<u>DESIGN GUIDELINE 8.3</u> MECHANICAL PREFERRED MANUFACTURERS LIST

INTRODUCTION:

Preferred Manufacturers:

The University of Michigan evaluates products (and in some cases services) for reliability, performance, cost effectiveness, and other factors, as pertinent for the product or service. These preferred products/services are to be utilized on U-M projects.

- Preferred products/services for which U-M publishes a master specification on its website are automatically listed in the respective U-M master specification.
- If the Architect/Engineer does not use U-M's master specification as the basis for the project's specification, he/she shall list the same approved manufacturers in the project specification as listed in U-M's master specification.
- If U-M does not publish a master specification for a particular product or service, the preferred products are listed in this list, the "PML".
- If there is a significant need to use a manufacturer or service not listed in the U-M master specification or PML, the A/E shall consult the U-M Design Manager for approval.

In all cases a manufacturer's product must be listed as approved in the project's contract documents or specifications. Listing in U-M's master specifications or the PML does not guarantee a product will automatically be listed in a specific project's documents or specifications.

Conditional Approval: Listed manufacturer's product may be used on select U-M projects, however approval from the respective A & E Technical Committee must first be obtained. If approved, it may be listed as approved in the project's contract documents or specifications. Manufacturers in the Conditional Approval category have gone through successful preliminary review, but the Technical Committee requires additional in-service input prior to final listing.

Under Consideration: Listed manufacturer's product is being evaluated. The product should not be included in U-M projects.

SECTION 211313 - WET-PIPE SPRINKLER SYSTEMS

Preaction Systems

Siemens (Pyrotronics), Notifier, Viking

SECTION 220000 - UNDERGROUND PIPING IN CONDUIT SYSTEM

Piping Systems - Underground

Perma-Pipe, Rovanco, Under Consideration: Urecon

SECTION 220500 - COMMON WORK RESULTS FOR MECHANICAL

Roof Curbs

Pate

Creative Metals

Roof Curbs Engineered and Manufactured by the Manufacturer of the Equipment to be supported

SECTION 220516 - PIPE EXPANSION JOINTS

Expansion Joints - Externally Pressurized

Hyspan, ATS

SECTION 220523 - VALVES

Valves - Safety Relief

Spirax-Sarco, Watts, Leslie, Anderson-Greenwood, Conbraco, Keckley

SECTION 221113 - PIPING MATERIALS & METHODS

Pipe Hangers and Mechanical Supports

Anvil, Cooper B-Line, Carpenter & Paterson, PHD Manufacturing, Unistrut, Powerstrut

SECTION 221519 - GENERAL SERVICE PACKAGED AIR COMPRESSORS AND RECEIVERS

Air Compressors - Screw Type (1800 RPM)

Atlas - Copco Quincy QSI Series

Air Compressors - Reciprocating

Quincy

Gast

Devilbliss

SECTION 223300/223400 - DOMESTIC WATER HEATERS

Domestic Water Heaters - Gas Fired Or Electric

Lochinvar

A.O. Smith

State

Rheem

Raypak

Under Consideration: Copper Fin (Quality water & air)

Instantaneous Water Heater (Steam Fired)

Cemline

Hubbell

Semi-Instantaneous Water Heater (Steam Fired)

Cemline

Hubbell

SECTION 224200 - PLUMBING FIXTURES

Water Filters - Inline Type

Cuno

Filtrine

Honeywell

Culligan

Dollinger

Bruner

SECTION 226200 - VACUUM SYSTEMS FOR LAB AND HEALTHCARE FACILITIES

Vacuum Pumps

Nash

Domestic

Sehi

Shipco

Under Consideration: Skidmore (K.L.McCoy), Busch (Kerr pump & supply)

SECTION 226719 - PROCESS WATER EQUIPMENT FOR LABORATORY AND HEALTHCARE FACILITIES

Deionized Water and Reverse Osmosis Water Suppliers

Crown Solutions (Veolia)

Siemens/U.S. Filter

lonpure

Millipore

SECTION 230000 - HEAT EXCHANGERS & CONVERTERS

Dry Coolers

McQuay, Trane, York, Bohn

Laser Heat Exchangers - Water Cooled

Haskris

Remcor

Neslab

Laser Pure (Coherent)

SECTION 230000 - MULTIMEDIA FILTRATION SYSTEM

Acceptable Manufacturers

Crown Equipment Systems, PEP Filters, Everfilt

SECTION 230000 - PACKAGED TERMINAL AIR CONDITIONERS, AIR-COOLED

Air Conditioning Units - Package Type (thru the wall self-contained DX)

