<table>
<thead>
<tr>
<th>D5010 Service &amp; Distribution</th>
<th>MasterFormat No.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26 05 00</td>
<td>Electrical – General Requirements</td>
</tr>
<tr>
<td></td>
<td>26 05 19</td>
<td>Low-Voltage Electrical Power Conductors and Cables</td>
</tr>
<tr>
<td></td>
<td>26 05 26</td>
<td>Ground and Bonding for Electrical Systems</td>
</tr>
<tr>
<td></td>
<td>26 05 33</td>
<td>Raceways</td>
</tr>
<tr>
<td></td>
<td>26 12 00</td>
<td>Medium Voltage Switchgear</td>
</tr>
<tr>
<td></td>
<td>26 22 00</td>
<td>Low-Voltage Transformers and Dry Type Transformer</td>
</tr>
<tr>
<td></td>
<td>26 24 13</td>
<td>Switchboards</td>
</tr>
<tr>
<td></td>
<td>26 24 16</td>
<td>Panelboards – Lighting and Receptacle</td>
</tr>
<tr>
<td></td>
<td>26 24 18</td>
<td>Panelboards – Distribution</td>
</tr>
<tr>
<td></td>
<td>26 24 19</td>
<td>Motor-Control Centers</td>
</tr>
<tr>
<td></td>
<td>26 25 13</td>
<td>Busways</td>
</tr>
<tr>
<td></td>
<td>26 28 16</td>
<td>Enclosed Safety Switches and Circuit Breakers</td>
</tr>
<tr>
<td></td>
<td>26 29 23</td>
<td>Variable Frequency Drives</td>
</tr>
<tr>
<td></td>
<td>26 32 13</td>
<td>Emergency Generators</td>
</tr>
<tr>
<td></td>
<td>26 36 23</td>
<td>Automatic Transfer Switches</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D5020 Lighting &amp; Lighting Controls</th>
<th>MasterFormat No.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26 51 00</td>
<td>Lighting and Lighting Controls</td>
</tr>
</tbody>
</table>
D.5010 ELECTRICAL SERVICE AND DISTRIBUTION

26 05 00 GENERAL REQUIREMENTS

A. General Definitions and Codes
   1. National Electrical Code (NEC)
   3. National Electrical Manufacturers Association (NEMA)
   4. American National Standards Institute (ANSI)
   5. Insulated Cable Engineers Association (ICEA)
   6. Institute of Electrical and Electronic Engineers (IEEE)
   7. American Society for Testing and Material (ASTM)
   8. Joint Industrial Council (JIC)
   9. Illumination Engineering Society (IES)
   10. Applicable Local Codes
   11. Americans with Disabilities Act (ADA)
   12. OFCI: Owner furnish, contractor install
   13. OFCI: Owner furnish, owner install
   14. NIC: Not in contract

B. Approved Materials
   1. Provide only new, standard, first-grade materials throughout, conforming to
      standards established by a nationally recognized testing laboratory, and so marked
      or labeled, together with manufacturer’s brand or trademark. All like items and
      associated equipment shall be of one manufacturer.

C. Approved Manufacturers for Power Distribution Equipment
   1. Square D
   2. General Electric
   3. Siemens
   4. Eaton

D. Power System Study
   1. Provide Short Circuit Study, Protective Devices Evaluation Study, Protective Device
      Coordination Study and Arc Flash Hazard Study from a Professional Engineer
      (registered in the state of Alabama) for all portions (new and existing) of the
      electrical power distribution system. Studies shall be performed with aid of a
      computer program (SKM, ETAP, EasyPower or equal) in accordance with all
      applicable studies, including latest editions of IEEE 1584 and NFPA 70E. Breaker
      settings recommended by the final study shall be set in the field by the contractor
      prior to energization of equipment, and arc fault incident energy labels shall be
      applied to all electrical distribution equipment prior to final acceptance.

E. Electrical Identification
   1. General:
      a. All new and existing equipment modified shall include arc-flash warning labels in
         accordance with NEC article 110.16.
2. All Panels, Motor Control Centers, Switchboards, Switchgear, Transformers, Etc.:
   a. Engraved nameplates identifying name of equipment, nominal voltage and phase of the equipment and where the equipment is fed from shall be installed on front surface of all panels, motor control centers, switchboards, switchgear, transformers, etc.:
3. Normal power nameplates shall be white with black lettering, and emergency power nameplates shall be red with white lettering.
4. All receptacles in laboratory spaces shall have engraved nameplates installed on the coverplate indicating panel and circuit number serving the device. All other receptacles shall have mechanically printed labels attached to the coverplate indicating the panel and circuit number serving the device.
5. All junction boxes shall be labeled with panel and circuit numbers.

