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08-25-2008	TITLE II DESIGN 100% OWNER REVIEW	F
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### HOT WATER HEATER SCHEDULE

MARK	LOCATION	SYSTEM SERVED	TYPE	WATER			STEAM PRESSURE (PSIG)	DESIGN BASIS MFR/MOD NO.	REF DWG NO	REMARKS
				INLET TEMP (F)	OUTLET TEMP (F)	FLOW (GPM)				
DWH-2	PIPE TUNNEL	DOM HW	CONST. TEMP.	40	110	15	15	LESUE E-1500L	M-100	

### PUMP SCHEDULE

MARK	LOCATION	SYSTEM SERVED	TYPE	SHAFT SEAL	DESIGN FLOW (GPM)	FEET OF LIQUID		SUBMERGENCE (M)	LIQUID HANDLED				MOTOR DATA				REFERENCE DRAWING NUMBER	REMARKS		
						TOTAL DYNAMIC HEAD	NPSHA/NPSHR		TYPE	VISCOSITY (CP)	SPECIFIC GRAVITY	TEMP (°F)	% EFF	BHP	MN HP (NOTE 1)	RPM			VOLT	PHASE
CHP-5	600 BLDG	CHW SECONDARY	HORIZ SPLIT	MECH	3,000	250	-----	-----	WATER	1.00	42	83.2	226.7	250	1,750	460	3	VFD	M-101	PEERLESS BAE17A
CHP-6	600 BLDG	CHW SECONDARY	HORIZ SPLIT	MECH	3,000	250	-----	-----	WATER	1.00	42	83.2	226.7	250	1,750	460	3	VFD	M-101	PEERLESS BAE17A
CWP-5	600 BLDG	CWS	HORIZ SPLIT	MECH	3,750	80	14	-----	WATER	1.00	85	85	91.8	125	1,750	460	3		M-100	PEERLESS 10AE14J
CWP-6	600 BLDG	CWS	HORIZ SPLIT	MECH	3,750	80	14	-----	WATER	1.00	85	85	91.8	125	1,750	460	3		M-100	PEERLESS 10AE14J
PCHP-8	600A BLDG	CHW PRIMARY	HORIZ SPLIT	MECH	3,000	90	-----	-----	WATER	1.00	52	79	86.3	100	1,750	460	3		M-103	ITT GOULDS 3410
PCHP-9	600A BLDG	CHW PRIMARY	HORIZ SPLIT	MECH	3,000	90	-----	-----	WATER	1.00	52	79	86.3	100	1,750	460	3		M-103	ITT GOULDS 3410
RP-1	600 BLDG	AIR COMP	IN-LINE		33	10			WATER	1.00	42		0.25	1,150	208	3		M-103	BID ALT #1	
SP-3	600 BLDG	WASTE	SUBMERSIBLE		60	25		6	WATER	1.00	52		3.0	3,480	460	3		M-100	FLYGT CP-3085-MT	
SP-4	600 BLDG	WASTE	SUBMERSIBLE		60	25		6	WATER	1.00	52		3.0	3,480	460	3		M-100	FLYGT CP-3085-MT	

NOTES:  
1. MOTOR HP SELECTED TO BE BASED ON MOTOR BEING NON OVERLOADING THROUGHOUT THE ENTIRE PUMP CURVE  
2. LOCAL MOTOR DISCONNECT AND MOTOR STARTER BY DIVISION 16000

### COMPRESSED AIR FILTER SCHEDULE

MARK	LOCATION	SYSTEM SERVED	TYPE	CAPACITY (SCFM)	INLET AIR PRESSURE (PSIG)	INITIAL PRESSURE DROP (PSI)	EFFICIENCY AT 0.01 um (%)	OPERATING TEMP (F)	DESIGN BASIS MFR/MOD NO.	REF DWG NO	REMARKS
IF-4	OPER. FLOOR	INST. AIR	CARTRIDGE	1,050	115	1.2	99.99	150	ATLAS COPCO PD1050F	M-102	BID ALT #1

### ROTARY SCREW AIR COMPRESSOR SCHEDULE

MARK	LOCATION	AREA/SYSTEM SERVED	MACHINE RATING AND RATING CONDITIONS												INSTRUMENT AIR REQUIREMENTS			INTAKE FILTER			BHP	MOTOR DATA				APPROXIMATE DIMENSIONS (L X W X H) (FT)	APPROXIMATE OPERATING WEIGHT (LBS)	DESIGN BASIS MFR/MOD	REFERENCE DRAWING NUMBER	REMARKS
			DELIVERED SCFM (NOTE 2)	DISCHARGE PRESSURE (POST AFTERCOOLER) (PSIG)	DISCHARGE AIR TEMP (F)	DISCHARGE AIR RH (%)	AMBIENT BAROMETRIC AIR PRESSURE (PSIA)	AMBIENT AIR TEMP (F)	AMBIENT AIR RH (%)	COOLING WATER SUPPLY TEMP (°F)	COOLING WATER RETURN TEMP (°F)	COOLING WATER FLOW (GPM) (NOTE 3)	COOLING WATER INLET PRESSURE (PSIG) (MIN-MAX)	WATER SIDE FOULING FACTOR	WATER SIDE PRESSURE DROP MAX (PSIG)	VALVES & SEAL BUFFER SCFM	INSTRUMENT AIR PRESSURE REQUIRED (PSIG)	INSTRUMENT AIR FILTER EFFICIENCY (% @ MICRON)	1ST STAGE EFFICIENCY (% @ MICRON)	2ND STAGE EFFICIENCY (% @ MICRON)		FILTER PRESSURE DROP (WVC) (CLEAN/DIRT)	HP	RPM	VOLT					
AC-3	600	INSTRUMENT AIR	750	115	122	100	14.588	95	75	68	95	33		0.001	3.4			1.52/0		200	460	3		9.85/46.5		ATLAS COPCO 2R160	M-101	BID ALT #1-OL FREE		

