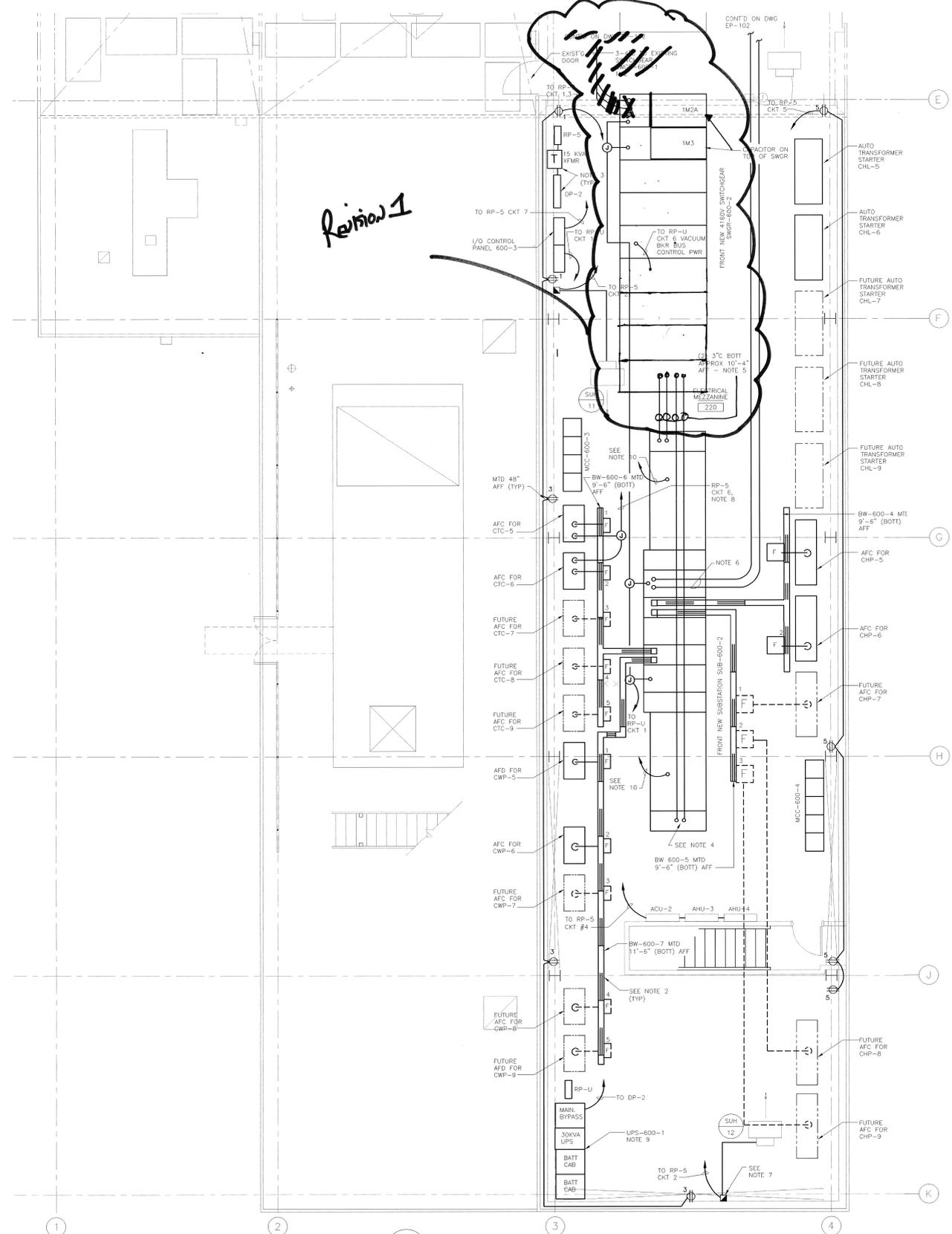
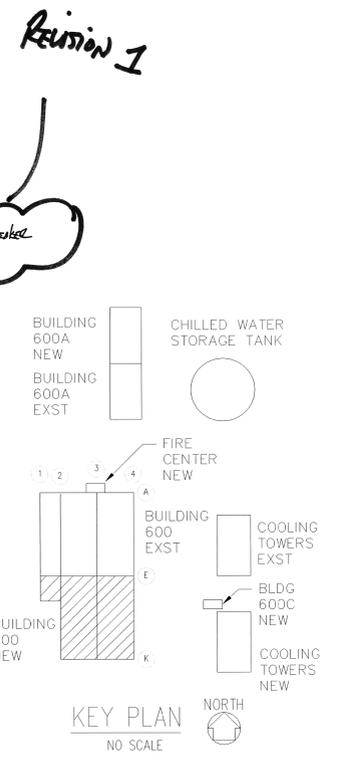


