



TAMPA ELECTRIC

June 10, 2004

Mr. Al Linero, P.E.
Florida Department of Environmental Protection
Division of Air Resource Management
111 South Magnolia, Suite 4
Tallahassee, FL 32301

RECEIVED

JUN 11 2004

BUREAU OF AIR REGULATION

Via FedEx
Airbill No. 7920 1910 2379

**Re: Tampa Electric Company (TEC)
H.L. Culbreath Bayside Power Station – Unit 2
Heat Input Correction Curve based on Manufacturer’s Performance Curves
FDEP File No. PSD-FL-301A**

Dear Mr. Linero:

Please find enclosed a copy of the H.L. Culbreath Bayside Power Station (BPS) heat input correction curve, which is based on the manufacturer’s performance curves for BPS Unit 2. The correction curve is identical for each BPS Unit 2 gas turbine (GT). The manufacturer’s curves for each GT are enclosed as:

- GT 297829 – BPS 2A
- GT 297830 – BPS 2B
- GT 297831 – BPS 2C
- GT 297832 – BPS 2D

This submittal is being made to satisfy the requirement in Condition 10 and 14 of the above referenced PSD permit. If you have any concerns or questions, please contact me at (813) 228-4302.

Sincerely,

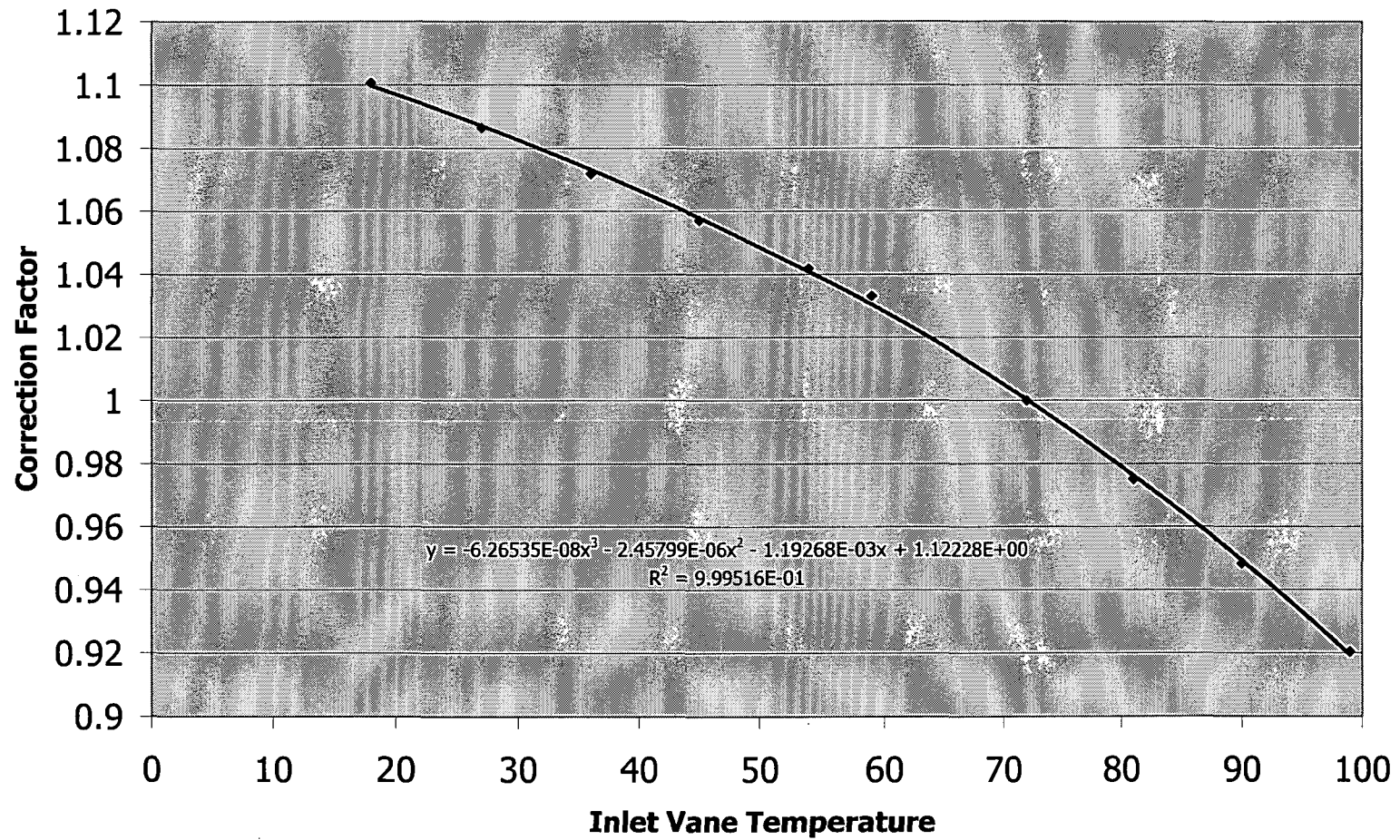
Greer Briggs
Environmental Engineer
Environmental, Health & Safety

