Mechanical/Energy/Green Building Team
City and County of San Francisco
What’s Coming in the 2013 CalGreen Code Cycle

2013 CALGREEN
Sections

- Residential and Non Residential
  - Mandatory measures: Chapters 4 & 5
  - Voluntary measures: Appendices A4 & A5
  - Presentation only covers mandatory measures

- Same sections for all
  - Planning and Design
  - Energy Efficiency
  - Water Efficiency and Conservation
  - Material Conservation/Resource Efficiency
  - Environmental Quality
GENERAL CHANGES
General Changes

- Definitions moved to Chapter 2
- New: High-rise residential
  - Energy code definition
  - Previously only low-rise
- New: Residential A/A
  - Previously only new const.
- Updated: Non-residential A/A trigger point
  - 2,000 sf → 1,000 sf (addition)
  - $500,000 → $200,000 (alteration)
RESIDENTIAL
MANDATORY MEASURES
RESIDENTIAL
WATER EFFICIENCY AND CONSERVATION
4.3: Water Efficiency & Conservation

- All changes to 4.303: Indoor water
- 4.303.1: 20% water savings (no change)
  - Performance option removed
  - Prescriptive requirements updated, e.g.:
    - Showerheads: 2.5 → 2.0
    - Kitchen faucets 2.2 → 1.8
  - “Standards for Plumbing Fixtures” removed
    - Refers to Plumbing Code
RESIDENTIAL
ENVIRONMENTAL QUALITY
Environmental Quality

4.504: Pollutant control

4.504.1: Resilient flooring

- 2010: 50% meets VOC standards of:
  - Collaborative for High Performance Schools low-emitting materials list
  - Resilient Floor Covering Institute FloorScore

- 2013: 80% meet VOC emissions standards, new options for compliance:
  - CHPS Greenguard & Safe Schools program
  - CA DPH requirements
NON-RESIDENTIAL
MANDATORY MEASURES
NON-RESIDENTIAL
WATER EFFICIENCY AND CONSERVATION
Water Efficiency and Conservation

5.303: Indoor water use

5.303.2: “Water savings” (new)
  ○ Essentially the same requirements reworded
  ○ Unlike residential, performance method preserved. Baseline water use reduced:
    • Showerheads 2.5 → 2.0 gpm
    • Urinals 1.5 → 1.0 gpm
    • Water closets 1.6 → 1.28 gal/flush

Standards for plumbing fixtures removed, directed to CA Plumbing Code
Material Conservation & Resource Efficiency

5.407: Water resistance and moisture management

5.407.2: Moisture control

- Prevent passage of water to interior
- New specific requirements for exterior door protection
  - 4’ of protection: e.g. awning, setback, overhang
Material Conservation & Resource Efficiency

- 5.408: Construction waste management
  - Clarifies that requirement applies to demolition waste, isolated jobsite exception removed
Environmental Quality

5.504: Pollutant control

- Filter requirements
  - MERV-8 for all mechanical ventilation (no change)
  - Exception changed:
    - 2010: MERV-1 allowed for return air or if mixed with prefiltered air + system efficiency .4 W/cfm
    - 2013: 10-15% ASHRAE rating allowed if sys. capacity <60,000 Btu/hr + efficiency .4 W/cfm
  - New exception for existing equipment
  - New labeling requirement: MERV rating must be indicated by manufacturer
Environmental Quality

- 5.508: Outdoor air quality
  - 5.508.2: Supermarket refrigerant leak prevention (completely new section)
    - 8000+sf, exception for use of low Global Warming Potential refrigerant
      - Low GWP = <150 (carbon dioxide, ammonia)
      - GWP is heating potential relative to CO2
Environmental Quality

- Piping requirements
  - Accessible for leak detection and repair
  - Threaded piping only at compressor rack
  - Copper piping must be ¼”+ O.D.
  - No flared tubing
  - No short radius elbows except for space reasons
Environmental Quality

- Valve requirements
  - Rupture disk installed between outlet and pressure relief valve inlet
    - Pressure gauge must be installed to monitor rupture disc
  - Only Schrader access valves, brass or steel
    - Refrigerant charge 5+lb → no plastic caps, must be brass or steel
    - Caps use O-Ring if so designed
    - Chain tethers used for steel caps
Environmental Quality

- Corrosion resistant material for evaporator coils that are exposed to food products containing vinegar or salt
- 200+lb capacity refrigerant receivers need refrigerant level gauge
- Pressure testing required for all new systems
  - Dry nitrogen, 300 psig minimum
  - Leak testing
  - Stand 24 hrs with max 1 lb +/-