DISTRIBUTED LIGHTING CONTROLS SYSTEM SPECIFICATIONS:

1. SEE LIGHTING PLAN DRAWINGS FOR DISTRIBUTED LIGHTING CONTROL SYSTEM (DLCS) SPECIFICS, SPACE SPECIFIC CONFIGURATIONS/REQUIREMENTS, AS WELL AS FIXTURE BALLAST/DRIVER CONFIGURATIONS.
2. ALL PRODUCTS SHALL BE BACKED BY A FIVE YEAR MANUFACTURER'S WARRANTY.
3. ALL PRODUCTS LISTED IN THIS SPECIFICATION ARE BASED UPON PRODUCTS LISTED ON THIS SHEET. THE FEATURES AND CHARACTERISTICS OF THE PRODUCT LITERATURE AND SPECIFICATION SHEETS AVAILABLE ON THE VARIOUS MANUFACTURER'S WEB-SITES ARE INCLUDED IN THE REQUIREMENT OF THESE SPECIFICATIONS. ALL DLCS NETWORKED/INTERCONNECTED/NON-NETWORKED SYSTEM-BASED AND STANDALONE COMPONENTS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.
4. DLCS COMPONENTS SHALL BE COMPLIANT WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL ENERGY CODES AND BE PROVIDED AS FOLLOWS:
   a. WALL MOUNTED OCCUPANCY SENSORS: STANDALONE: WALL MOUNTED OCCUPANCY SENSORS SHALL BE UL LISTED AND HAVE A MINIMUM LOAD CAPACITY OF 800 WATTS AT 120 VOLTS AND 1200 WATTS AT 277 VOLTS. WALL SENSORS SHALL ALSO BE DECORATOR STYLE, WITH A LOW-PROFILE APPEARANCE AND A HARD LENS FOR DURABILITY. SENSOR SHALL UTILIZE PASSIVE INFRARED TECHNOLOGY (PIR) AND ULTRASONIC / MICROPHONIC TECHNOLOGY. UNIT SHALL BE RATED FOR 120/277 VOLT WITH NO MINIMUM LOAD, COMPATIBLE WITH ALL THE SPECIFIED BALLASTS, PROVIDED WITH A NEUTRAL CONNECTION (NO LEAKAGE TO GROUND) AND NO LEAKAGE TO LOAD IN THE "OFF" MODE. SENSOR SHALL BE UTILIZED IN SPACES NOT EXCEEDING 150 SQ.FT. SINGLE RELAY SENSORS SHALL BE CONFIGURED WITH THE RELAY IN A "MANUAL ON/ AUTO OFF" SETTING. DUAL RELAY SENSORS SHALL BE CONFIGURED WITH THE FIRST RELAY IN A "AUTOMATIC ON/ AUTOMATIC OFF" SETTING AND THE SECOND RELAY IN A "MANUAL ON/ AUTOMATIC OFF" SETTING. FACTORY STANDARD COLOR TO BE APPROVED BY ARCHITECT.
   b. SYSTEM-BASED: WHEN INDICATED WITH A DOT SYMBOL, "I" , OR "N" IN THE OCCUPANCY SENSOR SYMBOL, A LOW VOLTAGE, WALL MOUNTED OCCUPANCY SENSOR SHALL BE PROVIDED AND CONNECTED TO A CONTROL UNIT AS REQUIRED. SENSOR SHALL BE DECORATOR STYLE WITH A LOW-PROFILE APPEARANCE, HAVE ON/OFF/RAISE/LOWER BUTTONS, AND A HARD LENS FOR DURABILITY. SENSOR SHALL UTILIZE PASSIVE INFRARED TECHNOLOGY (PIR) AND ULTRASONIC / MICROPHONIC