**DESIGN GUIDELINE 8.4**

**ELECTRICAL PREFERRED MANUFACTURERS LIST**

**SCOPE**

The Electrical Trades Preferred Manufacturers List identifies manufacturers and suppliers who are known to provide good quality products, meet specification and schedule requirements, provide technical support, and provide service after the sales. This list is intended to regulate product quality, standardize electrical designs, and simplify maintenance activities. It is not intended to limit competition. It is not all inclusive. It is a list of manufacturers whose products are well known to the University due to their frequent and successful use.

This List shall be used by A/E’s when selecting manufacturers for specification in electrical designs. **A/E’S SHALL SPECIFY ONLY THE LISTED MANUFACTURERS THAT MEET THEIR PROJECT’S REQUIREMENTS, AND SHOULD SPECIFY A MINIMUM OF THREE MANUFACTURERS WHENEVER POSSIBLE.** A/E’s may specify manufacturers not on this list to satisfy project requirements, **BUT SHALL OBTAIN UNIVERSITY APPROVAL IN ADVANCE.**

This List **SHALL NOT** be used by Contractors to justify making substitutions for products specified in the construction documents. **CONTRACTORS SHALL PROVIDE THE PRODUCTS SPECIFIED IN THE CONSTRUCTION DOCUMENTS UNLESS THE UNIVERSITY APPROVED THEIR PROPOSED SUBSTITUTIONS AT THE TIME OF BID IN ACCORDANCE WITH THE PROJECT’S STANDARD GENERAL CONDITIONS.**

**THIS LIST DOES NOT APPLY** to purchases by the University Plant Department of replacement electrical products required to match or maintain existing installations.

This List is revised as needed. Before using it, check the AEC Website for the latest revision.

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SECTION 260513 - MEDIUM, LOW & CONTROL VOLTAGE CABLES

Cables (Medium Voltage)
- General Cable
- Kerite
- Okonite
- Prysmian

Cables and Wire (600 Volts)
- Alan Wire
- Alan Wire and Cable
- American Insulated Wire
- Cerro Wire
- Encore
- General Cable
- Republic Wire
- Rockbestos-Surprenant
- Service Wire
- Southwire
- United Copper Industries

Type MC Cables (600 Volts)
- AFC
- Encore
- Kaf-Tech
- Rockbestos-Surprenant
- Service Wire
- Southwire
- United Copper Industries

2-Hour Fire Rated Cables (600 Volts)
Pyrotenax Mineral Insulated (Type MI) by Pentair

Control Cables and Wire
- Belden
- Coleman

Cable Splices for Medium Voltage Cable
- Raychem

Cable Terminations for Medium Voltage Cable
- Raychem

SECTION 260526 - GROUNDING & BONDING FOR ELECTRICAL

Ground Connections
- Burndy Hyground (Proper dies must be used)
- Cadweld
- Harger Lightning & Grounding
- Thermoweld
- Thomas & Betts Blackburn (Above grade only)
SECTION 260533 - ELECTRICAL MATERIALS AND METHODS
Cable Trays - Center Spline and Wall Mount Types (Use only where ladder and wire basket trays cannot be used, and only with ITCS (Campus projects) or MCIT (UMHHC projects) approval)
- B-Line
- Legrand Cablofil
- Mono-Systems
- Thomas & Betts

Cable Trays - Ladder Type
- B-Line
- Chalfant
- Cope
- Globetray (GS Metals)
- Legrand Cablofil
- Mono-Systems
- MP Husky
- Thomas & Betts

Cable Trays – Wire Basket Type (Use only with ITCS (Campus projects) or MCIT (UMHHC projects) approval)
- Basor Electric Inc.
- B-Line
- Chalfant
- Cope
- Legrand Cablofil
- Mono-Systems
- MP Husky
- WBT

Conduits, Raceways and Accessories -
EMT, liquid-tight flexible metallic conduit, and/or non-liquid-tight flexible metallic conduit/raceway; plus associated accessories, fittings, junction and pull boxes, and related products
Products of all manufacturers are acceptable as long as they are electro-galvanized steel, have a smooth interior, and are NRTL labeled for the application.