F. Wiring Devices
   1. Switches and general receptacles shall be commercial specification-grade and rated for 20A (minimum).
   2. Coverplates shall be stainless steel.

26 05 19  LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

A. General: Conductors shall have current carrying capacities as per N.E.C. and with 600-volt insulation, #12 minimum except for controls and fixture wire. Conductors shall be copper.

B. General Application (see below for exceptions):
   1. At or Below Grade (including within slab-on-grade):
      a. #8 or larger conductors: XHHW or RHH/RHW/USE stranded.
      b. #10 or smaller conductors for circuits terminating at motors: THHN/THWN or XHHW stranded.
      c. #10 or smaller conductors (excluding circuits terminating at motors): THHN/THWN or XHHW solid.
   2. Above Grade:
      a. #8 or larger conductors: THHN/THWN stranded.
      b. #10 or smaller conductors for circuits terminating at motors: THHN/THWN stranded.
      c. #10 or smaller conductors (excluding circuits terminating at motors): THHN/THWN solid.

D. A color-coding system shall be followed throughout the network of branch power circuits, identifying unique colors for per the following convention:
   1. 120/208V-3P-4W  Black, Red, Blue
   2. 277/480V-3P-4W  Yellow, Orange, Brown
   3. 120/240V-3P-4W  Black, Orange, Blue

E. Except for certain renovations projects, type MC cabling is not permitted except for light fixture “whips” less than 6 feet in length.
26 05 26 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

A. All equipment, building steel, and main service shall be effectively and permanently grounded with a conductor cross section as required by the National Electrical Code and of capacity sufficient to insure continued effectiveness of the ground connections for fault current. Ground conductors shall be as short and straight as possible, protected from mechanical injury and, if practicable, without splice or joint.

B. All grounding and bonding connections below grade shall be made with a CADWELD type connection.

C. All grounding connections shall be installed in accordance with the National Electrical Code and all local codes and requirements. Such codes shall be considered minimum requirements and the installation of the grounding system shall insure freedom from dangerous shock voltage exposure and provide a low impedance ground fault path to permit proper operation of overcurrent and ground fault protective devices.

26 05 33 RACEWAYS

A. Raceway Type: Raceway types shall be as specified below, unless indicated otherwise on drawings:
   1. Exterior, Exposed: Rigid Galvanized Steel or I.M.C. (coated with two coats of asphaltum paint where below grade or within concrete). unless otherwise noted.
   2. Other Exterior (Concrete-Encased or Direct Earth Buried): Schedule 40 PVC. PVC conduit shall convert to metallic conduit (exact type as specified elsewhere within this section) prior to exiting concrete-encasement or direct earth burial.
   3. Interior, Exposed:
      b. Wet Locations (including, but not limited to, Pump Rooms, Wet Wells, Underground Vaults, and other similar locations): Rigid Galvanized Steel
      c. Dry Locations Where Subject to Mechanical Damage (including, but not limited to, below 8’-0” A.F.F. in process, shop, storage, warehouse and other similar areas): Rigid Galvanized Steel or I.M.C..
      d. Other Dry Locations: E.M.T.
   4. Interior, Concealed: E.M.T.
   5. Liquid tight flexible metal conduit shall be used for final connections to motors or other vibrating loads

B. Installation
   1. A standard nylon pull cord or wire shall be installed in all empty conduits.
   2. Conduits shall be ¾” minimum.
   3. Provide nylon bushings on the end of all conduits that terminate above ceiling.
   4. All conduits shall be supported from the structure.

26 12 00 MEDIUM-VOLTAGE SWITCHGEAR

A. Surge arresters shall be provided for all feeders into or out of buildings or structures.
B. All medium-voltage switchgear shall have bus arrangement adhesively applied to the enclosure of the switchgear. Animated mimic bus shall be provided to give visual indication of the position of each switch.

