-MCH-04 (Acceptance Tests)** ✓
 - Prescriptive for single zone packaged units
- **NRCC-MCH-05 (HVAC System Requirements)** ✓
 - Prescriptive for single zone packaged units
- **NRCC-MCH-06 (Maximum Cycles Worksheet)**
- **NRCC-MCH-07 (Fan Power Consumption)** *Prescriptive*

* *Prescriptive requirements in §140.4*



NRCI-MCH and NRCA-MCH Forms

- **NRCI-MCH-01 (Certificate of Installation) ✓**
 - All projects; Efficiency values/components specified
- **NRCA-MCH-02 (Outside Air) ✓**
- **NRCA-MCH-03 (Constant volume, single zone, ACs & HPs)**
- **NRCA-MCH-04 (Duct leakage) ✓**
- **NRCA-MCH-05 (Economizers) ✓**
- **NRCA-MCH-06 (DCV systems) ✓**
- **NRCA-MCH-07 (Fan Variable Flow Controls)**



NRCA-MCH Forms *cont.*

- **NRCA-MCH-08** (Hydronic variable flow control valves)
- **NRCA-MCH-09** (Hydronic with temp. reset controls)
- **NRCA-MCH-10** (Hydronic variable flow controls)
- **NRCA-MCH-11** (Automatic demand shed controls)
- **NRCA-MCH-12** (FDD for packaged DX units) ✓
- **NRCA-MCH-13** (FDD for AH and zone terminal units) ✓
- **NRCA-MCH-14** (Distributed energy storage DX systems)
- **NRCA-MCH-15** (Thermal energy storage systems) ✓
- **NRCA-MCH-16** (Supply air temp. reset controls)
- **NRCA-MCH-17** (Condenser water supply temp. reset controls)
- **NRCA-MCH-18** (Energy Management Control Systems) ✓

** Testing must be conducted by a certified ATT when thresholds are satisfied*



NRCV-MCH Forms

- **NRCV-MCH-04 (Duct leakage testing) ✓**
 - Must be completed/signed by certified HERS Rater
 - Must be registered with an approved HERS Provider
- Prescriptive requirement for new construction and HVAC alterations
 - Constant volume, single zone HVAC systems; and
 - Serves less than 5,000 ft²; and
 - More than 25% of ducts are located outside or in unconditioned space



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Plumbing
forms*



When are PLB forms required?

- For all “building” projects
 - Newly constructed buildings and additions (conditioned) with a water heating system
 - Compliance credit and HERS testing/credit now available
- Alterations (applicable sections of forms completed)
 - Water heating system alterations
- Include specifications for water heating system and distribution type, efficiency values, compliance credits, testing results, etc.



NRCC-PLB Forms

- **NRCC-PLB-01 (Certificate of Compliance) ✓**
 - **All projects**
 - Systems type, efficiency values, and required NRCI forms specified
- **NRCC-STH-01 (Solar Water Heating Worksheet)**
 - Required only for solar water heating systems
 - F-Chart calculations required
 - SRCC data, collector information, and system performance specified



NRCI-PLB Forms

- **NRCI-PLB-01 (Certificate of Installation)** ✓
 - All projects; Efficiency values/components specified
- **NRCI-PLB-02 (Central Hot Water Distribution)**
 - Compliance credit modeled for high-rise res and hotel/motel
- **NRCI-PLB-03 (Single Dwelling Hot Water Distribution)**
 - Compliance credit modeled for high-rise res and hotel/motel
- **NRCI-PLB-21-HERS (Central Hot Water Distribution)**
 - HERS credit model for high-rise res and hotel/motel
- **NRCI-PLB-22-HERS (Single Dwelling Hot Water Distribution)**
 - HERS credit model for high-rise res and hotel/motel
- **NRCI-STH-01 (Solar Water Heating)** ✓
 - Required when solar water heating is installed



NRCV-PLB Forms

- **NRCV-PLB-21 (Central Hot Water Distribution)**
 - HERS verification for high-rise res and hotel/motel
- **NRCV-PLB-22 (Single Dwelling Hot Water Distribution)**
 - HERS verification for high-rise res and hotel/motel
- * *Forms must be completed/signed by a certified HERS Rater*
- * *Forms must be registered with an approved HERS Provider*



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Indoor
Lighting forms*



When are LTI forms required?

- For all “building” projects
 - Newly constructed buildings and additions (conditioned and unconditioned)
- Alterations (applicable sections of forms completed)
 - Wiring, lighting system, and luminaire modification-in-place alterations
- Include specifications for lighting controls, lighting power, installation criteria, testing results, etc.