Rigid (galvanized metal), and IMC (intermediate metal) conduits/raceway, plus associated accessories, fittings, junction and pull boxes, and related products
Products of all manufacturers are acceptable, as long as they are hot-dipped galvanized steel inside and out, have a smooth interior, and are NRTL labeled for the application. Boxes shall be cast, not formed. IMC may only be used when tools specifically designed for IMC are used.

PVC conduit/raceway (Type DB, Schedule 40, and Schedule 80), plus associated accessories, fittings, junction and pull boxes, and related products
Products of all manufacturers are acceptable as long as they are sunlight resistant, and NRTL labeled for the application. Products from manufacturers making both the conduit and the fittings are preferred whenever possible.

Fiberglass Reinforced Epoxy (FRE) conduit/raceways, accessories, fittings, and related products
- Champion
- FRE
Cord Reels
   Appleton
   Hubbell
   Reel-O-Matic Systems
   Woodhead

Electrical Enclosures
   Carlon (For use with PVC raceways)
   Hammond
   Haoffman
   Park Metal
   Rittal

Fire Stop Compounds
   A. D. Fire Protection Systems
   Flame Safe
   Hilti
   Nelson
   STI SpecSeal
   3M Company

Structural Support Materials
   Aickinstrut (Fiberglass)
   B-Line
   Champion (Fiberglass)
   Hilti
   Powerstrut
   Unistrut

Surface and Underfloor Wireways
   Carlon
   Hubbell
   Legrand Evolution Floor Boxes
   Legrand Wiremold
   Panduit

SECTION 260543 - UNDERGROUND SERVICES FOR ELECTRICAL
Underground Hand Holes, Junction Boxes and Pull Boxes
   Carson-Brooks
   CDR Systems
   Quazite

SECTION 260800 - ELECTRICAL ACCEPTANCE TESTS
Nationally Recognized Testing Laboratory Services
   CSA
   ETL
   MET Laboratories
   UL (Northbrook, IL)

Testing Services
   Bisbee Infrared Services (Penny Wilson, (517) 787-4620)
   Northern Electrical Testing (Lyle Detterman, (810) 689-8980)
Utilities Instrumentation Services (David Wheeler, (734) 482-1450)

SECTION 261100 - UNIT SUBSTATIONS
Non-Current Limiting Fuses (Primary)
  Eaton/Cutler-Hammer Type RBA-400 (With high interrupting capacity adapter)
  S & C Type SM-5SS (With high interrupting capacity adapter)

Current Limiting Fuses (Primary)
  Eaton/Cutler-Hammer Type CLE
  Mersen, Type CL-14

KWHR/Demand Meters
  Schneider Electric PowerLogic ION8650 (With options per Master Spec 261100)

15 kV Fused and Unfused Primary Switches (5kV rated switches may only be used for 5 kV (4,160 volt) class motors)
  Eaton/Cutler-Hammer
  Powercon
  Square D

15kV Metal Clad Switchgear and/or Circuit Breakers (5kv rated circuit breakers may only be used for 5 kV (4,160 volt) class motors)
  Eaton/Cutler-Hammer
  Square D

Circuit Breakers for 600-volt Class Secondary Switchgears and Switchboards
  ABB (ASEA Brown Boveri); note that this does NOT include GE heritage products from the June 2018 acquisition
  Eaton/Cutler-Hammer
  Siemens

Transformers
  ABB (ASEA Brown Boveri); note that this does NOT include GE heritage products from the June 2018 acquisition
  Eaton/Cutler-Hammer
  MGM
  Olsun
  Square D
  Siemens

Substation Assemblers (Using components from Preferred Manufacturers only)
  ABB (ASEA Brown Boveri); note that this does NOT include GE heritage products from the June 2018 acquisition
  Eaton/Cutler-Hammer
  Siemens