TECHNOLOGY. FACTORY STANDARD COLOR TO BE APPROVED BY ARCHITECT. b. SYSTEM-BASED CEILING MOUNTED OCCUPANCY SENSORS INDICATED WITH A DOT SYMBOL, "I" , OR "N" IN THE OCCUPANCY SENSOR SYMBOL SHALL BE CONFIGURED IN ONE OF THE FOLLOWING WAYS AS INDICATED ON THE DRAWINGS: I (AUTO ON a/b), (SWITCHED - AUTO ON a / MANUAL ON b) OR (CONTINUOUS DIMMED - AUTO ON 50% a MANUAL ON 100% a). OCCUPANCY SENSOR ALSO SHALL HAVE A LOW-PROFILE APPEARANCE. SENSOR MICROPHONIC TECHNOLOGY WITH 360 DEGREE ERAGE SHALL BE "HAND MOTION" AND SHALL OF 10 FT. IN CORRIDORS, STORAGE ROOMS RAGE SHALL BE "HALF-STEP, WALKING MOTION" CEILING HEIGHT OF 10 FT. SHALL UTILIZE DUAL TECHNOLOGY PIR AND ULTRASONIC / COVERAGE. IN SPACES WITH DESKTOP ACTIVITIES THE C NOT EXCEED 500 SQ. FT. AT A MAXIMUM CEILING HEIGHT AND OTHER SPACES WITH NON-DESKTOP ACTIVITIES CO AND SHALL NOT EXCEED 1200 SQ. FT. AT A MAXIMUM
   c. "H" AT THE OCCUPANCY SENSOR INDICATES CONNECT ON TO AUXILIARY OUTPUT CONTROL DEVICE FOR CONTROL OF A THIRD PARTY DEVICE VIA LOW-VOLTA E CONTACT CLOSURES - 1 AMP 0 24V AC/DC. NC / NO RELAYS SHALL BE CONNECTED TO A CONTROLLER TO PERFORM THE AUXILIARY CONTROL REQUIREMENTS INDICATED BY THE DRAWINGS.
   d. "DM" PREFIX AT AT THE OCCUPANCY SENSOR INDICATES A DUAL MODE CORRIDOR/STAIRWAY/WAREHOUSE AISLE CONTROL FUNCTIONALITY TO BE IMPLEMENT ED AS FOLLOWS:
      - BUSINESS HOUR MODE
         -- UNOCCUPIED CORRIDOR/STAIRWAY/AIS LIGHTING SHALL AUTOMATICALLY DIM TO ACHIEVE 50% LIGHTING POWER LEVEL.
         --UPON OCCUPANCY, LIGHTING SHALL AUTOMATICALLY BE BROUGHT TO 100% LIGHTING POWER LEVEL.
      - AFTER BUSINESS HOUR MODE BROKEN SENTENCE? BROKEN SENTENCE?
         -- UNOCCUPIED CORRIDOR/STAIRWAY/AISLE LIGHTING SHALL AUTOMATICALLY TURN-OFF BASED ON CEC-LISTED TIME CLOCK OUTPUT CONTACT POSTION/TIME CLOCK PROGRAMMING.
         --UPON OCCUPANCY, LIGHTING SHALL BE BROUGHT TO 100% LIGHTING POWER LEVEL.
         --ONCE OCCUPANCY IS DETECTED IN A CORRIDOR, STAIRWAY, OR AISLE, THAT RESPECTIVE AREA SHALL OPERATE IN BUSINESS HOUR MODE UNTIL THE NEXT AFTER BUSINESS HOUR MODE OCCURS.
         -- UNOCCUPIED COORIDOR/STAIRWAY/AISLEWAY LIGHTING SHALL AUTOMATICALLY REVERT TO BUSINESS HOUR MODE OPERATION BASED ON CEC-LISTED TIME CLOCK CONTACT POSTION/TIME CLOCK PROGRAMMING

