



TURBINE TIPS

Turbine Tips provided by Pond and Lucier, LLC. ®

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THE 10-SECOND PERFORMANCE EVALUATION (Impossible you say?)

Performing a full-blown performance evaluation is enough to make your head spin with all of the calculations, conversions and correction factors. Therefore, this testing rarely gets performed, if ever.

But don't despair!

In the hot summer months ahead you need all the MW you can get. There is an easy way to find out two key things at a GLANCE! Ask yourself:

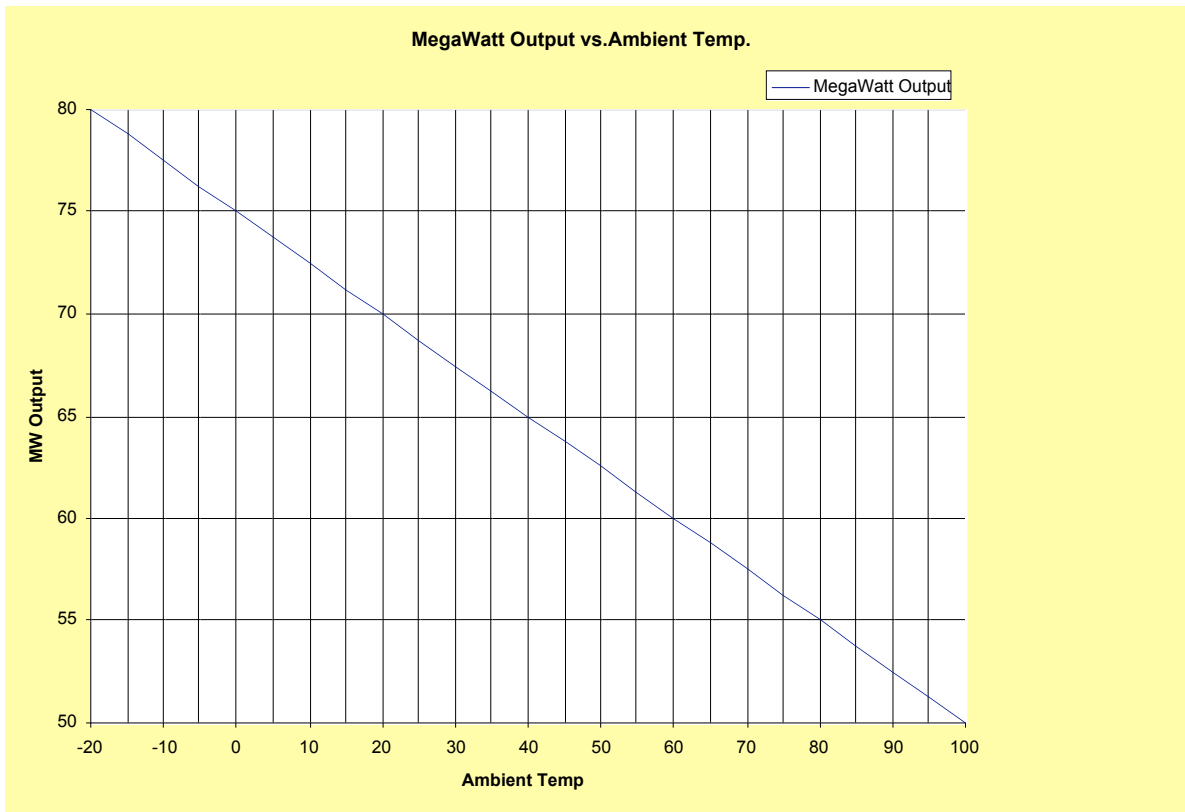
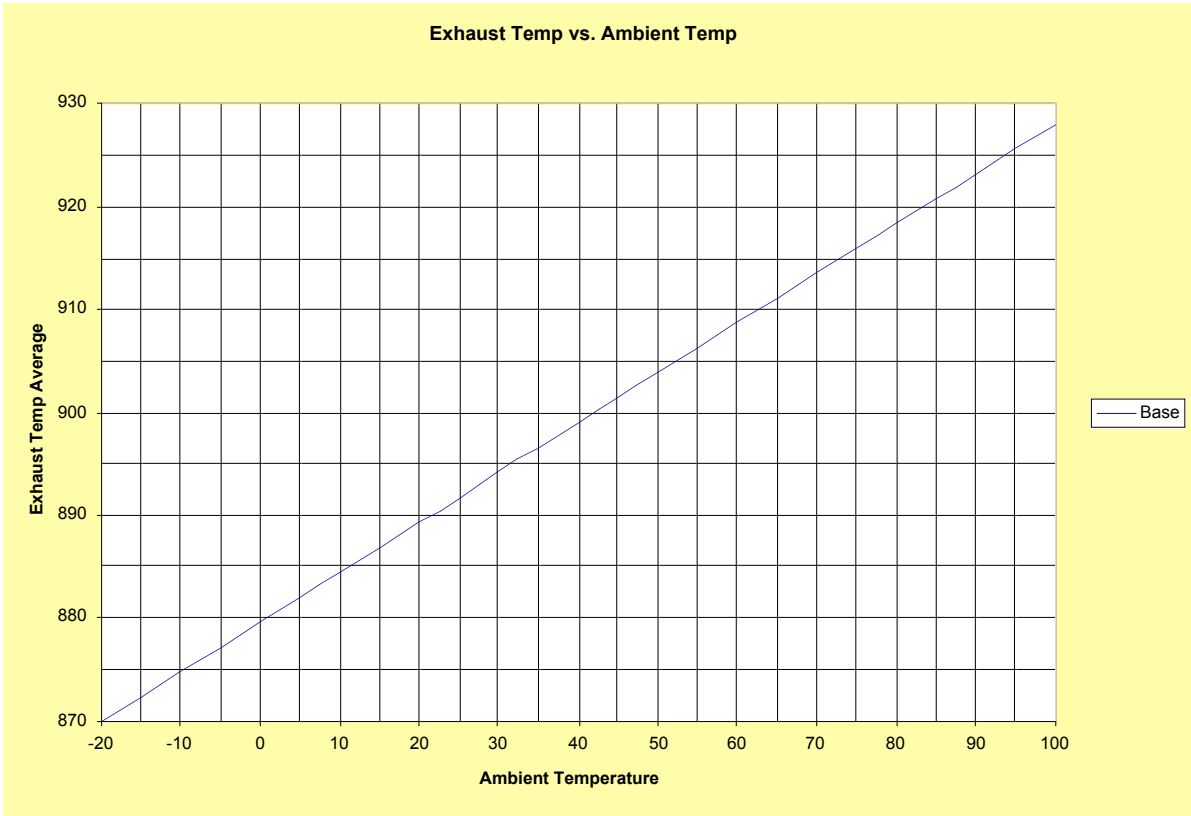
- 1) Is my exhaust temperature control system working properly?
- 2) Is my turbine performance acceptable?