EA/bmr/GMB186

Enclosures

c/enc: Ms. Diana Lee, EPCHC

Heat Input Correction



General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

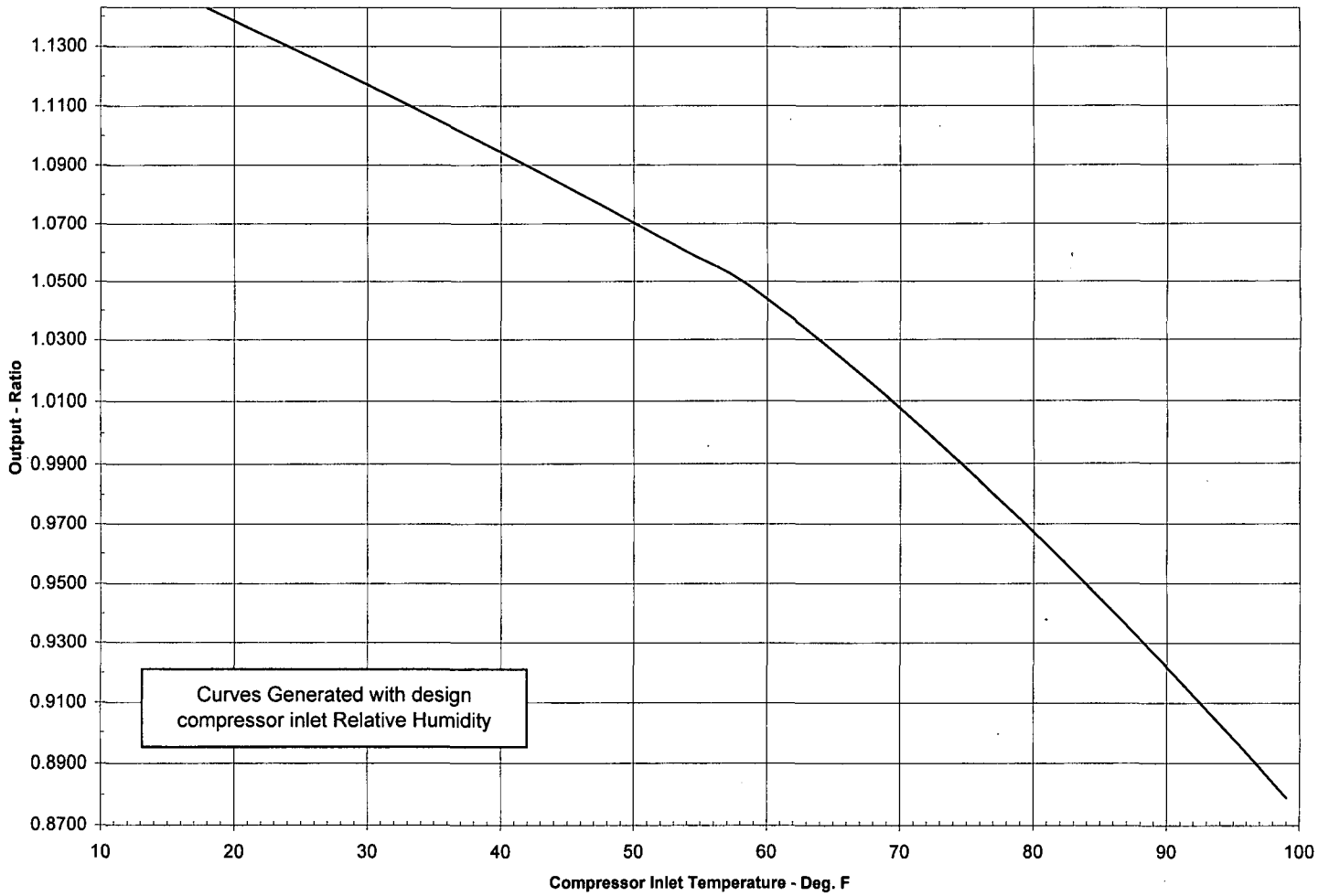
Effect of Compressor Inlet Temperature on Output

