ELECTRIC UNIT HEATER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	AIR FLOW		EAT		MIN CAPACITY	POWER			FAN MOTOR				REMARKS
												FAN POWER		PHASE	VOLT	
				CFM	L/S	°F	[°C]	BTUH	[W]	AMP	PHASE	VOLT	HP	[W]			
11-EUH1	GENERATOR ROOM	GENERATOR ROOM	HORIZONTAL COIL RESISTANCE	575	[270]	65	[18]	34100	[10000]	12.1	3	460	0.5	[370]	3	460	1

REMARKS:

1. BASIS OF DESIGN: TPI CORP UH SERIES. PROVIDE 24V CONTROL TRANSFORMER.

LOUVER SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	APPLICATION	SIZE				AIR FLOW		APD		DAMPER TYPE	REMARKS
					WIDTH		HEIGHT							
					IN	[mm]	IN	[mm]	CFM	[L/s]	IN	[Pa]		
11-LVR-1	GENERATOR RM	VENTILATION & COMBUSTION AIR	LOUVERED PENTHOUSE	INTAKE/EXHAUST	72	[1800]	96	[2400]	20,000	[9400]	0.09	[23]	MOTORIZED	1

Remarks:

1. DRAINABLE STAIONARY LOUVER WITH BIRDSCRREN AND TWO MOTORIZED DAMPERS. SEE FLOOR PLAN FOR DAMPER SEGMENT DIMNSIONS. BASIS OF DESIGN GREENHECK EDD-401.

AIR SEPARATOR SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	AIR SEPARATOR						REMARKS
				SIZE IN		FLOW		WPD		BUILT-IN STRAINER REQ'D	
				IN	[mm]	GPM	[L/s]	FT	[kPa]		
11-AS1	CHP GEN RM	CHP WATER	FULL FLOW TANGENTIAL	4	[100]	188	[12]	1.5	[5]	YES	BASIS OF DESIGN: TACO ACT04
11-AS2	CHP GEN RM	ENGINE JACKET	FULL FLOW TANGENTIAL	4	[100]	188	[12]	1.5	[5]	YES	BASIS OF DESIGN: TACO ACT04
11-AS3	CHP GEN RM	EXCESS HEAT WATER	FULL FLOW TANGENTIAL	4	[100]	200	[13]	1.5	[5]	YES	BASIS OF DESIGN: TACO ACT04
11-AS4	CHP GEN RM	AFTER-COOLER	FULL FLOW TANGENTIAL	2	[50]	44	[3]	0.75	[2]	YES	BASIS OF DESIGN: TACO ACT02

WATER TO WATER HEAT EXCHANGER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	HOT SIDE								COLD SIDE								REMARKS
					FLOW		EWT		LWT		WPD		FLOW		EWT		LWT		WPD		
					GPM	[L/s]	°F	[°C]	°F	[°C]	FT	[kPa]	GPM	[L/s]	°F	[°C]	°F	[°C]	FT	[kPa]	
1-CHP-WWHX-1	AWG-26	BOILER PLANT	MAKEUP PREHEAT	SHELL & TUBE	16.0	[1]	194	[90]	165	[74]	0.39	[1]	3.9	[ ]	65	[18]	180	[82]	0.03	[ ]	1,2,9
1-CHP-WWHX-2	GB1105	BLDG 1	HHW	PLATE & FRAME	82.0	[5]	194	[90]	165	[74]	0.96	[3]	258.5	[16]	160	[71]	168.6	[76]	6.90	[21]	1,3,9
1-CHP-WWHX-3	AWG-21	MENTAL HEALTH	HHW	PLATE & FRAME	84.2	[5]	194	[90]	165	[74]	7.14	[21]	121.9	[8]	150	[66]	168.7	[76]	12.66	[38]	1,4,9
5-CHP-WWHX-1	5165	BLDG 5	HHW	PLATE & FRAME	34.6	[2]	194	[90]	165	[74]	1.68	[5]	107.8	[7]	160	[71]	168.7	[76]	12.57	[38]	1,5,9
11-CHP-WWHX-1	CHP BLDG	CHP PLANT	JACKET WATER	PLATE & FRAME	201.0	[13]	197.6	[92]	183.2	[84]	5.63	[17]	216.3	[14]	165.2	[74]	178.6	[81]	6.41	[19]	5,8,9
11-CHP-WWHX-2	CHP BLDG	CHP PLANT	EXCESS HEAT WATER	PLATE & FRAME	217.0	[14]	178.6	[81]	165.2	[74]	6.48	[19]	217.3	[14]	146.5	[64]	159.9	[71]	6.46	[19]	7,8,9

REMARKS:

1. 40% PROPYLENE GLYCOL ON HOT SIDE. 0% PROPYLENE GLYCOL ON COLD SIDE.
2. 1-PASS. BASIS OF DESIGN: TACO PF 10-21-1-EH
3. BASIS OF DESIGN: PF 205-55-4-EH
4. BASIS OF DESIGN: TACO PF 16-35-1-EH
5. BASIS OF DESGIN: TACO PF 16-31-1-EH
6. BASIS OF DESGIN: TACO PF 205-37-4-EH
7. BASIS OF DESGIN: TACO PF 205-39-4-EH
8. 40% PROPYLENE GLYCOL ON HOT SIDE. 40% PROPYLENE GLYCOL ON COLD SIDE.
9. DESIGN PRESSURE OF 150 PSI AND TEST PRESSURE OF 225 PSI.