C. Means shall be provided to prevent single-phase conditions.

D. Switchgear shall be compartmentalized into the following minimum compartments:
   1. Main bus compartment
   2. Switch compartment
   3. Cable connection/fuse compartment
   4. Mechanism compartment

E. Pad-lock provisions shall be provided on covers for the following:
   1. Load interrupter switches
   2. Grounding switch mechanisms
   3. Other operable devices

F. Live phase indicators and IR viewports with covers for inspection shall be provided.

26 22 00  LOW-VOLTAGE AND DRY TYPE TRANSFORMERS

A. Transformers shall be ventilated with insulation to withstand a minimum of 150-degree Celsius temperature rise.

B. Transformers shall be copper windings only.

C. Transformers shall comply with the latest edition of NEMA standard TP-1 and shall be labeled for the EPA Energy Star Program.

D. Enclosures:
   1. Transformers mounted in dry, interior locations shall be furnished with NEMA 1 enclosures unless shown otherwise.
   2. Transformers mounted outdoors or in wet locations shall be furnished with NEMA 3R enclosures with drip shields unless shown otherwise.

E. A minimum clearance of six inches shall be provided around all transformer ventilation openings.

F. Transformers shall be isolated from structure with neoprene vibration isolation pads

G. Transformers shall be installed on four-inch-thick concrete pads with beveled edges.

26 24 13  SWITCHBOARDS

A. Switchboards shall be located indoors.

B. Provide surge suppression on all switchboards.

C. Switchboard bussing shall be silver-plated copper.
D. Breakers shall be LSI or LSIG electronic trip.
E. Provide metering at each switchboard main to monitor and display current, voltage, power, and energy.
F. Switchboards shall be installed on four-inch-thick concrete housekeeping pads with beveled edges.
G. Switchboards shall be fully-rated for the available fault current.
H. Switchboard sections shall be fully-bussed.

26 24 16 PANELBOARDS – LIGHTING AND RECEPTACLE
A. Panelboards shall be dead front type.
B. A metal framed circuit directory card holder with clear plastic covering shall be factory-mounted on the inside of door.
C. Provide hinged trim with piano-hinge down full length of one side to allow access to wiring without complete removal of outer trim.
D. Each section of multi-section panelboards shall be of matching heights and depths.
E. Panelboards installed in exterior or wet locations shall have NEMA 3R enclosures.
F. For all flush-mounted panelboards, a minimum of three (3) one-inch empty conduits shall be stubbed out above the nearest accessible ceiling space for future use.
G. All panels shall have surge suppression devices.
H. All panels shall be fully-rated for the available fault current.
I. All panels shall have bolt-on breakers with fully-bussed space.
J. Provide a minimum of 10% spare breakers when project is complete.

26 24 18 PANELBOARDS – DISTRIBUTION
A. Panelboards shall be dead front type
B. All neutral busses shall be full size. All panelboards shall contain ground buss.
C. Front of enclosure shall be attached to cabinets with hinged trim with piano-hinge down full length of one side to allow access to wiring without complete removal of outer trim.
D. Panelboards installed in exterior or wet locations shall have NEMA 3R enclosures.
E. Each section of multi-section panelboards shall be of matching heights and depths.
F. All panels shall have surge suppression devices.

G. All panels shall be fully-rated for the available fault current.

H. All panels shall have bolt-on breakers with fully-bussed space.

I. Provide a minimum of 10% spare breakers when project is complete.

26 24 19 MOTOR-CONTROL CENTERS

A. Additions to existing MCCs shall be the same as the original manufacturer.

B. All bussing and connectors shall be tin-plated copper.

C. Combination Starters
   1. Nema motor starters shall be provided with a three-pole, external (door mounted) manual reset, solid state overload relay. Solid state overload relay shall have switch-selectable trip class and shall provide protection from:
      a. Overload.
      b. Phase Unbalance.
      c. Phase Loss.
      d. Ground Fault (Class II detection).
   2. All starters shall be NEMA-rated starters.

D. Terminal Blocks
   1. Wiring within all units shall be type B, with unit-mounted control terminal blocks for each field wire.
   2. Terminal blocks shall be the pull-apart type 600 volt and rated at 25 amps. All current carrying parts shall be tin plated. Terminals shall be accessible from inside the unit when the unit door is opened. Terminal blocks shall be DIN rail mounted with the stationary portion of the block secured to the unit bottom plate. The stationary portion shall be used for factory connections and shall remain attached to the unit when removed. The terminals used for field connections shall face forward, so they can be wired without removing the unit or any of its components.