Date (month dd yyyy)	Issued For	Rev.
09-24-2007	TITLE 1 100% REVIEW	B
12-07-2007	TITLE 4 DESIGN 30% REVIEW SUBMITTAL	C
03-28-2008	TITLE 4 DESIGN 40% REVIEW SUBMITTAL	D
07-31-2008	TITLE 4 DESIGN 50% REVIEW SUBMITTAL	E
08-25-2008	TITLE 4 DESIGN 100% REVIEW SUBMITTAL	F
02-19-2009	TITLE 4 CONSTRUCTION BID ISSUE	G



- NOTES:
- REFER TO DRAWING E-001 FOR ELECTRICAL ABBREVIATIONS, GENERAL NOTES AND DRAWING LIST AND DRAWING E-002 FOR ELECTRICAL SYMBOLS.
 - BUSWAY DESIGNED AROUND GE SPECTRA SERIES BUSWAY.
 - MAINTAIN A MINIMUM OF FIVE FEET (WORKING SPACE) BETWEEN 480 VOLT SWITCHGEAR AND EQUIPMENT AGAINST WALL.
 - LOW POINT OF MECHANICAL DUCT ABOVE IS 11'-2" (INCLUDES HANGER SPACE). SEE SUBSTATION SUB-600-2, FRONTAL DRAWING E-610 WHICH IS TYPICAL TO THIS.
 - SEE POSITIONS OF SWITCHGEAR.
 - FEEDS TO NORTH AND SOUTH ENDS OF SUBSTATION SUB-600-2 FROM FROM SWGR-600-2 - SEE ONE LINE DIAGRAM E-601.
 - SEE POSITIONS OF SUB-600-2 FRONTAL ON DRAWING E-610 WHICH SHOWS THE (2) 3-1/2" ENTRY INTO THE TOP OF THE SUBSTATION - FOR FEED TO MCC-600A-2 IN THE PUMP HOUSE.
 - MAINTAIN 30" WIDE BY 3'-0" DEEP BY 6'-6" HIGH WORKING SPACE IN FRONT OF EQUIPMENT PER NEC ARTICLE 110.26(A) CONDITION 3 FOR VOLTAGE OF 0-150 VOLTS TO GROUND.
 - 120V THRU DRIVE AUXILIARY CONTACT FOR COOLING TOWER FAN MOTOR HEATER POWER.
 - PROVIDE ONE 30kVA/24kW THREE PHASE UNINTERRUPTIBLE POWER SUPPLY, BATTERY POWER PACKS AND MAINTENANCE BYPASS CABINET AS FOLLOWS:
 - UNINTERRUPTIBLE POWER SUPPLY WITH 480V INPUT (3PH, 3W PLUS GRD) AND 208/120V OUTPUT (3PH, 4W PLUS GRD) WITH THE FOLLOWING FEATURES:
 - SINGLE INPUT, TRUE ON-LINE, DOUBLE CONVERSION
 - REVERSE TRANSFER CONFIGURATION
 - PHASE CONTROLLED RECTIFIER/CHARGER
 - IGBT PULSE-WIDTH MODULATED (PWM) INVERTER
 - AUTOMATIC CONTINUOUS DUTY STATIC TRANSFER SWITCH
 - INTERNAL MAINTENANCE BYPASS SWITCH
 - DSP (DIGITAL SIGNAL PROCESSING) CONTROLS
 - MICROPROCESSOR BASED MONITORING AND CONTROL PANEL WITH MIMIC BUS
 - LCD GRAPHIC DISPLAY WITH ALARM HISTORY DATABASE
 - PROGRAMMABLE BATTERY LOAD TESTING FOR ADDED RELIABILITY
 - LOAD NEUTRAL ISOLATION