Design Values Referenced on 553HA8063 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297829 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Output Ratio		1.142896	1.123792	1.103636	1.082533	1.060213	1.047192	1.000000	0.962839	0.921897	0.878919

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

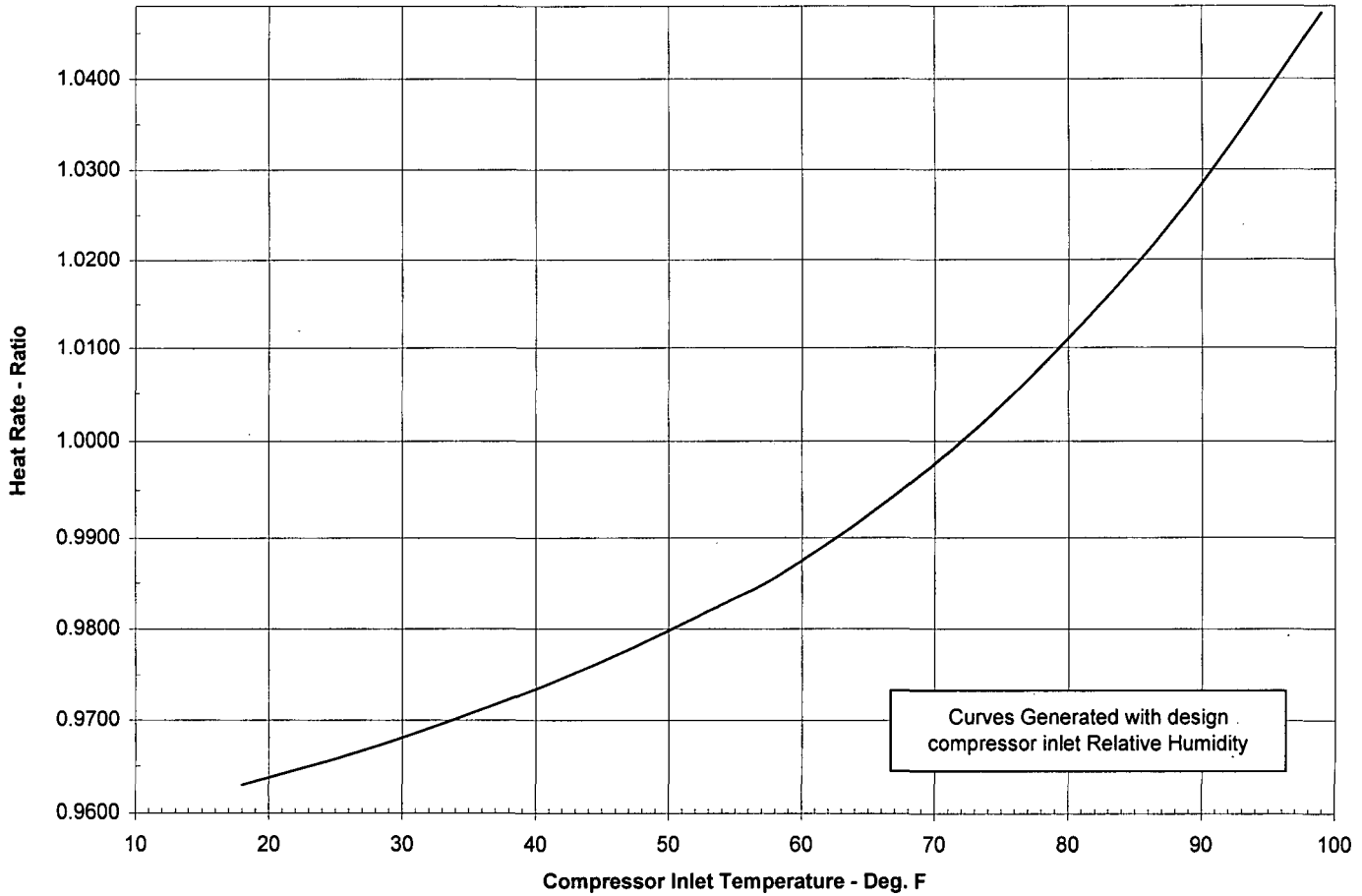
Effect of Compressor Inlet Temperature on Heat Rate

