

PRE-CHECK DESIGNS CALGREEN/ENERGY CODE COMPLIANCE REVIEW

Disciplines:	History:	Revised in its Entirety 03-09-17	Rev. 04-18-12	Rev. 11-03-10
Energy Sustainability		Rev. 10-20-14	Rev. 10-11-11	Rev. 06-14-10
		Rev. 01-04-14	Rev. 08-03-11	Rev. 07-01-09
		Rev. 12-31-13	Rev. 05-18-11	Rev. 04-15-08

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PURPOSE: This Interpretation of Regulations (IR) outlines requirements for the California Green Building Standards (CALGreen Code) and the California Energy Code (Energy Code) compliance review of pre-check (PC) designs submitted to the Division of the State Architect (DSA) for approval. This IR details how a building design, which will be placed on various sites, is required to be modeled to meet the requirements of the current version of the Energy Code (also mandated in Chapter 5.2 of the CALGreen Code) utilizing both the prescriptive and the performance methods, and the CALGreen Code compliance documentation.

BACKGROUND: All public school facility construction within the State of California, including relocatable classrooms, must comply with all Parts of Title 24, California Building Standards Code, including the energy efficiency standards contained in Title 24, Part 6, Energy Code and the mandoratory measures contained in Title 24, Part 11, CALGreen Code.

SCOPE: This IR is applicable to the CALGreen Code and Energy Code compliance for PC buildings. See DSA Procedure [PR 07-01: Pre-Check Approval Process](#) for general requirements for PC designs.

1. PC DESIGNS SUBJECT TO CALGREEN/ENERGY COMPLIANCE REVIEW:

- 1.1 **CALGreen code:** Newly constructed building
- 1.2 **Energy Code:** For the application of standards of conditioned or unconditioned PC designed buildings refer to Table 100.0-A of the current version of the Energy Code.

2. PROCESS FOR PLAN REVIEW OF CALGREEN/ENERGY CODE COMPLIANCE:

- 2.1 Plan reviews for the Energy Code (Title 24, Part 6) and the CALGreen Code (Title 24, Part 11) are conducted at the DSA Headquarters/Sacramento Regional Office by the High Performance Section (HPS). A PC notification letter will be sent from the DSA Regional Office intake architect to the applicant regarding the CALGreen/Energy Code Review Requirements.
- 2.2 Upon receipt of the PC notification letter, the applicant shall submit the following to the DSA/HPS plan reviewer:
 - a) One set of construction documents.
 - b) Completed energy report(s); both the software file and a PDF file.
 - c) Completed checklist(s) DSA 403-A and/or 403-B.
 - d) Compliance margin calculations summarized in a "Performance Runs and Orientation Table" per Energy Code Appendix NA4, Table NA4-3 (refer to Attachment 1 for sample table).

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- 2.3 Title 24 (Part 6) Sheets:** The approved energy reports with the “run code” time stamp must be included in the construction documents per Title 24, California Administrative Code, Section 10-103(a)2A.
- 2.4 DSA/HPS Approval Stamp:** No later than two weeks prior to the back-check appointment for the PC design, electronically submit the Title 24 (Part 6) sheets to the DSA/HPS plan reviewer for their approval stamp and signature. This is required for issuance of the final DSA “Approval of Plans” letter.
- 2.5 Fees:** See Procedure PR 07-01 for the filing fee requirements.
- 2.6 Revisions to the PC Design After Approval:** If there are revisions to the approved PC design, revised plans and energy reports must be submitted to the HPS plan reviewer prior to the an over-the-counter (OTC) appointment. Fees will be charged on an hourly rate, as needed.
- 3. CALGREEN CODE COMPLIANCE DOCUMENTATION REQUIREMENTS:**
- 3.1 Reference Document:** DSA guidelines [GL-4](#).
- 3.2 CALGreen Code, Chapter 5.1 – Planning and Design:** PC designs are buildings that will be placed on various sites; therefore, PC applications are not required to meet the measures in Chapter 5.1 of the CALGreen Code.
- 3.3 CALGreen Code, Chapter 5.2 – Energy Efficiency:** Refer to Section 4 (below) for Energy Code compliance documentation requirements.
- 3.4 CALGreen Code, Chapter 5.3 – Water Efficiency and Conservation:** If there are plumbing fixtures in the scope of work, show compliance with Section 5.303.3 of the CALGreen Code.
- 3.5 CALGreen Code, Chapter 5.4 – Material Conservation and Resource Efficiency and CALGreen Code, Chapter 5.5 – Environmental Quality:**
- Provide specifications for finishes/materials and other applicable code sections.
 - Provide note, for future placement of the PC on a specific site, to comply with acoustical control requirements per Section 5.507.4 of the CALGreen Code.
 - Provide product manufacturer’s information for mechanical equipment to show compliance with requirements of Section 5.508.1 for ozone depletion and greenhouse gas reductions.
- 4. ENERGY CODE COMPLIANCE DOCUMENTATION REQUIREMENTS:**
- 4.1 Reference Document:** Current version of the Energy Code, Non-Residential (NR) Joint Appendix NA4.
- 4.2 California Climate Zones:** Refer to the current version of the Energy Code NR Joint Appendix JA2, Table 2-1 for reference cities. The climate zone(s) for which the PC has been designed shall be noted on the PC construction documents’ cover sheet.
- California Climate Zones 1-13: Any PC building design that complies with the least energy efficient orientation in California Climate Zones 1-13 shall only be approved for placement within the designed climate zone(s) specified on the PC cover sheet.
 - California Climate Zones 14, 15 and 16: Any PC building design that complies with the least energy efficient orientation in California Climate Zones 14, 15 and 16 is allowed to be built on any site in California.