HERE IS THE SECRET!

Go to your original **GE Control Specifications** and print and laminate two graphs charts.

1. EXHAUST TEMPERATURE versus AMBIENT TEMPERATURE
2. MEGAWATTS versus AMBIENT TEMPERATAURE

Examples:



Print and laminate the sheets. Post them on the wall of the control room.

Once you are **BASE TEMPERATURE CONTROL** during on-line operation, compare to the **turbine exhaust temperature versus ambient temperature**. You should be operating at some combination of values that define a point on the line. If you are **not** on the line, you need to check the calibration of the temperature control system.

Next

Compare the **MW output** versus **ambient temperature**. You should be operating at some combination of values that define a point on the line. If you are low on MW, it could be one of many things.

1. Dirty or damaged axial-flow compressor
2. Leaking or incorrectly positioned compressor bleed valves
3. Hot section deterioration
4. Compressor inlet guide vane (IGV) problems

Of course, relative humidity, reactive load (megavars) and barometric pressure do make a difference, but the effects are usually minimal.

So, when you are running in those hot summer months and you need every last MW. Check your charts! It will only take TEN seconds! You will immediately know if the controls are calibrated correctly and if your turbine is in good health.

For more information on performance testing, contact Charlie Pond or Dave Lucier of *Pond And Lucier, LLC*.

More great archived “Tips” are available at www.pondlucier.com “Tip of the Month”

Check each month for the latest!