NRCC-LTI Forms

- **NRCC-LTI-01 (Certificate of Compliance) ✓**
 - All projects; NRCI & NRCA, lighting power summarized
- **NRCC-LTI-02 (Lighting Controls) ✓**
 - All projects; mandatory requirements
- **NRCC-LTI-03 (Lighting Power Allowance) ✓**
 - All projects; Complete and Area Category Methods
- **NRCC-LTI-04 (Tailored Method)**
 - Required only when this method is used
- **NRCC-LTI-05 (Line Voltage Track Lighting Worksheet)**



NRCI-LTI Forms

- **NRCI-LTI-01 (Certificate of Installation) ✓**
 - All projects; controls, LPDs, etc. specified
- **NRCI-LTI-02 (EMCS/Lighting Control System) ✓**
- **NRCI-LTI-03 (Track Lighting Limiter or Supplementary Overcurrent Protection Panel)**
- **NRCI-LTI-04 (Two Interlocked Lighting Systems) ✓**
- **NRCI-LTI-05 (Power Adjustment Factors) ✓**
- **NRCI-LTI-06 (Videoconference Studio Lighting)**

** Forms completed/signed by builder/installing contractor*



NRCA-LTI Forms

- **NRCA-LTI-02 (Lighting Controls) ✓**
 - **All projects**; mandatory requirements
 - **NRCA-LTI-03 (Automatic Daylighting Controls) ✓**
 - Mandatory and prescriptive requirements - §130.1 & §140.6
 - **NRCA-LTI-04 (Demand Responsive Controls)**
 - Mandatory requirements for larger building spaces - §130.5
- * *Forms MUST be completed/signed by a certified ATT*



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Outdoor
Lighting forms*



When are LTO forms required?

- For “building” projects with outdoor lighting
 - Building façade, hardscape, parking lots, sales lots and canopies, dining, etc.
- Alterations to outdoor lighting and/or controls
 - Applicable sections of forms completed
- Include specifications for lighting controls, lighting power, installation criteria, testing results, etc.



NRCC-LTO Forms

- **NRCC-LTO-01 (Certificate of Compliance) ✓**
 - All projects; NRCI & NRCA, lighting power summarized
- **NRCC-LTO-02 (Lighting Controls) ✓**
 - All projects; mandatory requirements - §130.2
- **NRCC-LTO-03 (Lighting Power Allowance) ✓**
 - All projects; prescriptive requirements for lighting power calculations - §140.7



NRCI-LTO and NRCA-LTO Forms

- **NRCI-LTO-01 (Certificate of Installation) ✓**
 - All projects; controls, lighting power, etc. specified
- **NRCI-LTO-02 (EMCS/Lighting Control System)**
- **NRCA-LTO-02 (Lighting Controls) ✓**
 - All projects; mandatory requirements

** NRCA form must be completed/signed by a certified ATT*



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Sign
Lighting forms*



When are LTS forms required?

- For projects with sign lighting
 - Applicable to both indoor and outdoor signs
- Alterations to sign lighting and/or controls
 - Applicable sections of forms completed
- Include specifications for lighting controls, lighting power, lighting source type, etc.



NRCC-LTS and NRCI-LTS Forms

- **NRCC-LTS-01 (Certificate of Compliance) ✓**
 - **All projects**
 - Mandatory controls specified - §130.3
 - Prescriptive lighting power calculations or alternative light source indicated - §140.8
- **NRCI-LTS-01 (Certificate of Installation) ✓**
 - **All projects**; controls, lighting power and/or light source, etc. specified



CALIFORNIA ENERGY COMMISSION

Let's talk about the Electrical Power Distribution forms



When are ELC forms required?

- For all “building” projects
 - Newly constructed buildings and additions (conditioned and unconditioned)
- Alterations (applicable sections of forms completed)
 - New electrical service, switchboards, panels, motor control centers, and receptacle alterations in certain spaces
- Include specifications for service metering, disaggregation of circuits, voltage drop, receptacle controls, etc.



NRCC-ELC and NRCI-ELC Forms

- **NRCC-ELC-01 (Certificate of Compliance) ✓**
 - **All projects**
 - Mandatory metering, disaggregation, voltage drop, and receptacle controls specifications indicated - §130.5
- **NRCI-ELC-01 (Certificate of Installation) ✓**
 - **All projects;** electrical power distribution components above specified



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Solar
Ready forms*



When are SRA forms required?