Design Values Referenced on 553HA8063 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297829 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Heat Rate Ratio		0.962974	0.966695	0.971189	0.976463	0.982674	0.986511	1.000000	1.012611	1.028524	1.047230

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

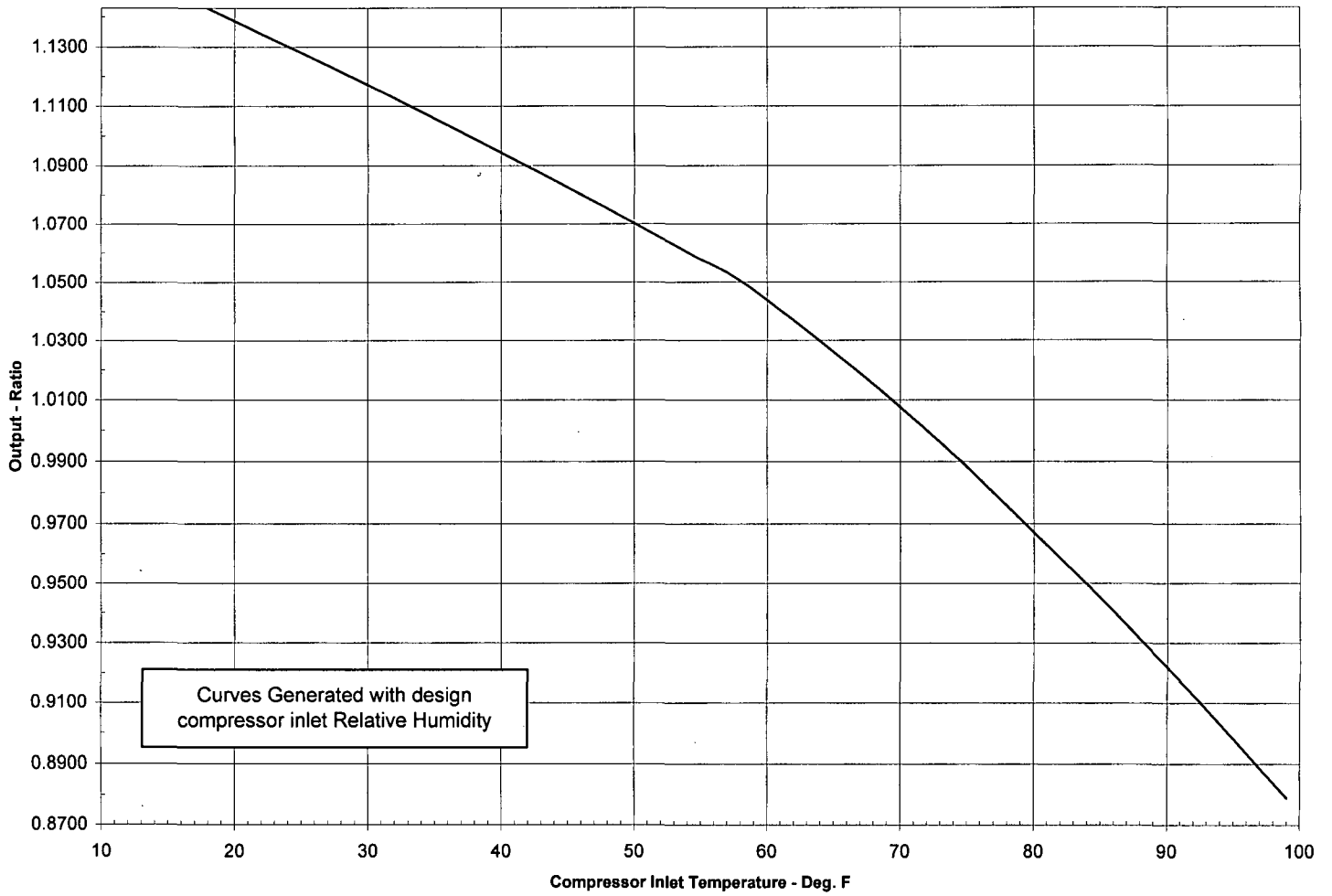
Effect of Compressor Inlet Temperature on Output