E. Control Devices
   1. All pushbuttons, pilot lights, selector switches and other control devices shall be separate, standard size (full 30mm) and shape, heavy duty oil-tight units.
   2. All pilot lights to be cluster LED type & push to test.
   3. All control wiring shall be labeled at each termination.

F. Motor control centers shall be installed on four-inch-thick concrete housekeeping pads with beveled edges.

26 25 13 BUSWAYS

A. The bus duct shall be non-ventilated outdoors and indoors. Housing and accessory flanges, terminal enclosures, etc., shall be primed and painted construction. All outdoor hardware
exposed to the weather shall be stainless steel. Indoor hardware (unless in corrosive environment) shall be manufacturer’s standard.

B. Bus housing shall be steel or aluminum.

C. Outdoor, totally enclosed, non-ventilated housings shall be fitted with screened breathers and space heaters in sufficient quantity and rating to minimize condensation. Space heaters shall be completely factory wired except shipping split connection.

D. All housing and flange gasketing shall be EPDM or other noncorrosive material, and shall be completely concealed for protection against deterioration.

E. The temperature rise at any point on the housing shall not exceed 30° C above an ambient temperature of 40° C.

F. A fire-resistant divider or barrier shall be provided at all points where the bus duct extends through building walls.

G. Bus duct should be at least splash proof. IP rating, minimum IP65.

H. Where bus duct penetrates floors, bus duct shall be protected from spills by use of floor dams.

I. Bus bars shall be full round edge rectangular 98% IACS copper of sufficient cross-section to provide full current rating without exceeding a hot spot temperature rise of 65° C in a 40° C ambient.

J. An internal ground bus shall be furnished which will electrically connect together all equipment connected to the bus duct.

K. All busway shall be supported in accordance with manufacturer recommendations.

L. Busway connections shall be accessible for maintenance.

26 28 16 ENCLOSED SAFETY SWITCHES AND CIRCUIT BREAKERS

A. Safety switches shall be quick-make, quick-break, NEMA heavy duty type HD.

B. Switch blades shall be fully visible in the off position.

C. Switch and circuit breaker enclosures shall be rated NEMA I indoors in dry locations and NEMA 3R outdoors and in wet areas.

D. Provide not less than one spare set of fuses for each size used. Provide an additional spare set for each five sets of same size fuses used.

E. All switches and circuit breakers shall be fully-rated for the available fault current.
26 29 23 VARIABLE FREQUENCY DRIVES

A. Approved Manufacturers
   1. Variable Frequency Drives – approved manufacturers with acceptable Pulse Width Modulation (PWM) type drives are:
      a. Danfoss-Graham
      b. Square-D
      c. Yaskawa-Manetec
      d. ABB
      e. Approved alternate

B. General
   1. Variable frequency drives (VFD’s) shall be CSA certified and comply with the latest applicable standards of IEEE, and NEMA. As a minimum the full load output of the drive shall be equal to the equivalent motor HP as listed in NEC. The drive and all accessories or options shall be listed by either Underwriters Laboratory (UL) or Electrical Testing Laboratory (ETL), and equipment and installation shall comply with the National Electric Code.
   2. Variable frequency drives shall be provided with a 3-year warranty from the date of start-up. The 3-year warranty period will be a total of the standard warranty plus extended warranty. Contractor shall coordinate with the drive supplier as necessary to allow drive to be installed, started and in service within 60 days of the date the order for the drive is placed. The required in service date shall be as dictated by the UAB Project Manager. The warranty shall include all costs of on-site labor, parts, materials, and travel.
   3. Variable frequency drives shall be provided for all centrifugal fans 5 horsepower (HP) and above, except for those systems that are constant volume by design, such as toilet exhausts that do not vary in volume or static pressure. Systems that vary in air quality by design, such as variable air volume distribution, or systems that have medium or high efficiency filters that change static pressure as they load, shall be provided with drives.
   4. Variable frequency drives shall be used for electrical motors 5 horsepower (HP) and larger. Application of drives should be discussed with the UAB Resident Mechanical Engineer prior to use.
   5. Large capacity pumps supplying systems with varying water quantities or head shall be provided with drives. Application of drives to such systems should be discussed with the UAB Resident Mechanical Engineer prior to use.
   6. The drive shall consist of a diode bridge rectifier, filter network, a fixed Direct Current (DC) voltage link and a transistorized inverter output section. Input power factor shall be no less than 0.95 under all conditions. The output shall be sine-weighted pulse-width modulated waveform. The rectifier section shall consist of 12 diodes (i.e. a 12-pulse drive) in order to reduce the undesired effects of the 5th and 7th harmonics. The VFD and motor shall be, in general, purchased as a package unit.
   7. Input line reactors shall be 3% minimum.
   8. The following features shall be provided with the drive: NEMA rated contactors, motor overload relay, emergency shutdown of the drive which will immediately disconnect the motor, automatic restart upon return of power following outage.
Drive shall be programmable for automatic reset for under voltage, over voltage, current limit, inverter overload, and motor overload.