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- 4.3 Least Energy Efficient Orientation:** To determine the “least energy efficient orientation,” tabulate the azimuth orientation, the Time Dependent Values (TDV), and compliance margins per climate zone of each energy model (refer to sample Performance Runs and Orientation Table, Attachment 1.) The energy report version that needs to be on the plans is the smallest compliance margin (last column) identified by the corresponding “run code” time stamp.
- 4.4 PC Design With Multiple Options:** (Refer to PR 07-01, Appendix A for guidelines for multiple-options in a single PC.) DSA/HPS plan reviewer uses the following energy modeling guidelines for the following options:
- a) Expandable building floor plan: Model the smallest and largest floor plans.
 - b) Optional window locations: Model the envelope with the greatest number of window openings.
 - c) Roof assembly with variations for the roofing material: Model the roof assembly that will give the smallest compliance margin.
 - d) Different occupancies: Model the occupancy type that will give the smallest compliance margin.
 - e) Variations in type of Heating Ventilation and Air Conditioning (HVAC) system: Model the HVAC system, that will result in the smallest compliance margin.
- 4.5 Solar Ready Requirements:** Refer to Title 24, Part 6, Section 110.10. For PC designs with roof slopes of 2:12 or higher, provide a solar zone diagram on plans showing the solar zone orientation requirements for future installation of solar/photovoltaic panels. Refer to Attachment 2.

REFERENCES:

California Code of Regulations (CCR) Title 24
Part 11: 2016 CALGreen Code
Part 6: 2016 Energy Code

This Interpretation of Regulations (IR) is intended for use by the Division of the State Architect (DSA) staff and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA which includes State of California public elementary and secondary schools (grades K-12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA web site for currently effective IRs. Only IRs listed on the Web page at www.dgs.ca.gov/dsa/Resources/IRManual.aspx at the time of plan submittal to DSA are considered applicable.

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ATTACHMENT 1
(Sample Table)