AIR TO WATER HEAT EXCHANGER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	EXHAUST SIDE								COLD SIDE								REMARKS
					FLOW		EXHAUST ENT.		EXHAUST LVG.		WPD		FLOW		EWT		LWT		WPD		
					Lbs/hr	[kG/hr]	°F	[°C]	°F	[°C]	FT	[kPa]	GPM	[L/s]	°F	[°C]	°F	[°C]	FT	[kPa]	
11-CHP-AWHX-1	AWG-26	CHP PLANT	EXHUAST HEAT RECOVERY	BARE FIRE TUBE	9795.0	[4400]	914	[490]	305.2	[152]	0.51	[2]	217	[14]	178.6	[81]	194	[90]	2	[6]	1

REMARKS:

1. BASIS OF DESIGN: KICKHAM BOILER MODEL ECXW-3280-1.5. 150 PSI DESIGN PRESSURE.

EXPANSION TANK SCHEDULE

MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	APPROX SYSTEM VOLUME		SYSTEM TEMPERATURE RANGE				INITIAL PRESSURE IN TANK		MAX OPERATING PRESSURE		FILL PRESSURE AT TANK				MIN VOLUME TANK		MIN BLADDER VOLUME		PIPE SIZE TO TANK		COLD WATER FILL SIZE		REMARKS
						MIN		MAX						RELIEF VALVE		AT TANK										
				GAL	[L]	°F	[°C]	°F	[°C]	PSIG	[kPa]	PSIG	[kPa]	PSIG	[kPa]	PSIG	[kPa]	GAL	[L]	GAL	[L]	IN	[mm]	IN	[mm]	
11-ET1	CHP GEN RM	CHP WATER	VERT BLADDER	860	[3300]	60	[16]	200	[93]	20.5	[140]	150	[1000]	80	[550]	70	[480]	37	[140]	37	[140]	1	[25]	0.75	[19]	BASIS OF DESIGN: TACO CA140
11-ET2	CHP GEN RM	ENGINE JACKET	VERT BLADDER	49.2	[190]	60	[16]	200	[93]	14.6	[100]	150	[1000]	80	[550]	70	[480]	23	[87]	23	[87]	1	[25]	0.75	[19]	BASIS OF DESIGN: TACO CA90
11-ET3	CHP GEN RM	EXCESS HEAT WATER	VERT BLADDER	97.3	[370]	60	[16]	170	[77]	14.6	[100]	150	[1000]	80	[550]	70	[480]	23	[87]	23	[87]	1	[25]	0.75	[19]	BASIS OF DESIGN: TACO CA90
11-ET4	CHP GEN RM	AFTER-COOLER	VERT BLADDER	45.5	[170]	60	[16]	115	[46]	14.6	[100]	150	[1000]	80	[550]	70	[480]	23	[87]	23	[87]	1	[25]	0.75	[19]	BASIS OF DESIGN: TACO CA90

PUMP SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	CIRCULATING FLUID									MIN % EFF	ELECTRICAL MOTOR						REMARKS
					FLUID	FLOW		HEAD		NPSH AVAILABLE		TEMPERATURE		SP GR		NOMINAL POWER		PHASE	VOLT	MAX RPM	SPEED CONTROL	
						GPM	[L/s]	FT	[kPa]	FT	[kPa]	°F	[°C]			HP	[kW]					
11-P1	CHP GEN RM	CHP	CHP WATER	END SUCTION	40% GLYCOL	217	[14]	54	[360]		[ ]	178.6	[81]	1	65	7.5	[6]	3	460	1750	CONSTANT	1,5
11-P2	CHP GEN RM	CHP	ENGINE JACKET WATER	END SUCTION	40% GLYCOL	201	[13]	41	[650]		[ ]	183	[84]	1	70	5	[4]	3	460	1750	CONSTANT	2,5
11-P3	CHP GEN RM	CHP	EXCESS HEAT WATER	INLINE	40% GLYCOL	220	[14]	27	[430]		[ ]	140	[60]	1	60	3	[2]	3	460	1750	CONSTANT	3,5
11-P4	CHP GEN RM	CHP	AFTER-COOLER WATER	INLINE	40% GLYCOL	44	[3]	42	[670]		[ ]	104	[40]	1	55	1.5	[1]	3	460	1750	CONSTANT	4,5

REMARKS:

1. BASIS OF DESIGN B&G SERIES E-1510 2.5BB
2. BASIS OF DESIGN B&G SERIES E-1510 2.5AC
3. BASIS OF DESIGN B&G SERIES E-80 4x4x7B
4. BASIS OF DESIGN B&G SERIES E-90 1.5AB
5. PUMP SHALL BE RATED FOR MINIMUM WORKING PRESSURE OF 175 PSI.

FAN SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	AIR FLOW		TSP		FAN								MOTOR ELECTRICAL							CONTROL SEQUENCE	REMARKS
								TYPE	WHEEL	CLASS	ARRANGEMENT, ROTATION, AND DISCHARGE	DIAMETER		MIN % EFF	DRIVE	FAN MAX RPM	NOMINAL POWER			PHASE	VOLT	RPM	SPEED CONTROL		
				CFM	[L/s]	IN	[Pa]					IN	[mm]				BHP	HP	[kW]						
11-SF1	GENERATOR ROOM	GENERATOR ROOM	SUPPLY	20000	[9400]	0.517	[130]	WALL PROP	-	-	SIDEWALL	48	[1200]	50%	DIRECT	500	3.34	5	[4]	3	460	1725	NONE	TEMP	1

REMARKS:

1. BASIS OF DESIGN: GREENHECK SS2-48-415-C500. PROVIDE WALL HOUSING, MOTOR GUARD, VFD WITH INTEGRAL DISCONNECT, INVERTOR DUTY MOTORY, THERMAL OVERLOAD PROTECTION, MOTORIZED DAMPER, BIRDSCREEN, AND WEATHERHOOD.

NOTE

ALL SELECTIONS ARE BASED ON AN ALTITUDE OF 337.

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Location: VAMC MEMPHIS TN

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Dwg. 31 of 39

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