

Project Name MEG 725NS  
 Project Location  
 Prepared by Vishnu Barran

Engine Information		
Siemens Engine ID		IC-G-B-56-199
Model Number		SGE-56SL
RPM		1200
Fuel Type		Natural gas
Aspiration & NO <sub>x</sub>	g/bhp-hr	Lean, 0.5
Supply Fuel Pressure	psi	3-5

Generator Information		
Newage Model		PI736D
105°C rise NEMA-F rating	kWe	852
KVA		729
Voltage		480
Frequency	Hz	60
Power Factor		1.0

Engine Performance		Unit	100%	75%	50%
Electrical Power		kWe	729	545	361
Mechanical Power		bHP	1,006	755	503
Exhaust Flow		lb/h	9,100	6,940	4,749
Exhaust Temp		°F	653	677	709
Heat to Radiation	(Ambient)	BTU/h	109,200	98,940	88,740
Fuel Consumption	(LHV)	BTU/h	6,537,994	4,995,545	3,464,161
Fuel Consumption	(LHV)	BTU/bHP-hr	6,499	6,621	6,887
Fuel Consumption	(LHV)	BTU/kWh	8,973	9,161	9,597

Energy Balance					
Total Primary Heat Recovered		BTU/h	3,246,643	2,567,104	1,915,996
Total Secondary Heat Recovered		BTU/h	0	0	0
Total Steam Recovered		BTU/h	0	0	0
Total Heat Recovered		BTU/h	3,246,643	2,567,104	1,915,996
Electrical Efficiency	(LHV)	%	38.03%	37.25%	35.55%
Thermal Efficiency	(LHV)	%	49.66%	51.39%	55.31%
Total Efficiency	(LHV)	%	87.68%	88.64%	90.86%

Primary Circuit <i>Water</i>					
Process Water Flow		GPM	333	263	197
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	2,262,000	1,770,900	1,328,331
Exhaust Heat	cooled to 248 °F	BTU/h	984,643	796,204	587,665
Oil Cooler Heat		BTU/h	0	0	0
HT Radiator Rejection		BTU/h	0	0	0
Jacket Water Temp Inlet		°F	177	181	184
Jacket Water Temp Outlet		°F	194	194	194
Jacket Water Flowrate		GPM	308	308	308

Engine LT Circuit <i>50% Ethylene glycol</i>					
Intercooler Heat		BTU/h	163,800	106,650	54,719
LT Radiator Rejection		BTU/h	-163,800	-106,650	-54,719
Intercooler Water Temp Inlet		°F	128	129	130
Intercooler Water Temp Outlet		°F	131	131	131
Intercooler Water Flowrate		GPM	120	120	120

Radiator Specifications	% Oversize	Capacity BTU/h	Ambient	Altitude	Voltage
HT Radiator	10	2,488,200	105 °F	1,000 ft	480
LT Radiator	25	204,750			

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

MEGpro v4.0.9.13  
**Issue Date**  
 7/13/2018