Addresses of above Assemblers
  ABB (ASEA Brown Boveri)
  12040 Regency Parkway
  Cary, North Carolina 27518
  Phone: 919 856 2360
SECTION 262000 - LOW VOLTAGE ELECTRICAL DISTRIBUTION

Bus Ducts
- Eaton/Cutler-Hammer
- General Electric
- Siemens
- Square D

Fuses (600 Volts and Below)
- Bussmann
- Mersen Electrical Power (formerly Ferraz-Shawmut)
- Littlefuse

Surge Protective Devices
- Current Technology
- Eaton/Cutler-Hammer-Tycor
- Intermatic (For protection of individual loads and receptacle panels only)
- Leviton (For protection of individual loads and receptacle panels only)
- Liebert
- L.E.A. Dynatech
- Square D

Switchboards, Panelboards and Circuit Breakers
- Eaton/Cutler-Hammer (Only with U of M Lugs - confirm on shop drawings)
- General Electric
- Industrial Electrical Manufacturing (For custom and retrofit applications only)
- Siemens
- Square D

Time Switches
- Intermatic
- Paragon
- Sangamo
- Tork
Transformers (Liquid Filled and Dry Pad-Mounted Type)
Eaton/Cutler-Hammer
General Electric
Olsun Electrics
Pennsylvania
Pioneer

Transformers (Distribution Dry Type)
Acme
Eaton/Cutler-Hammer
General Electric
Hammond Power Systems
Hevi-Duty
MGM
Olsun Electrics
Siemens
Square D

SECTION 262726 - WIRING DEVICES
Dimmer Switches
Leviton
Lithonia
Lutron

Occupancy Sensors (Infrared, Ultrasonic, Combination Infrared/Microphonic Dual Technology and Combination Infrared/Ultrasonic Dual Technology)
Cooper Controls (Eaton)
Hubbell
Legrand WattStopper
Leviton
Lutron
Sensor Switch
tork

Pin & Sleeve Connectors
Crouse-Hinds
Hubbell
Killark
Legrand Pass & Seymour
Leviton

Power Poles
Hubbell
Legrand Wiremold
Mono-Systems
Steelcase

120-volt, 20-ampere Receptacles and Plugs
Arrow Hart (Cooper)
Bryant
Hubbell
120-volt, 20-ampere Receptacles (GFCI, Hospital Grade, TVSS & Child Resistant)
Arrow Hart (Cooper)
Bryant
Hubbell
Legrand Pass & Seymour
Leviton

Special Power Receptacles and Plugs
Arrow Hart (Cooper)
Bryant
Hubbell
Legrand Pass & Seymour
Leviton

USB Charging Port Receptacles
Arrow Hart (Cooper)
Bryant
Hubbell
Legrand Pass & Seymour
Leviton

120/277 Volt, 20-Ampere Light Switches
Arrow Hart (Cooper)
Bryant
Hubbell
Legrand Pass & Seymour
Leviton

SECTION 262900 - MOTOR CONTROLS
Capacitors for Power Factor Correction
Aerovox
Eaton/Cutler-Hammer
General Electric
Myron Zucker
Siemens
Square D

Motor Controls (MCC’s, Starters, Contactors, Disc. Switches and Control Devices
Allen-Bradley
Eaton/Cutler-Hammer
General Electric
Siemens
Square D

Motor Starters (Electronic Soft Starter Type)
Allen-Bradley
Eaton/Cutler-Hammer
Sprecher & Schuh
SECTION 263000 - ENGINE-GENERATOR SYSTEMS
Natural Gas Fired Engine-Generator Sets
  Caterpillar
  Cummins
  Generac Industrial Power
  Kohler
  Olympian

Automatic and Manual Transfer Switches (Open and Closed Transition Types)
  ASCO
  Cummins
  Eaton/Cutler-Hammer
  GE Zenith Controls
  Kohler

Automatic Transfer Switches (Soft-Loading Type)
  ASCO
  Eaton/Cutler-Hammer
  Kohler