EC SHALL BE RESPONSIBLE FOR PROVIDING ALL DEVICES & WIRING REQUIRED FOR DUAL MODE OPERATIONS AND ANY PROGRAMMING/CONFIGURATION OF TIME-BASED OPERATING PARAMETERS TO INCLUDE OUTPUT CONTACT CLOSURES FROM TIME CLOCKS OR NETWORK GATEWAYS. COORDINATE WITH OWNER TO DETERMINE BUSINESS HOUR/AFTER BUSINESS HOUR MODES. WHERE DIAL MODE CONTROL IS ACCOMPLISHED THROUGH NON-NETWORK TIME CLOCK DEVICES, LOCATE EACH OF THESE DEVICES ADJACENT TO THE CLOSEST RESPECTIVE STAIRWAY/CORRIDOR/AISLEWAY CONTROL UNIT. IF THE PLANS IDENTIFY A NEW OR EXISTING CEC LIGHTING CONTROL PANEL AS THE SOURCE OF DUAL MODE TIMING, EC SHALL INCLUDE ALL COSTS TO INSTALL ANY NECESSARY I/O TERMINALS, CARDS, ETC. TO MAKE THE SYSTEM FULLY FUNCTIONAL.

   e. WHEN INDICATED WITH AN "N" IN THE OCCUPANCY SENSOR SYMBOL, A NETWORKED SYSTEM SHALL BE PROVIDED AND INSTALLED. THIS NETWORK-BASED SYSTEM SHALL PROVIDE / RESULT IN "LADDERLESS COMMISSIONING" OF DAY-LIGHT CONTROLS. AT A MINIMUM, NETWORK ACQUIRED DATA SHALL PROVIDE CT-BASED LIGHTING POWER (WATTS) MEASUREMENTS PER THE COMMISSIONING PORTION OF THESE REQUIREMENTS. PROVIDE NETWORKED CONTROL UNITS / POWER PACKS / INTERFACES / AND MISCELLANEOUS EQUIPMENT AS FOLLOWS:
      e.a. NETWORK SEGMENT MANAGER WITH NATIVE BACnet IP - QUANTITY AS REQUIRED BASED UPON A MAXIMUM OF 100 LOCAL LOCAL ROOM NETWORKS PER SEGMENT AND A MINIMUM OF ONE SEGMENT MANAGER PER FLOOR). THIS EQUIPMENT SHALL BE LOCATED IN THE TYPICAL FLOOR ELECTRICAL ELECTRICAL ROOM.
      e.b. NETWORK BRIDGE CONNECTING THE SEGMENT MANAGER TO THE CONTROLLER SUB / LOCAL NETWORK.
      e.c. SEGMENT NETWORK WIRING FROM NETWORK SEGMENT MANAGER TO FIRST NETWORK CONTROLLER DEVICE AS WELL AS ALL OTHER NETWORK CONTROLLER CONNECTIONS (VIA LINEAR TOPOLOGY) AS REQUIRED.
      e.d. ALL CORRIDORS AND STAIRWELLS SHALL BE PROVIDED WITH DUAL MODE CORRIDOR/STAIRWAY CONTROLS TO INCLUDE CEC-LISTED TIME CLOCK(S) OR SYSTEM GATEWAYS, INTERPOSING RELAYS (WHEN INTERFACING WITH EXISTING CEC-LISTED RELAY PANELS), WIRING, 120V POWER, PROGRAMMING, ETC. NECESSARY FOR A COMPLETE AND FUNCTIONING CONTROL SYSTEM.
      e.e. INCLUDE ALL COSTS IN BASE BID TO PROVIDE 120V CIRCUIT(S) & RECEPTACLE(S) NECESSARY TO POWER ALL DEMAND RESPONSE EQUIPMENT.
      e.f. PROVIDE DATA OUTLET/PATHWAY, DATA CABLING (IF REQUIRED ELSEWHERE BY PROJECT DOCUMENTS), AND CONNECTION TO THE PROJECT'S LOCAL AREA NETWORK.
      e.g. INCLUDE ALL COSTS IN BASE BID TO PROVIDE 120V CIRCUIT(S) & RECEPTACLE(S) NECESSARY TO

GENERAL NOTES

DLM

1. Plug n' Go™ (PnG): Default Operation.
   Upon initial power up, the DLM system automatically identifies the devices on the Local Network then enters the WattStopper patented Plug n' Go™ configuration to allow basic operation of all DLM devices. In most applications the relationship between quantity of loads, switches and occupancy sensors will not require any adjustments. PnG automatically maximizes lighting energy efficiency.

2. Push n' Learn™ (PnL): Custom Operation
   "A" configuration (Config) button on most DLM devices allows easy access to the WattStopper patented PnL technology to modify system operation. Functionality of the Config button is standardized throughout the DLM product line, as is the operation of the Config LED indicators. In addition, the Configuration Tool provides remote infrared access to PnL and sensor adjustment parameters.

Analog

A. Contractor is responsible for field verification of required number of power packs.
B. One power pack is required for each circuit that is to be controlled.
C. Maximum number of sensors that can be wired in parallel to a single power pack is dependent on sensor model (see individual data sheets for mA consumption).