9. The drive shall withstand without failure or need for fuse replacement any of the following: output short circuit; ground fault or open circuit; input under voltage; loss of phase; transients caused by switching; DC over voltage; over-temperature; instantaneous overload or sustained overload up to 150% for up to sixty seconds or 110% continuous.

10. An incoming line reactor shall be installed in order to filter the resulting waveform and attenuate electrical noise and transients associated with the system, thereby extending the service life of the VFD as well as the motor.

11. It is preferable for drive parameters to be field adjustable without the need for proprietary programming tools, cables, or external interfaces. If such proprietary items are required, the contractor shall provide them with the drive and provide training in their use.

12. The drive shall provide a three-phase voltage with varying frequency output. The voltage/hertz pattern shall be selectable to that best suited to the motor. The drive shall automatically adjust this relationship during operation for the maximum operating efficiency according to speed and load.

13. Input and/or output control circuits shall be electrically isolated by use of optical isolators to prevent unwanted ground loops or feedback from other electronic control equipment. A built-in RS-485 port fully equipped for serial communication shall be specified. Input and/or output control signals will be the type described in UAB Facilities Standard No. 15951, Type I Controls.

14. The following features shall be provided: Acceleration and deceleration time adjustment from 1-3600 seconds; front of panel hand/off/auto switch with manual frequency control for hand; dry contact closure output signal for paralleling of other equipment; ramp to start and ramp to start by external dry contact closure; frequency indication (Hertz preferably) on front of panel; operating pilot light and drive fault light on front of panel; emergency stop provided by external contact closure. Provide elementary or schematic wiring diagram showing only the interface wiring terminations.

15. The drive shall include a bypass circuit so that when activated, it will bypass the Variable Frequency Drive (VFD) and electrically isolate the VFD for removal and/or repair while allowing the system to operate in bypass mode, and vice versa, without being exposed to line voltage. The bypass circuit will include overload protection. Indicator lights, which show if the unit is in bypass mode, are required on the front of the drive panel. Bypass arrangement for 50 HP and larger shall be provided with soft-starter starter in series with the bypass contactor, and with electronic overload protection in bypass and VFD modes. Bypass arrangement for motors smaller than 50 HP shall be provided with across the line contactor.

16. In order to reduce repair part stock, the control and operational circuits for the drive will be interchangeable between different size drives from five to one hundred horsepower.

17. Motors used in variable speed installation shall be rated for inverter duty, and so marked on the nameplate.

18. The Contractor shall provide UAB Maintenance and UAB Energy Management a copy of all available operation and maintenance manuals and wiring diagrams published.
for the VFD. A permanent laminated document shall be attached to the drive with all user configurable settings that are required to be input at initial start-up.

C. EXECUTION
1. Careful attention shall be given to the placement of the fan static pressure sensor and pump differential sensor, which controls the variable frequency drive output. The Engineer shall closely coordinate with the Test and Balance Contractor and specify the location of the sensors to allow the best possible energy savings.
2. Checks shall be made to assure that the VFD installation does not cause voltage reflection, harmful harmonics, or electrical interference. Filters shall be installed if recommended by the manufacturer to prevent such electrical interference.
3. Carefully evaluate situations where distance from VFD to motor is greater than 100 feet.

26 32 13  EMERGENCY GENERATORS

A. Generators shall be duel-fueled or diesel/natural gas if approved.

B. Approved Manufacturers for Emergency Generators
   1. Cummins/Onan
   2. Caterpillar
   3. Kohler

C. For diesel generators, provide a sub-base fuel tank for the generator set, sized to allow for full load operation of the generator set for 24 hours.

D. Generator shall be 12-lead reconnectable type to provide the following voltage output configurations:
   1. 277/480V-3Phase-4Wire
   2. 120/208V-3Phase-4Wire
   3. 120/240V-3Phase-4Wire
   4. 120/240V-1Phase-3Wire

F. Provide and install a 20-light LED type remote alarm annunciator with horn, located adjacent to fire alarm control panel/annunciator.

