

Project Name MEG 1005NS
 Project Location
 Prepared by Vishnu Barran

Engine Information		
Siemens Engine ID		IC-G-B-56-275
Model Number		SGE-56HM
RPM		1200
Fuel Type		Natural gas
Aspiration & NO _x	g/bhp-hr	Lean, 0.5
Supply Fuel Pressure	psi	3-5

Generator Information		
Newage Model		PI736F
105°C rise NEMA-F rating	kwe	1,200
KVA		1,014
Voltage		480
Frequency	Hz	60
Power Factor		1.0

Engine Performance	Unit	100%	75%	50%
Electrical Power	kWe	1,014	759	504
Mechanical Power	bHP	1,395	1,046	698
Exhaust Flow	lb/h	11,880	9,070	6,230
Exhaust Temp	°F	860	907	947
Heat to Radiation (Ambient)	BTU/h	235,440	208,140	180,840
Fuel Consumption (LHV)	BTU/h	8,803,845	6,717,971	4,623,728
Fuel Consumption (LHV)	BTU/bHP-hr	6,311	6,421	6,629
Fuel Consumption (LHV)	BTU/kWh	8,686	8,847	9,180

Energy Balance				
Total Primary Heat Recovered	BTU/h	4,194,023	3,303,523	2,423,244
Total Secondary Heat Recovered	BTU/h	0	0	0
Total Steam Recovered	BTU/h	0	0	0
Total Heat Recovered	BTU/h	4,194,023	3,303,523	2,423,244
Electrical Efficiency (LHV)	%	39.28%	38.57%	37.17%
Thermal Efficiency (LHV)	%	47.64%	49.17%	52.41%
Total Efficiency (LHV)	%	86.92%	87.74%	89.58%

Primary Circuit <i>Water</i>				
Process Water Flow	GPM	431	339	249
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	2,224,800	1,679,550	1,236,900
Exhaust Heat <i>cooled to 248 °F</i>	BTU/h	1,969,223	1,623,973	1,186,344
Oil Cooler Heat	BTU/h	0	0	0
HT Radiator Rejection	BTU/h	0	0	0
Jacket Water Temp Inlet	°F	177	182	185
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	235,440	152,700	95,520
LT Radiator Rejection	BTU/h	-235,440	-152,700	-95,520
Intercooler Water Temp Inlet	°F	126	128	129
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	2,447,280	105 °F	1,000 ft	480
LT Radiator	25	294,300			

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

MEGpro v4.0.9.13
Issue Date
 7/13/2018