

2007 Residential Energy Plan Examiner / Inspector Certification Exam Outline

EXAM ID: 79

- 50 multiple-choice questions
- 2-hour time limit
- Open book

01. GENERAL PLANS & INSPECTION **28%**

0101. Applicability

Determine if the building, addition or alteration is required to comply with the provisions of the energy code.

0102. Adequacy of Construction Documents

Determine that the content of the construction documents and all supporting data necessary to verify compliance with the energy code are available. Verify that field inspection requirements necessary to determine compliance with the energy code are specified on the construction documents.

0103. Location

Verify the design conditions specified for the building are correct.

0104. Building Thermal Envelope Compliance Documentation

Where Building Thermal Envelope compliance method is utilized, verify compliance of the submittal.

0105. Total UA Alternative Compliance Documentation

Where Total UA Alternative compliance method is utilized, verify compliance of the submittal with regard to standard design data and proposed design data.

0106. Simulated Performance Alternative Compliance Documentation

Where a Simulated Performance Alternative compliance method is utilized to estimate total energy use, verify compliance of the submittal

with regard to standard design data, proposed design data and proposed equipment.

0107. Systems Compliance Documentation

Determine compliance of the HVAC systems, controls, duct, piping and service hot water systems as specified on the construction documents with code provisions.

0108. General Inspection Tasks

Verify that required materials and equipment are installed on-site as specified on the construction documents, manufacturer's installation instructions and as required by code.

02. ALTERATIONS, ADDITIONS, AND CHANGE OF USE OR OCCUPANCY 16%

0201. Conditioned Space

Verify that alterations, renovations, repairs, window replacements or additions made to conditioned space comply with provisions of the code for new buildings.

0202. Change of Occupancy

Determine if the occupancy of the structure has changed so as to require energy code compliance.

03. BUILDING ENVELOPE 46%

0301. General Envelope Requirements

Determine whether spaces are conditioned or unconditioned.

0302. Envelope Compliance

Verify that construction documents contain the minimum R-Values for roof/ceiling, floor, and wall assembly and insulation placement as specified on the construction documents and as required by code. Verify that the building envelope and its components, including doors, windows and skylights, meet minimum requirements for materials and installation are as specified on construction documents and as required by code.

0303. Glazing and Doors

Verify that the U-factors for windows, doors and skylights are as specified. Verify solar heat gain coefficients (SHGC), and allowable air infiltration rates for windows and doors as required by code. Verify that manufactured windows, doors and skylights are installed in accordance with code and meet minimum/maximum performance requirements as specified on the approved construction documents and as required by code. Verify surface areas where area weighted calculations are used to demonstrate compliance.

0304. Air Leakage and Moisture Control

Verify that air leakage and moisture control methods are provided and building envelope penetrations, including site-constructed windows, doors and skylights, are caulked, sealed and weatherstripped by materials and methods as specified on construction documents and as required by code.

04. MECHANICAL SYSTEMS

10%

0401. Duct and Piping Systems

Verify that construction documents for duct and piping insulation and duct sealing criteria are as required by code. Inspect HVAC ducts and piping for required insulation and sealing methods as specified on construction documents and as required by code.

0402. Controls

Verify that thermostatic controls are provided for each heating and cooling system. Verify HVAC controls are installed as specified on construction documents and as required by code.

0403. Equipment Installation

Verify type and efficiencies of mechanical equipment and water heating equipment are specified on construction documents. Inspect piping insulation, circulation pumps, heat traps installations as specified on construction documents and as required by code.