G. Each generator set shall be furnished with a remote manual stop station of a type to prevent inadvertent or unintentional operation per NFPA 110 requirements.

H. Where installed outdoors, the generator set shall be provided with a weatherproof enclosure. Sound attenuated enclosures may be required for certain applications.

I. Installation acceptance tests to be conducted on-site shall include the following (performed in accordance with NFPA 110):
   1. "Cold start" test.
   2. Four (4) hour full load test. Provide resistive load banks and make temporary connections as required.
3. One step rated load pickup test.
4. Power failure test on the entire installed system. This test shall be conducted by opening the power supply from the utility service, and observing proper operation of the system for at least 2 hours. Coordinate timing and obtain approval for start of test with site personnel.

26 36 23 AUTOMATIC TRANSFER SWITCHES

A. Approved Manufacturers for Automatic Transfer Switches
   1. Caterpillar
   2. Kohler
   3. ASCO
   4. Eaton

B. The transfer switch and its upstream protection shall be coordinated per NEC requirements.

C. Transfer switches shall be double-throw, electrically and mechanically interlocked.

D. In some cases, bypass isolation or closed-transition transfer switches may be required.

E. All contactors in packaged units shall be NEMA-rated.

F. Each transfer switch shall be provided with a control panel to allow the operator to view the status and control operation of the transfer switch. The operator panel shall be permanently labeled for switch and control functions.

G. Digital display metering panel shall be provided to display 3-phase AC Amps, 3-phase AC Volts, Hz, KW load level, and load power factor.

H. The transfer switch shall incorporate adjustable time delays for generator set start (adjustable in a range from 0-15 seconds); transfer (adjustable in a range from 0-120 seconds); retransfer (adjustable in a range from 0-30 minutes); and generator stop (cooldown) (adjustable in a range of 0-30 minutes).

I. Transfer switch enclosures shall be NEMA 1 for dry locations and NEMA 3R for outdoor or wet locations.

J. Research Buildings should employ closed-transition transfer switches with bypass isolation.

K. Transfer switches shall include at least three (3) configurable dry contacts to interface with BAS.

D.5020 LIGHTING AND LIGHTING CONTROLS

26 51 00 LIGHTING AND LIGHTING CONTROLS

A. All lighting shall be LED with manufacturer provided 5-year warranty and adhere to LM-79 and LM-80 lighting standards.

B. All drivers shall be located in an accessible location.
C. All fixtures shall be individually fused.

D. All fixtures shall have a pull-apart power-disconnecting device.

E. All lighting levels shall meet IES standards.

F. Provide lighting calculations for all areas for review by University.

G. All light fixtures shall be supported independently from the structure.

H. All exterior light poles shall be grounded with a grounding electrode at each pole.

I. All exterior light poles shall have an in-line water resistant fuse holder/fuses in hand hole at each pole.

J. All interior light fixture color temperatures shall be 4000k or greater unless specific project requirements require otherwise.

K. All exterior light fixture color temperatures shall be 4000k or greater unless specific project requirements require otherwise.

L. All lighting controls shall comply with the current State of Alabama Energy Code requirements.

M. Occupancy sensor types shall be as follows:
   1. Classrooms, Conference Rooms, Offices, etc. – dual technology
   2. Restrooms – ultrasonic
   3. Janitor’s closets and small storage rooms – passive infrared

N. Approved manufacturers for lighting controls are as follows:
   1. Acuity
   2. Lutron
   3. Leviton
Revision Request Form - Electrical Construction Standards

Date: ____________________
Requestor: ___________________ Department/Consultant: ___________________
Project Number & Name: _______________________________________________________

EXISTING ELECTRICAL STANDARD

Section Number & Name: _______________________________________________________
Section Revision Number: ___________________ Section Paragraph: ___________________

(ENTER CURRENT SECTION LANGUAGE BELOW)

REQUESTED REVISION REQUEST

(ENTER REVISION SECTION LANGUAGE BELOW)- Identify if request will be permanent to standards or for the referenced project.

JUSTIFICATION FOR REVISION

FOR UNIVERSITY OF ALABAMA AT BIRMINGHAM USE ONLY

UAB Staff Requestor: __________________________ Authorized UAB Approval Personnel: __________ Date: __________
Status: _____Rejected _____Accepted _____ Revise and Resubmit (see attachment)