Resistive Load Banks
  Avtron
  Sephco
  Simplex

SECTION 263300 - BATTERY EQUIPMENT
Batteries
  C & D Technologies
  Chloride Plante
  Enersys
  Johnson Controls

Battery Chargers
  C & D Technologies
  Enersys
  Hi-Tran
  LaMarche
  SCI

Uninterruptible Power Supply Systems (Battery type)
  A.P.C
  Best (Individual small load units only)
  Controlled Power
  Liebert
  MGE
  Mitsubishi (Totally solid-state)
  Toshiba

Rotary UPS Systems
  Designed Power Solutions International (DPSI)
SECTION 264100 - FACILITY LIGHTNING PROTECTION
Lightning Protection Services
Guardian Equipment, Novi, MI (248) 449-5200
Harger Lightning & Grounding (via distributor Young & Champagne, 313-491-6500)
Michigan Lightning Protection, Grand Rapids, MI (616) 453-1174
Orion Services, Wixom, MI (248) 624-2120

SECTION 265100 - INTERIOR LIGHTING
Lighting Representatives
Each of the following lighting representatives serves over one hundred lighting manufacturers. After the Design Development phase, the lighting designer shall send a copy of the lighting fixture schedule to each of the lighting representatives below to request comments and recommended equivalents. The lighting designer shall evaluate the proposed recommendations to ensure design compliance and then incorporate equivalents into the lighting fixture schedule. The proposed lighting equivalents shall meet or exceed the design requirements as well as any other requirements in the U of M Design Guidelines.

- Clarus Lighting & Controls
  Madison Heights, MI
  Paul Brennan, 248-677-0850
  www.clarus-lighting.com

- Gasser Bush Associates
  Livonia, MI
  Randy Stowers, 734-266-6705
  www.gasserbush.com

- Michigan Lighting Systems – East
  Troy, MI
  Shawn Schiappacasse, 248-542-2200
  www.mls.lighting

- Resource Lighting Group
  Berkley, MI
  Shawn Stevenson, 248-545-9555
  www.resourcelightinggroup.com

Ballasts (Electronic Compact Fluorescent)
- Aculite
- Advance Smart Mate
- Lightolier
- Prescolite

Ballasts (Electronic Rapid Start T-8 Fluorescent)
- Advance Optanium
- Bodine (For emergency lighting only)
- Osram/Sylvania Quicktronic Professional
- Universal AccuStart

Ballasts (Electronic Dimming T-8 Fluorescent)
- Advance Mark X (5% dimming type)
- Lightolier (1% dimming type)
- Osram/Sylvania (10% dimming type)
Emergency Power Ballasts (Electronic Rapid Start T-8 Fluorescent)
Bodine (For emergency lighting only)
Lithonia

Ballasts (H.I.D.)
Advance
MagneTek
Universal

Dimming Systems
AMX
Creston Electric, Inc.
E.T.C.
Leviton (Small single room systems only)
Lithonia
Lutron
Strand (Stage lighting only)

Emergency Lights
Chloride
Dual-Lite
Emergi-Lite
Exide Lightguard
Lightalarms
Lithonia
Sure-Lite

Exit Signs (LED)
Chloride
Dual-Lite
Emergi-Lite
Exide Lightguard
Lightalarms
Lithonia
LSI Industries
Morlite (High abuse areas) (Philips)
Prescolite
Sure-Lites

Lamps
General Electric Ecolux
Osram/Sylvania Ecologic
Philips Alto
Venture (H.I.D. only)

Lighting Fixtures (Fluorescent)
Alkco (Philips) Kenall
Bartco Kirlin
Columbia Lightolier (Philips)
Cooper (Metalux) Linear Lighting
Day-Brite (Philips) Lithonia (Acuity)
Fail-Safe (Cooper) LSI Industries
Finelite
Focal Point
Guth (Philips)
Harris
Holophane (Acuity)
Hubbell
Keene