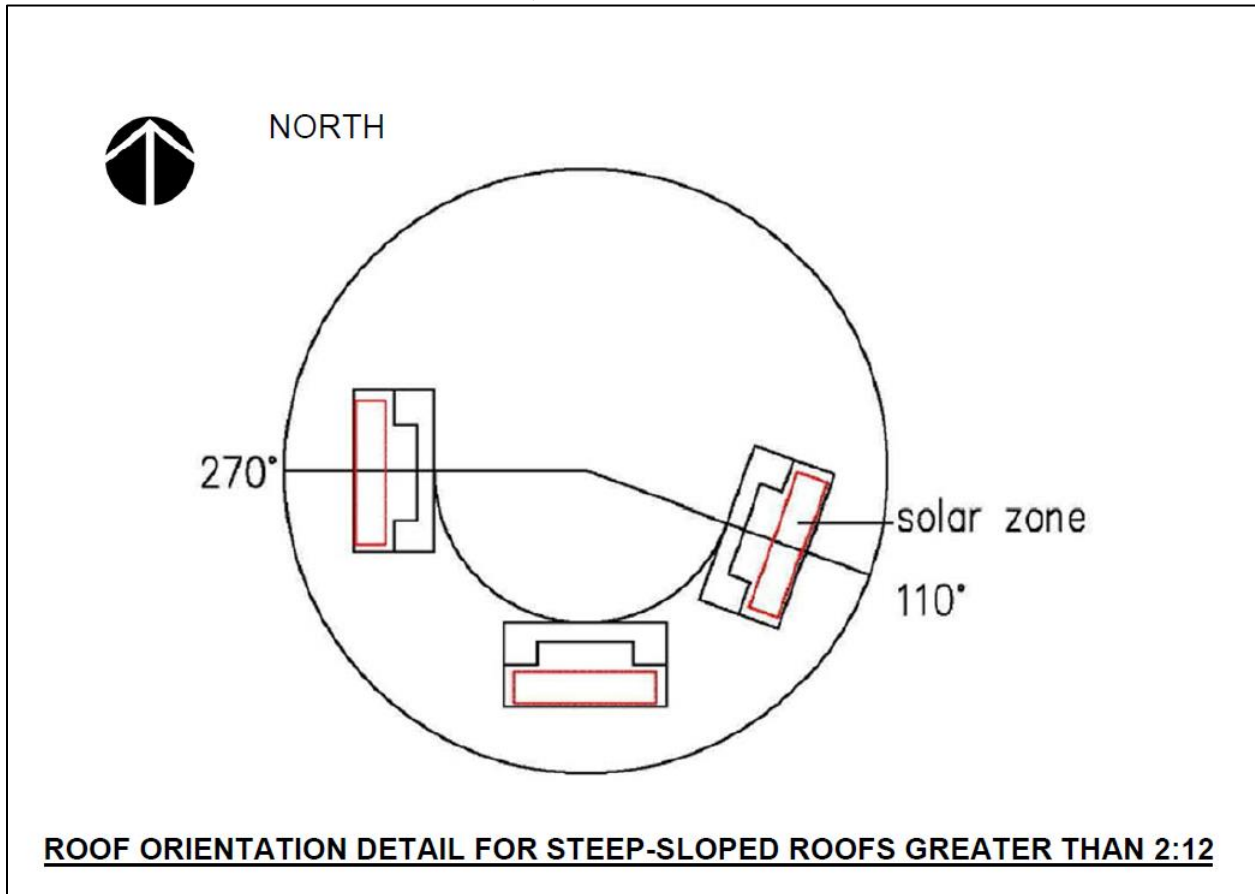
Performance Runs and Orientation Table

PC Design Review Information		Title 24, Part 6, Energy Code		
Date of Title 24 Report:		DSA Application:		
Model Name and Option:		DSA File No:		
Total Floor Area:		DSA-1 Submittal Date:		
HVAC System Type:				
Climate Zone (Reference City)	Azimuth (Front Orientation)	TDV - Proposed Design	TDV - Standard Design	Compliance Margin
14 (Palmdale)	30			
	75			
	120			
	165			
	210			
	255			
	300			
	345			
15 (Palm Springs-Intl)	30			
	75			
	120			
	165			
	210			
	255			
	300			
	345			
16 (Blue Canyon)	30			
	75			
	120			
	165			
	210			
	255			
	300			
	345			

COMMENTS TO DSA: (Explain why this Model Name and Option generates the smallest compliance margins)

ATTACHMENT 2

Suggested Detail to be affix to PC plans to meet the Solar Ready requirements of Title 24, Part 6, Section 110.10



SUGGESTED NOTES:

1. Roof orientation of the site-adapted Pre-Check (PC) design shall be oriented between 110 degrees and 270 degrees (as shown) in order to maintain allowable Solar Zone per Title 24, Part 6, Section 110.10(b)2.
2. Sited PC not within the Solar Zone Orientation must have a solar zone located on the roof or overhang of another building or structure within 250 feet from the sited PC or on a covered parking structure(s) installed on the project site. The solar zone must be no less than 15% of the total roof area of sited PC excluding any skylight areas.