NOTES:  
1. INFORMATION PROVIDED IN THE SCHEDULE IS BASED ON EQUIPMENT MANUFACTURED BY ATLAS COPCO.  
2. DELIVERED SCFM IS THE CAPACITY REQUIRED AT THE DISCHARGE FLANGE OF THE COMPRESSOR (POST AFTERCOOLER) AT STANDARD CONDITIONS OF 60°F, 14.696 PSIA, 0% RH WITH AMBIENT INLET CONDITIONS AS INDICATED IN THE SCHEDULE. MFR IS RESPONSIBLE FOR ACCOUNTING FOR ALL MACHINE LOSSES TO ACHIEVE THE REQUIRED DELIVERED SCFM.  
3. COOLING WATER FLOW IS THE TOTAL FLOW REQUIRED FOR THE COMPRESSOR UNIT INCLUDING INTERCOOLER(S), OIL COOLERS AND AFTERCOOLER.

### CENTRIFUGAL LIQUID CHILLER SCHEDULE

MARK	LOCATION	AREA/SYSTEM SERVED	MINIMUM CAPACITY (TONS) (NOTE 1)	DRIVE TYPE	EFFICIENCIES		LIQUID HANDLED				EVAPORATOR				CONDENSER				COMPRESSOR				ELECTRICAL DATA				REFRIGERANT TYPE & WEIGHT	APPROXIMATE DIMENSIONS (L X W X H) (FT)	APPROXIMATE OPERATING WEIGHT (LBS)	DESIGN BASIS MFR/MOD	REFERENCE DRAWING NUMBER	REMARKS		
					KW/TON @ FULL LOAD	IPLV/NPLV (NOTE 4)	TYPE	VISCOSITY (CP)	SPECIFIC GRAVITY	LIQUID ENT (°F)	LIQUID LVS (°F)	FLOW (GPM)	MAX PD (FT)	FOULING FACTOR	LIQUID ENT (°F)	LIQUID LVS (°F)	FLOW (GPM)	MAX PD (FT)	FOULING FACTOR	TYPE	NUMBER OF STAGES	CAPACITY CONTROL RANGE	MOTOR VOLTAGE/PHASE @ 4160 VAC	RLA @ 4160 VAC	LRA @ 4160 VAC	MINIMUM CIRCUIT AMPS @ 4160 VAC							MAXIMUM OVER CURRENT PROTECTION(A)	STARTER TYPE
CHL-5	BLDG 600	CHILLED WATER	1,250	HERMETIC	0.569	0.479	WATER	1.47	1.00	52.0	42.0	3000	21.06	0.0001	85.0	94.4	3,750	11.33	0.00025	CENT	2	25%-100%	4160/3	107.9	688	137	230	X-LINE	R-123/2100 LB	16 x 10.5 x 11.5	55,415	TRANE CENTRAWAC	MP-102	
CHL-6	BLDG 600	CHILLED WATER	1,250	HERMETIC	0.569	0.479	WATER	1.47	1.00	52.0	42.0	3000	21.06	0.0001	85.0	94.4	3,750	11.33	0.00025	CENT	2	25%-100%	4160/3	107.9	688	137	230	X-LINE	R-123/2100 LB	16 x 10.5 x 11.5	55,415	TRANE CENTRAWAC	MP-102	

NOTES:  
1. CAPACITY OF CHILLER SHALL BE MINIMUM 2000 TONS WITH ZERO TOLERANCE ON LOW SIDE  
2. A SEPARATE 120 VAC CONTROL POWER DROP TO THE CHILLER MAIN CONTROL PANEL IS REQUIRED  
3. EVAPORATOR & CONDENSER FLOW SWITCHES PROVIDED BY CHILLER MFR & INSTALLED/WIRED BY CONTRACTOR  
4. CHILLER RLV OR RPLV VALUE CALCULATED TO ANSI STANDARD 550/590-99 EQUATION  
5. UNIT MFR TO PROVIDE DISCONNECT SWITCH AND STARTER