 - INPUT FILTER WITH 10% THD AT FULL OUTPUT LOAD
 - OPEN COMMS-DISCRETE OUTPUT OPTION (PROGRAMMABLE RELAY BOARD)
 - 2 (TWO) INTELLISLOT RELAY INTERFACE KIT
 - 1 (ONE) IS-WEBLB INTELLISLOT WEB CARD LB
 - LOCAL E.P.O. WITH PROVISION FOR REMOTE E.P.O.
 - RS 232 INTERFACE PORT
 - CASTERS AND LEVELING FEET
 - UL 1778, CSA
 - TWO BATTERY POWER PACKS RATED AT 80 MINUTES AT 24KW LOAD WITH INTERCONNECTING CABLES TO BOLT TO THE LEFT SIDE OF THE UPS MODULE AND WITH THE FOLLOWING FEATURES:
 - BATTERY CIRCUIT BREAKER TO ISOLATE THE BATTERIES DURING MAINTENANCE
 - VALVE REGULATED LEAD ACID BATTERY CELLS IN FLAME RETARDANT CASES
 - BATTERY TO BE PROVIDED WITH 3 YEAR FULL AND 2 YEAR PRORATED WARRANTY
 - BATTERY POWER PACKS SHALL BE LIEBERT MODEL 37BP030KRX1BNL OR APPROVED EQUAL.
 - MAINTENANCE BYPASS CABINET WITH THE FOLLOWING FEATURES:
 - SINGLE ROTARY HANDLE SWITCH INTERLOCKED FOR "MAKE-BEFORE-BREAK" TRANSFER OF THE LOAD, BYPASS TRANSFORMER WITH INPUT AND OUTPUT CIRCUIT BREAKERS
 - INCLUDING INTERCONNECTION CABLES TO BOLT TO THE RIGHT SIDE OF THE UPS
 - CASTERS AND LEVELING FEET.
 - 3/4" - 2412 - WIRING FOR CONTACT TO CONTROL ROOM TO INDICATE TRANSFORMER FANS ON. FIELD VERIFY WITH BROOKHAVEN CABLE TERMINATION POINT.



- REFERENCE DRAWINGS:
- BUSWAY ONE LINE DIAGRAMS..... E-606
 - DP-2 RISER DIAGRAM..... E-607
 - RP-5 & RP-U SCHEDULES..... E-607
 - SWGR-600-2 &..... E-610
 - SUB-600-2 FRONTRALS

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 Project No: SF070003

Approved By	R. BARTOY	DATE	11/16/09
Project Manager	G. KAPLAN	DATE	11/17/05
Project Engineer/Architect	J. BOSSORY	DATE	8/00
Project No.	SF070003		

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BROOKHAVEN NATIONAL LABORATORY

UNDER CONTRACT WITH
UNITED STATES DEPARTMENT OF ENERGY
 PLANT ENGINEERING DIVISION
 UPTON, NEW YORK 11973

JOB TITLE: CENTRAL CHILLED WATER FACILITY PHASE II
 ENLARGED PWR PLANT ELECTRICAL MEZZ

SCALE	1/8" = 1'-0"	DWG. NO.	11705
ESD REV LEVEL	APP'D BY R. BARTOY	BLDG. NO.	600
DATE			

EP-402

402A ENLARGED POWER PLAN ELEC MEZZANINE
 EP-102 1/4" = 1'-0"