IslandAire, McQuay, Trane, York

Air Conditioning Units - Window Type (Flush installation with wall exterior)

Comfort-Aire, Fedders, White Westinghouse

SECTION 230000 - TERMINAL UNITS

Baseboard Radiation, Finned Tube Radiation

Dunham-Bush, Rittling, Slantfin, Sterling Radiator, Trane, Vulcan Radiator

Panel Radiators

Jaga, Runtal Radiator, Sterling, Vulcan Radiator

Convectors

Dunham-Bush, Rittling, Sterling, Trane, Vulcan Radiator

Unit Heaters

Dunham-Bush, McQuay, Modine, Reznor, Rittling, Sterling, Trane, Wing, Vulcan Radiator

Cabinet Heaters

Dunham-Bush, McQuay, Modine, Rittling, Sterling, Trane, Vulcan Radiator

Unit Ventilators

American Air Filter, Trane

Electric Cabinet Heaters

Berko, Qmark, Trane, Markel

Electric Unit Heaters

Berko, Qmark, Trane, Markel

Electric Heating Coils

Brasch, Chromalux, Indeeco, Trane, Markel

Gas Fired Duct Furnaces

Modine, Reznor, Sterling, Trane

Radiant Ceiling Panel - Hot Water

Aero-Tech, Air-Tex, Sun-El, Sterling/TWA, Price

SECTION 232123 - PLUMBING AND HYDRONIC PUMPS

Pumps - Condensate Waste

Little Giant, Hartell, Marsh, Bekette

SECTION 232200 - STEAM CONDENSATE RETURN UNITS

Condensate Receiver

ITT Domestic, Skidmore, Shipco, Spirax-Sarco

Condensate Meters - Magnetic Induction

Refer to U-M Master Specification 230900

Pumps - Condensate (Condensate Receiver Must Be Cast Iron)

ITT Domestic (Hoffman), Skidmore, Spirax-Sarco, Shipco, Weinman

Pumps - Condensate, Steam Or Air Pressure Powered

Sarco, Armstrong

SECTION 232216 - STEAM AND CONDENSATE PIPING SPECIALTIES

Steam Pressure Reducing Stations

Armstrong, Leslie, Spence, Spirax-Sarco,

Steam Safety Relief Valves

Armstrong, Consolidated, Spence, Spirax-Sarco, Watson McDaniel

SECTION 233100 - HVAC DUCTS & CASINGS

Exhaust Ductwork - Teflon Coated Stainless Steel

Fab-Tech (PermaShield Pipe)

Exhaust Ductwork - FRP

Perry, Spunstrand, Tangent

SECTION 233400 - FANS

Fans -FRP Construction

M.K. Plastics

Under Consideration: Harrington

SECTION 235300 - HEATING BOILER FEEDWATER EQUIPMENT

Pumps - Boiler Feed

Skidmore, Spirax-Sarco, Shipco, Weinman

SECTION 236100 – REFRIGERANT COMPRESSORS

Refrigeration Compressors

Copeland, Dunham Bush, McQuay, Tecumseh, Trane, York

SECTION 236313 - AIR COOLED CONDENSING UNITS

Air Cooled Condensers

Bohn, Dunham Bush, McQuay, Trane, York

SECTION 236400 - PACKAGED WATER CHILLERS

Chillers - Screw or Scroll

Dunham-Bush York by Johnson Controls Trane

Chillers - Reciprocating, Air-Cooled

Trane, York by Johnson Controls Under Consideration: Carrier.

Chillers - Process Cooling

Filtrine, Liebert, Trane, Neslab

SECTION 236413 - STEAM ABSORPTION CHILLERS

Chillers - Absorption

Trane, York by Johnson Controls

SECTION 237300/237400 GAS FIRED MAKE-UP UNITS

Gas Fired Make-Up Air Units (direct and indirect)

Rapid, Reznor, Sterling, Trane

Under Consideration: Modine (Air Design), Greenheck

SECTION 238123 - PACKAGED COMPUTER ROOM AIR CONDITIONING SYSTEM

Air Conditioning Units - Computer Room

APC, Liebert, Stulz

SECTION 238126 - SPLIT SYSTEM AIR CONDITIONERS

Air Conditioning Units - Ductless, Spot Coolers

Daikin, Friedrich, Liebert, Mitsubishi, Sanyo, Trane