

## **Section 5.0 Expected Performance – Using Natural Gas or Diesel Fuel – With/Without Inlet Chilling (Not Guaranteed)**

The expected performance for the plant is presented in the performance calculations included in this section. Calculations were performed for operation on both Natural Gas for the LM6000 PC sprint and LM6000 PD sprint, with and without Chilling. A performance summary is included below with inlet air chilling to 48°F operating at the Design Conditions listed. Additional calculations were performed at higher ambient temperature for 48°F inlet air. A performance summary is attached on the following pages.

### **TACOA LM6000 PC Sprint & PD Sprint**

<b>80°F; 70% RH; 100 ft</b>			
	<b>Natural Gas 951.6 BTU/lb LHV</b>		
	<b>LM 6000 PC spt</b>	<b>LM 6000 PD spt</b>	<b>Total (Both) Units</b>
<b>Gross GT Power ea. (kW)</b>	<b>45687</b>	<b>42401</b>	<b>88088</b>
<b>Net LHV HR (BTU/kWh)</b>	<b>8873</b>	<b>8601</b>	<b>8744</b>
<b>Net Power (kW)</b>	<b>44551</b>	<b>41367</b>	<b>85918</b>
<b>Auxiliaries (kW)</b>	<b>1136</b>	<b>1034</b>	<b>2170</b>
<b>Fuel usage (pph)</b>	<b>19910</b>	<b>17920</b>	<b>37830</b>
<b>Fuel usage (MMSCFD)</b>	<b>9.65</b>	<b>8.69</b>	<b>18.34</b>
<b>Fuel Chemical LHV per GT (kBTU/h)</b>	<b>395319</b>	<b>355802</b>	<b>751121</b>
<b>Fuel Chemical HHV/LHV ratio</b>	<b>1.105</b>	<b>1.105</b>	<b>1.105</b>
<b>Water Injection (pph)</b>	<b>18380</b>	<b>N/A</b>	<b>18380</b>
<b>Water Injection (gpm)</b>	<b>36.76</b>	<b>N/A</b>	<b>36.76</b>
<b>Sprint (pph)</b>	<b>9046</b>	<b>8992</b>	<b>18038</b>
<b>Sprint (gpm)</b>	<b>18.09</b>	<b>17.98</b>	<b>36.07</b>

Inlet chilled to 48°F w/ < 4000 tons total chilling (about 2900 tons for these conditions)			
80°F; 70% RH; 100 ft			
	Natural Gas 951.6 BTU/lb LHV		
	LM 6000 PC spt	LM 6000 PD spt	Total (Both) Units
Gross GT Power ea. (kW)	51143	46977	98120
Net LHV HR (BTU/kWh)	8871	8503	8695
Net Power (kW)	49315	45286	94601
Auxiliaries (kW)	1829	1691	3520
Fuel usage (pph)	22040	19396	41436
Fuel usage (gpm)	10.69	9.41	20.1
Fuel Chemical LHV per GT (kBTU/h)	437476	385076	822552
Fuel Chemical HHV/LHV ratio	1.105	1.105	1.105
Water Injection (pph)	23220	N/A	23220
Water Injection (gpm)	46.44	N/A	46.44
Sprint (pph)	8600	6880	15480
Sprint (gpm)	17.2	13.8	31