- For “building” projects that are:
 - Newly constructed buildings and additions $> 2,000 \text{ ft}^2$ (conditioned) for:
 - Hotel/motel buildings ≤ 10 stories
 - High-rise multi-family buildings ≤ 10 stories
 - Nonresidential buildings ≤ 3 stories
- Include specifications for solar zone area, orientation, interconnection pathways, structural design loads, etc., and/or exemptions for solar PV, solar water heating, and high efficacy lighting and smart thermostats



NRCC-SRA and NRCC-STH Forms

- **NRCC-SRA-01 (Solar Ready Areas) ✓**
 - All projects
 - Mandatory solar zone area or exemption specifications indicated - §110.10
- **NRCC-SRA-02 (Min. Solar Zone Worksheet) ✓**
 - Required if not exempt and meeting the solar zone area requirements
- **NRCC-STH-01 (Solar Water Heating)**
 - Required if installing solar water heating for exemption



NRCI-SPV and NRCI-STH Forms

* *No NRCI-SRA Forms; requirements apply to design*

- **NRCI-SPV-01 (Solar PV Systems) ✓**

- Required only if solar PV installed as exemption

- **NRCI-STH-01 (Solar Water Heating Systems)**

- Required only if solar water heating installed as exemption

* *Forms completed/signed by builder/installing contractor*



CALIFORNIA ENERGY COMMISSION

*Let's talk about the Covered
Processes forms*



When are PRC forms required?

- For projects with process spaces/components “covered” under the scope of the Energy Standards
 - Newly constructed building and additions
 - Mandatory requirements and triggers in §120.6
 - Prescriptive requirements and triggers in §140.9
- Alterations (applicable sections/forms completed)
 - Alterations to covered process spaces/components
- Include specifications for covered process/components based on scope of project



PRC Triggers (Mandatory)

- **Commercial refrigeration reqs. in §120.6(b)**
 - Applicable to retail food stores with CFA $\geq 8,000$ ft² that have refrigeration
- **Enclosed parking garages reqs. in §120.6(c)**
 - Applicable if total design exhaust rate $\geq 10,000$ CFM
 - Acceptance testing req. for ventilation
- **Process boiler reqs. in §120.6(d)**
 - Applicability based on boiler capacity (Btu/h)
- **Compressed air system reqs. in §120.6(e)**
 - Applicable to compressors with HP ≥ 25
 - Acceptance testing req. for compressor and controls



PRC Triggers (Prescriptive)

- **Computer room reqs. in §140.9(a)**
 - Economizers
 - Reheat, humidification, fan power consumption and controls, containment
- **Commercial kitchen reqs. in §140.9(b)**
 - Applicable to Type I and Type II kitchen hoods with total exhaust airflow rate $> 5,000$ cfm
 - Maximum exhaust rates in TABLE 140.9-A
 - Acceptance testing req. for exhaust rate
- **Laboratory exhaust reqs. in §140.9(c)**
 - Applicable when min. circulation rate is ≤ 10 ACH



NRCC-PRC Forms

- **NRCC-PRC-01** (Certificate of Compliance) – All projects ✓
- **NRCC-PRC-02** (Parking Garage Exhaust) ✓
- **NRCC-PRC-03** (Commercial Kitchens) ✓
- **NRCC-PRC-04** (Computer Rooms)
- **NRCC-PRC-05** (Commercial Refrigeration) ✓
- **NRCC-PRC-06** (Refrigerated Warehouse Projects) ✓
- **NRCC-PRC-07** (Refrigerated Warehouse space $\geq 3,000$ ft²) ✓
- **NRCC-PRC-08** (Multiple Refrigerated Warehouse spaces $\geq 3,000$ ft²)
- **NRCC-PRC-09** (Laboratory Exhaust)
- **NRCC-PRC-10** (Compressed Air Systems)
- **NRCC-PRC-11** (Process Boilers)



NRCI-PRC and NRCA-PRC Forms

- **NRCI-PRC-01** (Certificate of Installation) – **All** projects ✓
- **NRCA-PRC-01** (Compressed Air Systems)
- **NRCA-PRC-02** (Commercial Kitchen Exhaust) ✓
- **NRCA-PRC-03** (Parking Garage Exhaust) ✓
- **NRCA-PRC-04** (RWH Evaporators Fans)
- **NRCA-PRC-05** (RWH Evaporative Condenser Controls)
- **NRCA-PRC-06** (RWH Air Cooled Condenser Controls)
- **NRCA-PRC-07** (RWH Variable Speed Compressors)
- **NRCA-PRC-08** (RWH Electric Resistance Underslab Heating)