Design Values Referenced on 553HA8061 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297830 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Output Ratio		1.142896	1.123792	1.103636	1.082533	1.060213	1.047192	1.000000	0.962839	0.921897	0.878919

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

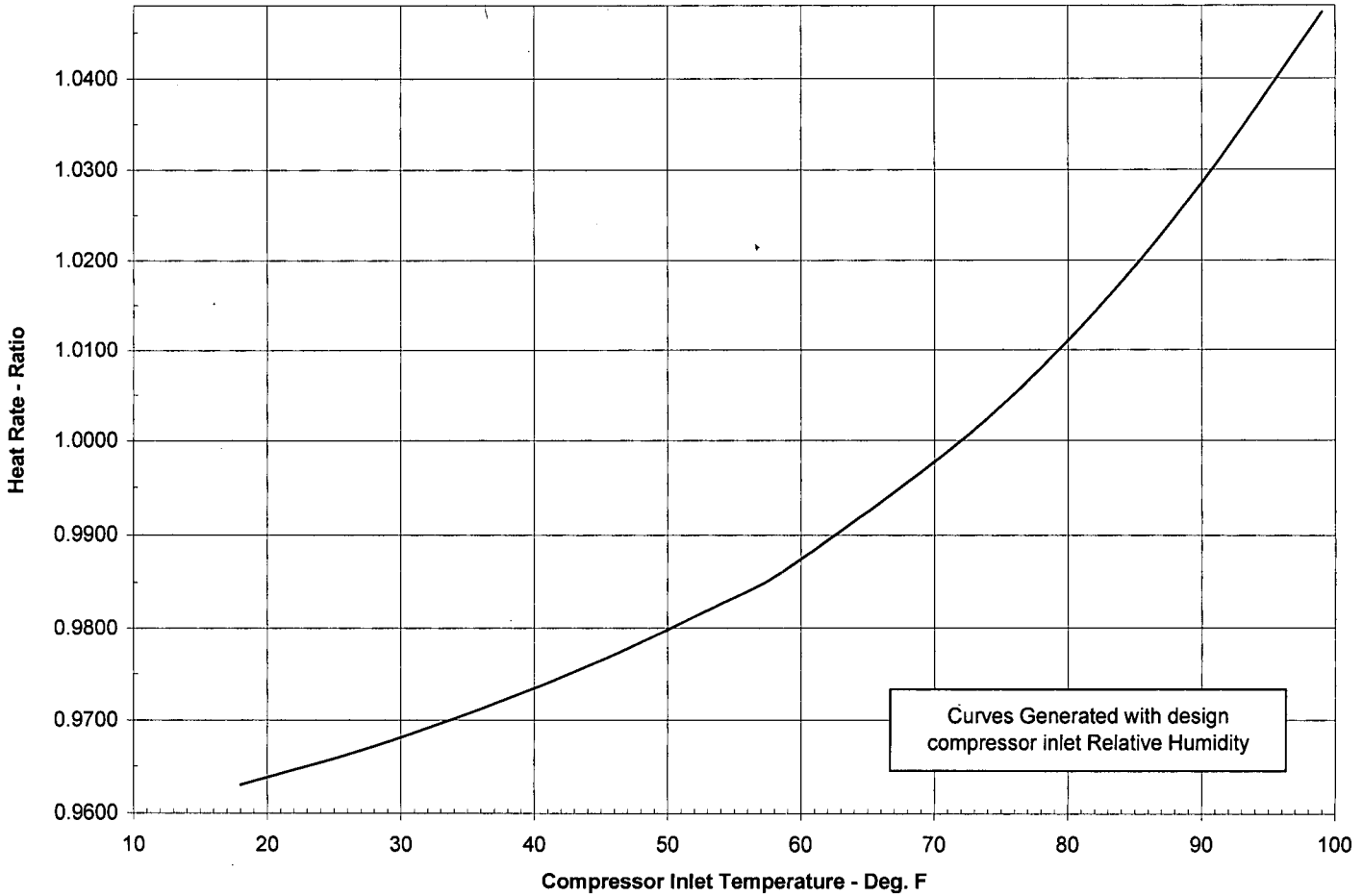
Effect of Compressor Inlet Temperature on Heat Rate

