ALL ITEMS TO BE REVIEWED AND APPROVED BY PROJECT MANAGER

SINGLE SOURCE PRODUCT
- Square D Distribution Equipment
- Square D panel boards/ distribution panels

NOT PERMITTED PRODUCTS
- Square D VFD (variable frequency drives)

REQUIREMENTS:

PRIMARY TRANSFORMERS
- All transformers must have a primary switch.
- All transformers must be copper windings primary and secondary.
- All building transformers to be exterior to the building, Variance Form must be submitted for all interior installations.
- Exterior installation should include some type of screening.
- All transformers must be certified PCB free.
- All installations shall require spare conduits/raceways to be coordinated with the university.

SECONDARY TRANSFORMERS
- Coordinate location with the university; all transformers to be pad-mounted floor level in primary mechanical/electrical rooms
- Must have copper windings, primary and secondary.

HIGH VOLTAGE DISTRIBUTION
- All copper buss.
- METERING; see metering section.
- All high voltage distribution cables must be copper conductor, no splicing permitted. Variance form required for all deviations.
- It is the University’s goal to implement Remote High Voltage Switching for safety where practical.

- Campus distribution is 12,470V typical; coordinate location.

- It is desired to have 1 spare switch for all new high voltage line-ups; please design for future expansion.

GENERAL REQUIREMENT

- Bolt in breakers are required.

- 25% spare breakers in panels.

- No shared neutrals.

- All conductors shall be copper.

- All circuits must have ground wires.

- ¾” trade size conduit, minimum (No ½”).

- PVC conduit permitted underground only.

- All conductors must be in a conduit/raceway.

- No BX, Arma Flex or MC cable permitted.
  - 6’ maximum MC light fixture whips only
  - A variance form is required for any other use

- University prefers 277V lighting circuits.

- GFCI circuits
  - No feed through circuitry.
  - Point of use protection; no GFCI breakers.
  - GFCI required in all common spaces.
- All duplex outlets must be minimum 20amp back wired, spec grade.
- All device covers must be stainless steel or vinyl.
- Review light switches/occupancy sensors/energy requirements during design development.
- All standard toggle lighting/control switches must be minimum 20amp back wired, spec grade.
- Minimum 12 gauge copper wire.
- University desires a limited amount of lamp diversity
  - 2’ or 4’ straight lamp T5 fluorescent fixture.
    - a. 18 cell parabolic lens is the smallest allowable lens (no egg crates).
  - Accent lighting to be LED type fixtures.
  - All fixtures must be accessible by a 6’ ladder, variance form required for deviations.
  - Residential housing: all fixtures must be vandal proof (Kenall) tri-level lighting.
- Minimum 4 sq. x 2 1/8” box size.

EXTERIOR LIGHTING

- Minimum Acceptable Lighting Levels
  - High Pedestrian Activity, High Volume Parking Lots, Parking Garages: .75 FC (8 LUX)
  - Primary Walkways, Primary Streets: .50 FC (5 LUX)
  - Secondary Walkways, Secondary Streets: .25FC (3LUX)

VFD

- Allen Bradley, Baldor, or Yaskawa drives are preferred.
- All rotating equipment shall have a grounding ring installed.
- Inverter duty motors required.

MOTORS
- University prefers 90%+ efficient electric motors.
- All motors 1 HP and above shall be 3 phase.
- University prefers HOA switches on all motor controls.
- Motor starters shall be equipped with electronic overload protection.

ALL ITEMS TO BE REVIEWED AND APPROVED BY PROJECT MANAGER

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END OF SECTION-------------------------------------------------------------

REVISION DATE: 03-21-12, 05-05-14