### Mandatory Measures Summary-Residential

#### 2008 HVAC Measures:

<table>
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<tr>
<th>Site Address:</th>
<th>Enforcing Agency: City of Hanford</th>
<th>Date:</th>
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**NOTE:** Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. More stringent energy measures listed on the Certificate of Compliance (CF-1R, CF-1R-ADD, or CF-1R-ALT Forms) shall supersede the item marked with an asterisk (*) below. This Mandatory Measures Summary shall be incorporated into the permit documents and the applicable features shall be considered by all parties as minimum component performance specifications whether they are shown elsewhere in the documents or in this summary.

Submit this MF-1R Form with the submittal documents.

**Space Conditioning, (HVAC) Systems:**

- **§110-§113:** HVAC equipment, water heaters, showerheads, faucets, and all other regulated appliances are certified by the Energy Commission.
- **§115:** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appliances with an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.
- **§150(h):** Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA, or ACCA.
- **§150(i):** Heating systems are equipped with thermostats that meet the setback requirements of Section 112(c)
- **§150(j)2:** Cooling system piping (suction, chilled water, or brine lines), and piping insulated between heating source and indirect hot water tank shall be insulated to Table 150-B and Equation 150-A.
- **§150(j)2:** Pipe insulation for steam hydronic heating systems or hot water systems > 15 psi, meets the requirements of Standard Table 123-A.
- **§150(j)3A:** Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
- **§150(j)3A:** Insulation for chilled water piping and refrigerant suction lines includes a vapor retardant or is enclosed entirely in conditioned space.
- **§150(m)1:** All air-distribution system ducts and plenums installed, are sealed and insulated to meet the requirements of CMC Sections 601, 602, 603, 604, 605 and Standard 6-5; supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-4.2 or enclosed entirely in conditioned space. Openings shall be sealed with mastic, tape or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape shall be used.
- **§150(m)1:** Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sealed sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reduction in the cross-sectional area of the duct.
- **§150(m)2D:** Joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tape unless such duct tape is used in combination with mastic and draw bands.
- **§150(m)7:** Exhaust fan systems have back draft or automatic dampers.
- **§150(m)8:** Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers.
- **§150(m)9:** Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Cellular foam insulation shall be protected as above or painted with a coating that is water retardent and provides shielding from solar radiation that can cause degradation of the Standard.
- **§150(m)10:** Flexible ducts cannot have porous inner cores.
- **§150 (o):** All dwelling units shall meet the requirements of ANSI/ASHRAE Standard 62.2-2007 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. Window operation is not a permissible method of providing the Whole Building Ventilation required in Section 4 of that Standard.