

Project Name MEG 675NS  
 Project Location  
 Prepared by Vishnu Barran

Engine Information		
Siemens Engine ID		IC-G-B-36-060
Model Number		SGE-36SL
RPM		1800
Fuel Type		Natural gas
Aspiration & NO <sub>x</sub>	g/bhp-hr	Lean, 1.0
Supply Fuel Pressure	psi	3-5

Generator Information		
Marathon Model		574RSL4037
105°C rise NEMA-F rating	kWe	800
KVA		679
Voltage		480
Frequency	Hz	60
Power Factor		1.0

Engine Performance		Unit	100%	75%	50%
Electrical Power		kWe	679	507	332
Mechanical Power		bHP	939	704	470
Exhaust Flow		lb/h	8,210	6,312	4,474
Exhaust Temp		°F	738	761	784
Heat to Radiation	(Ambient)	BTU/h	102,360	85,320	64,860
Fuel Consumption	(LHV)	BTU/h	6,128,853	4,764,956	3,374,766
Fuel Consumption	(LHV)	BTU/bHP-hr	6,527	6,766	7,188
Fuel Consumption	(LHV)	BTU/kWh	9,032	9,405	10,158

Energy Balance					
Total Primary Heat Recovered		BTU/h	3,083,562	2,520,925	1,979,394
Total Secondary Heat Recovered		BTU/h	0	0	0
Total Steam Recovered		BTU/h	0	0	0
Total Heat Recovered		BTU/h	3,083,562	2,520,925	1,979,394
Electrical Efficiency	(LHV)	%	37.78%	36.28%	33.59%
Thermal Efficiency	(LHV)	%	50.31%	52.91%	58.65%
Total Efficiency	(LHV)	%	88.09%	89.18%	92.24%

Primary Circuit <i>Water</i>					
Process Water Flow		GPM	317	259	203
Process Water Temp Inlet		°F	170	170	170
Process Water Temp Outlet		°F	190	190	190

Secondary Circuit <i>None</i>					
Secondary Water Flow		GPM	0	0	0
Secondary Water Temp Inlet		°F	0	0	0
Secondary Water Temp Outlet		°F	0	0	0

Steam Production					
Steam Produced		lb/h	N/A	N/A	N/A

Engine HT Circuit <i>50% Ethylene glycol</i>					
Jacket Water Heat		BTU/h	1,740,000	1,408,681	1,109,698
Exhaust Heat	cooled to 248 °F	BTU/h	1,080,822	870,796	646,168
Oil Cooler Heat		BTU/h	262,740	241,448	223,527
HT Radiator Rejection		BTU/h	0	0	0
Jacket Water Temp Inlet		°F	177	180	183
Jacket Water Temp Outlet		°F	194	194	194
Jacket Water Flowrate		GPM	275	275	275

Engine LT Circuit <i>50% Ethylene glycol</i>					
Intercooler Heat		BTU/h	143,280	114,312	73,486
LT Radiator Rejection		BTU/h	-143,280	-114,312	-73,486
Intercooler Water Temp Inlet		°F	128	129	129
Intercooler Water Temp Outlet		°F	131	131	131
Intercooler Water Flowrate		GPM	110	110	110

Radiator Specifications	% Oversize	Capacity BTU/h	Ambient	Altitude	Voltage
HT Radiator	10	2,203,014	105 °F	1,000 ft	480
LT Radiator	25	179,100			

**Notes**  
 Energy balance data is stated at ISO 3046-1 conditions

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**Issue Date**  
 7/13/2018