### MECHANICAL HEAT TRACING SCHEDULE

SERVICE / PIPE SYSTEM ID	ABBREVIATION	LOCATION	NOMINAL PIPE SIZE	PIPE MATERIAL	THERMAL INSULATION THICKNESS (IN)	INSULATION TYPE	TEMP TO MAINTAIN (°F)	HEAT LOSS (W/FT)	HAZARD AREA	HTCP CONTROL PANEL NO.	REFERENCE DRAWING NUMBER	REMARKS
CONDENSER WATER BELOW GRADE	CWR	COOLING TOWER	14	CARBON STEEL	1.0	PHENOLIC FOAM	50	12.84	ORDINARY	HTCP-2	MP-301	
CONDENSER WATER BLEED	CWR	COOLING TOWER	3/4	COPPER	1.0	PHENOLIC FOAM	50	1.62	ORDINARY	HTCP-2	MP-301	

NOTES:  
1. SEE SPEC SECTION 15080 FOR INSULATION SPECIFICATION  
2. SEE SPEC SECTION 15120 FOR HEAT TRACING SPECIFICATION

### COOLING TOWER SCHEDULE

MARK	LOCATION	AREA/SYSTEM SERVED	TYPE OF TOWER	DESIGN CAPACITY (GPM)	INLET WATER TEMP (°F)	OUTLET WATER TEMP (°F)	TOWER INLET AIR WB TEMP (°F)	NUMBER OF CELLS	FAN MOTOR							STATIC LIFT (FT) (SEE NOTE 3)	APPROXIMATE DIMENSIONS (L X W X H) (FT)	APPROXIMATE OPERATING WEIGHT (LBS)	DESIGN BASIS MFR/MOD	REFERENCE DRAWING NUMBER	REMARKS
									BHP	HP (M/N)	RPM	VOLT	PHASE	MOTOR ENCL.	REVERSING FAN (YES/NO)						
CTC-5	OUTDOOR	CHL-5	CROSS FLOW	3,750	95	85	78	1	74.1	100	1,750	460	3	TEFC	YES	VFD	14 x 24 x 22.7	48,000	BAC 31301C SERIES	MP-105	
CTC-6	OUTDOOR	CHL-6	CROSS FLOW	3,750	95	85	78	1	74.1	100	1,750	460	3	TEFC	YES	VFD	14x24 x22.7	48,000	BAC 31301C SERIES	MP-105	

NOTES:  
1. DRIVE CONTROL SHALL BE CONSTANT SPEED, TWO SPEED, OR ELECTRONIC VARIABLE SPEED AS NOTED ON SCHEDULE  
2. DISCONNECT SWITCH AND STARTER BY DIVISION 16000  
3. STATIC LIFT VALUE ALSO INCLUDES THE PRESSURE DROP ACROSS ANY INTERNAL TOWER PIPING, BALANCE/CLEAN CHAMBER IF APPLICABLE, AND THE SPRAY NOZZLES.

### AIR DRYER-DESICCANT SCHEDULE

MARK	AREA/SYSTEM SERVED	LOCATION	MACHINE RATING AND RATING CONDITIONS										COOLING WATER			ELECTRICAL REQUIREMENTS		DESIGN BASIS MFR/MOD NO.	OPERATING WEIGHT	REF DWG NO	REMARKS			
			DESIGN INLET SCFM	INLET AIR PRESSURE (PSIG)	INLET AIR TEMP (F)	INLET AIR RH (%)	AMBIENT AIR TEMP (°F)	DISCHARGE AIR PRESSURE DEWPOINT (°F)	DISCHARGE AIR TEMP (°F)	AR SIDE PRESSURE DROP MAX (PSIG)	REGENERATION TIME AT FULL LOAD (MINUTES)	BLOWER CAPACITY AT FULL LOAD (SCFM)	GPM	ENTERING F	LEAVING F	HEATER POWER (KW)	BLOWER POWER (HP)					VOLT	PHASE	
AD-3	INSTRUMENT AIR	600	750	115	122	100	96	-30	86	3.2						13	42	51			ATLAS COPCO MD-400		M-101	BID ALT # 1-HEAT OF COMPRESSION DESICCANT AIR DRYER

NOTES:  
1. INFORMATION PROVIDED IN THE SCHEDULE IS BASED ON EQUIPMENT MANUFACTURED BY ATLAS COPCO. THE INFORMATION IS TO IDENTIFY A MINIMUM PERFORMANCE REQUIREMENT THAT A COMPRESSED AIR DRYER MFR IS TO PROVIDE. EACH MFR IS TO SUBMIT, AS PART OF THEIR PROPOSAL, A COMPLETED BID DATA APPENDIX - PER SPEC. SECTION 15212.

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

JOB TITLE CENTRAL CHILLED WATER FACILITY PHASE II		DWG. TITLE MECHANICAL SCHEDULES	
UR/APPLN. NEW	DATE	ACCT. NO.	SHEET OF
SCALE NO SCALE	DWN. BY BN	REV'D BY BN	JOB NO. 11705
ESHQ RISK LEVEL	APP'D BY W HARRISON	BLDG. NO. 600	M-611
PATH:			

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