* *Completed/signed by builder/installing contractor; no ATT certification req.*



CALIFORNIA ENERGY COMMISSION

Resources: ACE Checklists



2013 Nonresidential - Title 24, Part 6
Energy Plans Review Checklist

Nonresidential Performance Method 1: Overview & General Information
New Construction, Addition, and/or Alteration

1 of 4 checklists to be completed
1: Overview & General Information,
2: Envelope, 3: Mechanical, and 4: Lighting

Permit Number: _____

Project Name: _____ Phone: _____

Project Address: _____ Plans Examiner: _____

Permit Applicant: _____ Phone: _____

Compliance Scope (Check all that apply and confirm all applicable forms are available)

Type of forms submitted
(see Nonresidential Prescriptive Method Checklist)

Performance and/or Prescriptive Forms	<input type="checkbox"/> Envelope <input type="checkbox"/> PRF-01 C only <input type="checkbox"/> ENV-01 C or S <input type="checkbox"/> ENV-02 C or S <input type="checkbox"/> ENV-03 C or S <input type="checkbox"/> ENV-04 C or S <input type="checkbox"/> ENV-05 C or S <input type="checkbox"/> ENV-06 C or S	<input type="checkbox"/> Mechanical <input type="checkbox"/> PRF-01 C only <input type="checkbox"/> MECH-01 C or S <input type="checkbox"/> MECH-02 C or S <input type="checkbox"/> MECH-03 C or S <input type="checkbox"/> MECH-04 C or S <input type="checkbox"/> MECH-05 C or S <input type="checkbox"/> MECH-06 C or S	<input type="checkbox"/> Lighting-Indoor <input type="checkbox"/> PRF-01 C only <input type="checkbox"/> LI-01 C or S <input type="checkbox"/> LI-02 C or S <input type="checkbox"/> LI-03 C or S <input type="checkbox"/> LI-04 C or S <input type="checkbox"/> LI-05 C or S	<input type="checkbox"/> Lighting-Outdoor <input type="checkbox"/> LTO-01 <input type="checkbox"/> LTO-02 <input type="checkbox"/> LTO-03	<input type="checkbox"/> Lighting-Sign <input type="checkbox"/> LTS-01	<p>C = Prescriptive forms submitted for compliance</p> <p>S = Prescriptive forms submitted as support to a PRF-01</p>
Prescriptive Forms	<input type="checkbox"/> Commissioning <input type="checkbox"/> CXR-01 <input type="checkbox"/> CXR-02 <input type="checkbox"/> CXR-03 <input type="checkbox"/> CXR-04 <input type="checkbox"/> CXR-05	<input type="checkbox"/> Electrical <input type="checkbox"/> ELC-01	<input type="checkbox"/> Plumbing <input type="checkbox"/> PLB-01	<input type="checkbox"/> Process <input type="checkbox"/> PRC-01 <input type="checkbox"/> PRC-02 <input type="checkbox"/> PRC-03 <input type="checkbox"/> PRC-04 <input type="checkbox"/> PRC-05 <input type="checkbox"/> PRC-06 <input type="checkbox"/> PRC-07 <input type="checkbox"/> PRC-08 <input type="checkbox"/> PRC-09 <input type="checkbox"/> PRC-10 <input type="checkbox"/> PRC-11	<input type="checkbox"/> Solar Ready Area <input type="checkbox"/> SRA-01 <input type="checkbox"/> SRA-02	<input type="checkbox"/> Solar Thermal <input type="checkbox"/> STH-01

Are the following NRCC inputs confirmed on the plans? **Project Notes**
(PE can use this section to record project data, as needed)

	YES	NO*
Have multiple Certificates of Compliance (NRCC) been submitted as part of this permit?	<input type="checkbox"/>	<input type="checkbox"/>
Are all NRCC documents filed on the plans?	<input type="checkbox"/>	<input type="checkbox"/>
Are all NRCC documents signed and dated by the: Responsible building designers or owner? <i>Electronic signature for registered documents / wet signed for other Documentation author?</i>	<input type="checkbox"/>	<input type="checkbox"/>
Is HERS verification required? If HERS verification is required, has the NRCC been registered with a HERS provider?	<input type="checkbox"/>	<input type="checkbox"/>
Do all pages of the NRCC-PRF-01-E have the same "Report Generated" date and time?	<input type="checkbox"/>	<input type="checkbox"/>
Compliance software approved for 2013 nonresidential standards?	<input type="checkbox"/>	<input type="checkbox"/>
Climate zone	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	
Orientation	Azimuth =	
Building Type	<input type="checkbox"/>	<input type="checkbox"/>

* Items marked "no" must be corrected



This program is funded by California utility customers under the auspices of the California Public Utilities Commission and in support of the California Energy Commission.

