SECTION 15856

PACKAGED ROOF-TOP HEATING/COOLING UNITS
(Information only. Not allowed without specific UCB authorization.)

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Single Zone Packaged Roof-Top HVAC Units.
   2. Central System Packaged Roof-Top HVAC Units.

B. Related Sections:
   1. Section 15010 - Basic Mechanical Requirements.
   2. Section 15050 - Basic Mechanical Materials and Methods.
   3. Section 15885 - Air Cleaning.
   4. Section 15990 - Testing, Adjusting and Balancing.
   5. Section 09900 - Painting

1.02 REFERENCES

A. Underwriters Laboratories, Inc. (UL).
B. National Roofing Contractors Association (NRCA).
C. American Gas Association (AGA).

1.03 SYSTEM DESCRIPTION

A. Design Requirements:
   1. General:
      a. Because of problems with appearance, packaged roof-top units are not to be used without special authorization from the University staff.
      b. See UCB Standards 15010-1.05/3.
      c. Units UL Listed and carry UL Label.
      d. Gas units AGA approved specifically for outdoor installation.
      Note: RTU manufacturer-specific (e.g., Carrier) gas trains and controls are not acceptable.
e. Roof curbs to comply with National Roofing Contractors Association requirements.

f. Take special care to minimize sound and vibration transmissions to structure by locating units symmetrically over columns and beams.

g. Provide adequate clearances for servicing filters and unit components.

h. Specify a 115-volt convenience outlet on unit sized to handle a small power load or service light.

i. On large units, specify lights with wire guards in accessible sections, factory wired to switch mounted on exterior of casing.

j. Specify filters to be in accordance with Section 15885 - Air Cleaning.

k. Provide complete calculations to show:
   1) Catalogued capacity rating of packaged unit for standard conditions.
   2) Correction factors that have been applied to Sensible Heat Capacity for actual entering drybulb temperature conditions.
   3) Actual leaving dry-bulb temperature.
   4) Indoor fan motor heat has been included.
   5) Deration of total unit capacity for 5400 feet altitude using 105°F temperature for air/entering condenser.

l. Coordinate Painting Section 09900 to include painting HVAC Roof-Top Units an approved color if units are to be exposed to view.

m. Specify units with "economizer" cycle with motorized fresh, return, and exhaust air dampers, automatically controlled and pre-wired at the factory.

n. Provide low ambient control package when required by design conditions.

o. Specify painting of AHU per UCB color criteria.

2. Refer to “Air Handling,” Section 15850.

1.04 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of packaged air handling units whose products have been in satisfactory use in similar service for not less than 5 years.

PART 2 - PRODUCTS

2.01 SINGLE ZONE PACKAGED ROOF-TOP HVAC UNITS

A. Manufacturers:
2.02 CENTRAL SYSTEM PACKAGED ROOF-TOP HVAC UNITS

A. Manufacturers:

   Energy Labs
   Engineered Air
   Mammoth
   McQuay
   Pace
   Temtrol
   Trane
   York

PART 3 - EXECUTION

3.01 APPLICATION/INSTALLATION

A. In general, for project specifications, remove "Design Requirements" Sub-paragraph A in Part 1, paragraph 1.03 "System Description" of this Design Guide and use list to expand on specific project applications in Part 2 - Products and specific installation requirements in this Part 3 for each unit specified.

END OF SECTION 15856