Peerless (Acuity)
Prudential
Quality (Philips)
Visa
Williams
Zumtobel

Lighting Fixtures (H.I.D.)
Best
Crouse-Hinds (Cooper)
Day-Brite (Philips)
Fail-safe (Cooper)
General Electric
Guth (Philips)
Harris
Holophane
Hubbell

Kenall
Lightolier (Philips)
Lithonia (Acuity)
LSI Industries
McGill
Quality (Philips)
SPI

Lighting Fixtures (Compact Fluorescent and Incandescent)
Globe
Gotham (Acuity)
Halo
Harriss
Kenall
Kirlin
Lightolier (Philips)

Lithonia (Acuity)
LSI Industries
Omega (Philips)
Prescolite (Hubbell)
Quality (Philips)
Swivelier

Lighting Fixtures (LED)
LED fixtures with a DesignLights Consortium (DLC) listing
LED fixtures with a U.S. Department of Energy (DOE) “LED Lighting Facts” label
LED fixtures with a U.S. Environmental Protection Agency (EPA) ENERGY STAR label
CREE
Man-D-Tec (Elevator cab lighting)

SECTION 265600 - EXTERIOR LIGHTING
Lighting Fixtures (Outdoor Building, Parking Lot and Roadway with poles by fixture supplier)
BEGA (Conditional Approval)
Gardco
Holophane
Kim (Hubbell) (Conditional Approval)
Lithonia Hi-Tek
LSI Industries
McGraw-Edison
Sterner
Wide-Lite (Philips)

Lighting Fixtures (Outdoor Pedestrian Area with poles by fixture supplier)
Lumec

Photoelectric Lighting Controls
Crouse-Hinds
SECTION 273523 – EMERGENCY RESPONDER RADIO COVERAGE

Emergency Responder Radio Services
Advance Wireless Telecommunications (Joe Campbell, 248-295-4600)
Comsourse Inc. (Mike Hilverding, 248-853-5430)
Continental Wireless (Breogan Link, 800-527-2000)
RF Connect (Pat Rhatigan, 734-891-5950)
Motor City Technologies, a division of Motor City Electric Co. (David Krausman, 313-957-3459)

Emergency Responder Radio Signal Survey
JDRM Engineering (Dave DesJardins, 419-824-2400)

SECTION 275116 - PUBLIC ADDRESS & MASS NOTIFICATION SYSTEMS

Public Announcement and Sound Systems
Aiphone Communications Systems
Atlas/Soundolier
Dukane
Rauland-Borg

SECTION 275126 - ASSISTIVE LISTENING SYSTEM

Hearing Assistance Systems
Phonic Ear (for classroom applications)
Sound Associates (for auditorium and theater applications)

SECTION 275313 - CLOCK SYSTEMS

Central Clock Systems
Primex (GPS synchronous wireless)
Simplex Time Recorder (through Simplex/Grinnell)

Clocks (Battery Powered)
Edwards
Franklin
Howard Miller
Primex (GPS synchronous wireless)

SECTION 281300 - ACCESS CONTROL & MONITORING SYSTEMS

Card Access Control Systems
Diebold/CBORD (for Housing facilities)
Software House (for Campus buildings)

Card Access Control System Designers/Installers
Cabling Concepts (Tim Grady, 248-363-4200)
Siemens (Chris Tingley, 734-456-3800 main, 734-386-6741 cell))
Simplex/Grinnell (John Keith, 248-427-5050)
SECTION 281600 - SECURITY SYSTEMS

Security Camera Systems
Refer to the University of Michigan Division of Public Safety and Security (DPSS) website http://www.dpss.umich.edu/topics/cameras/ for technical requirements and a compatible hardware list.

Security Systems
ADT Security Systems
Faraday
Radionics (For small systems only)
Simplex Time Recorder

SECTION 283100 - FIRE DETECTION & ALARM SYSTEMS

Fire Alarm Systems
EST (through Riverside Fire and Security only)
Honeywell (UMHHC only)
National Time & Signal
Notifier
Siemens
Simplex (Tyco SimplexGrinnell)
VESDA by Xtralis (for smoke sampling systems only; subsidiary of Honeywell)