Continued on reverse side GEN Page 1 of 2
DOCUMENT 2014-08-05



2013 Nonresidential - Title 24, Part 6
Building Inspector Energy Inspection Checklist

Permit Number: _____



Project Address: _____

PROJECT CONTACTS

Permit Applicant:	Phone:
General Contractor:	Phone:
Plans Examiner:	Phone:
HERS Rater:	Phone:
HERS Provider:	HERS Registration Number:

OVERALL REQUIREMENTS **YES NO**

Is Plan Examiner's checklist available?	<input type="checkbox"/>	<input type="checkbox"/>
<i>All compliance documents completed, signed and registered with nonresidential registry (when required):</i>		
NRCC (Certificate of Compliance — most current, if revised from plan review)	<input type="checkbox"/>	<input type="checkbox"/>
NRCI (Certificates of Installation)	<input type="checkbox"/>	<input type="checkbox"/>
NRCA (Certificates of Acceptance)	<input type="checkbox"/>	<input type="checkbox"/>
NRVC (Certificates of Verification — HERS) registered with a HERS provider	<input type="checkbox"/>	<input type="checkbox"/>
Building front orientation matches site plan	<input type="checkbox"/>	<input type="checkbox"/>
Floor area (sq) of conditioned versus unconditioned spaces matches approved planset	<input type="checkbox"/>	<input type="checkbox"/>
Fuel type used for HVAC systems matches NRCC utility type	<input type="checkbox"/>	<input type="checkbox"/>

INSPECTIONS Do installed measures match NRCC and meet all mandatory requirements?

Measure	Required Forms				Notes	YES	NO
	Form Name	NRCI	NRCA	NRVC			
SOLAR READY (NRCC-SRA)							
Confirm path taken (A, B, C, D or E)	SPV-01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Minimum solar area provided		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
ENVELOPE (NRCC-ENV AND/OR NRCC-PRF)							
Exterior and demising wall construction details (i.e., cavity and continuous insulation)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Roof construction details		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Cool roof: CRRC label verified		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Floor construction details		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Air barrier (per Table 3-18)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Fenestration, by type:	ENV-01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Area at each orientation <NRCC		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
U-factor (NRC, sitebuilt, default)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
SHGC (NRC, sitebuilt, default)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Visual transmittance (VT)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Exterior shading (i.e., overhangs, exterior shades)		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Continued on next page Page 1 of 4
DOCUMENT 2014-08-07



Resources: ACE Forms Tool

Energy Code Ace - forms-ace-2013-non-residential - Windows Internet Explorer

http://www.energycodeace.com/2013-forms-ace-tool-non-residential/?skippedRegistration=1

File Edit View Tools Help

Energy Code Ace - forms-ace-2013-non-residential

SPORT

AI-1 Which Energy Code Compliance Option will you use?

- Prescriptive
- Performance

Prescriptive AI-4 Are you performing an alteration, addition, or combination of the two?

- Alteration
- Addition
- Both

Prescriptive AI-5 What type of system are you altering or adding? [Click all that apply]

- HVAC
- Lighting
- Water Heating
- Envelope
- Covered Processes
- Electrical Distribution

Prescriptive AI-6 Will this addition be greater than 10,000 square feet?

- Yes
- No

Performance AI-4 Are you performing an alteration, addition, or combination of the two?

- Alteration
- Addition
- Both

Performance AI-5 What type of system are you altering or adding? [Click all that apply]

- HVAC
- Lighting
- Water Heating
- Envelope
- Covered Processes
- Electrical Distribution

Done

Internet 100%

Feedback



Nonresidential Data Registry status update

- **Effective January 1, 2015 – all nonresidential forms must be registered (§10-103)**
 - Contingent upon approval of a nonresidential data registry
- **To date, no such registry has been approved**
 - This means that registration is not required at this time
- **No application has been submitted as of yet to review**



In Summary

- Forms are required for most “building” projects to demonstrate compliance with the Energy Standards
- NRCC forms are required at permit, on the plans, and are verified by the Plans Examiner
- NRCI, NRCA, and NRCV forms are required at Final Inspection and are verified by the Field Inspector
- NRCA-LTI and LTO forms must be completed/signed by a certified ATT (*will apply to MCH forms when thresholds are met*)
- All forms will have to be registered with a nonresidential data registry when one is approved



CALIFORNIA ENERGY COMMISSION

QUESTIONS...

About Nonresidential Forms?