Design Values Referenced on 553HA8061 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297830 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Heat Rate Ratio		0.962974	0.966695	0.971189	0.976463	0.982674	0.986511	1.000000	1.012611	1.028524	1.047230

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

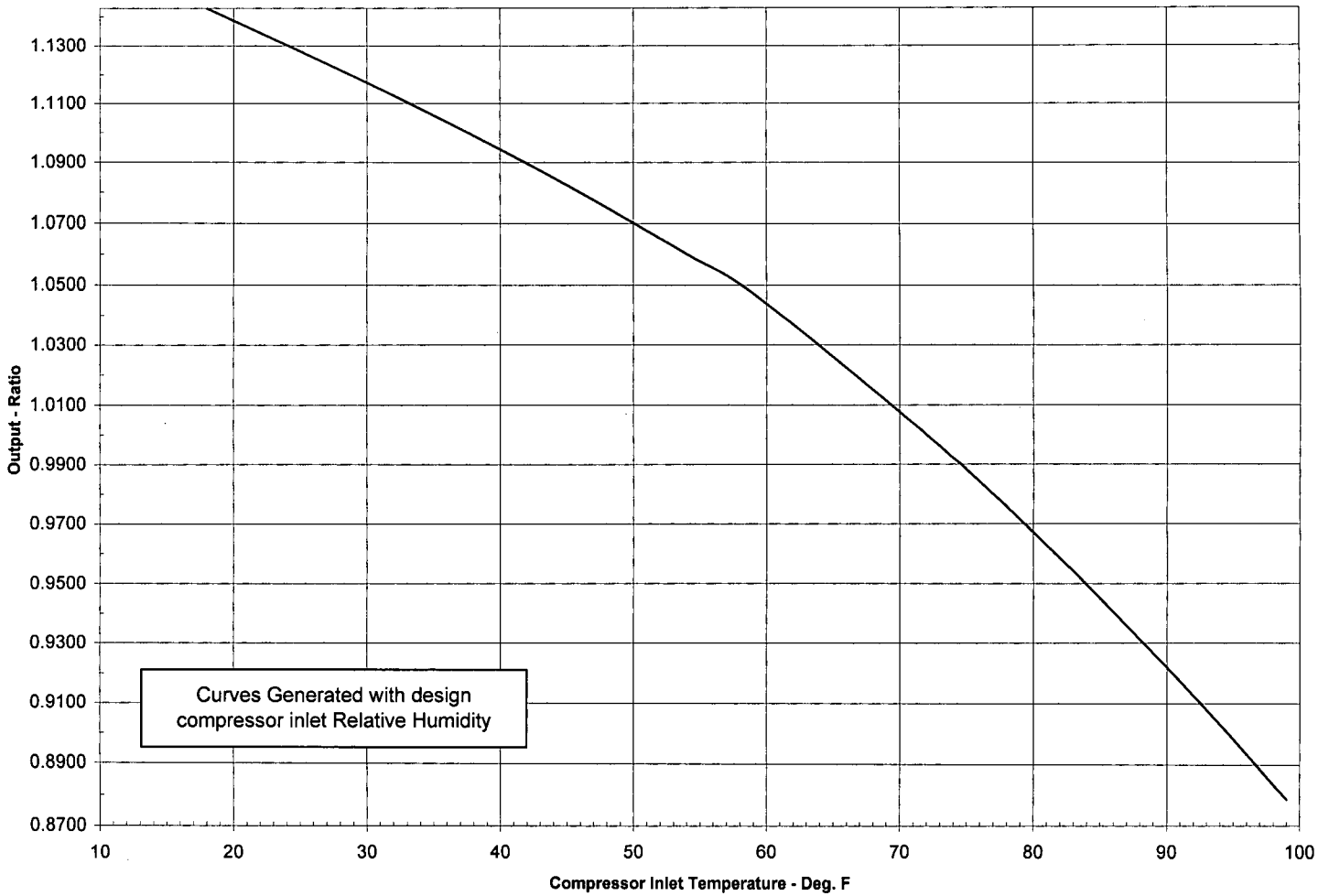
Effect of Compressor Inlet Temperature on Output

Design Values Referenced on 553HA8109 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297831 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Output Ratio		1.142896	1.123792	1.103636	1.082533	1.060213	1.047192	1.000000	0.962839	0.921897	0.878919

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

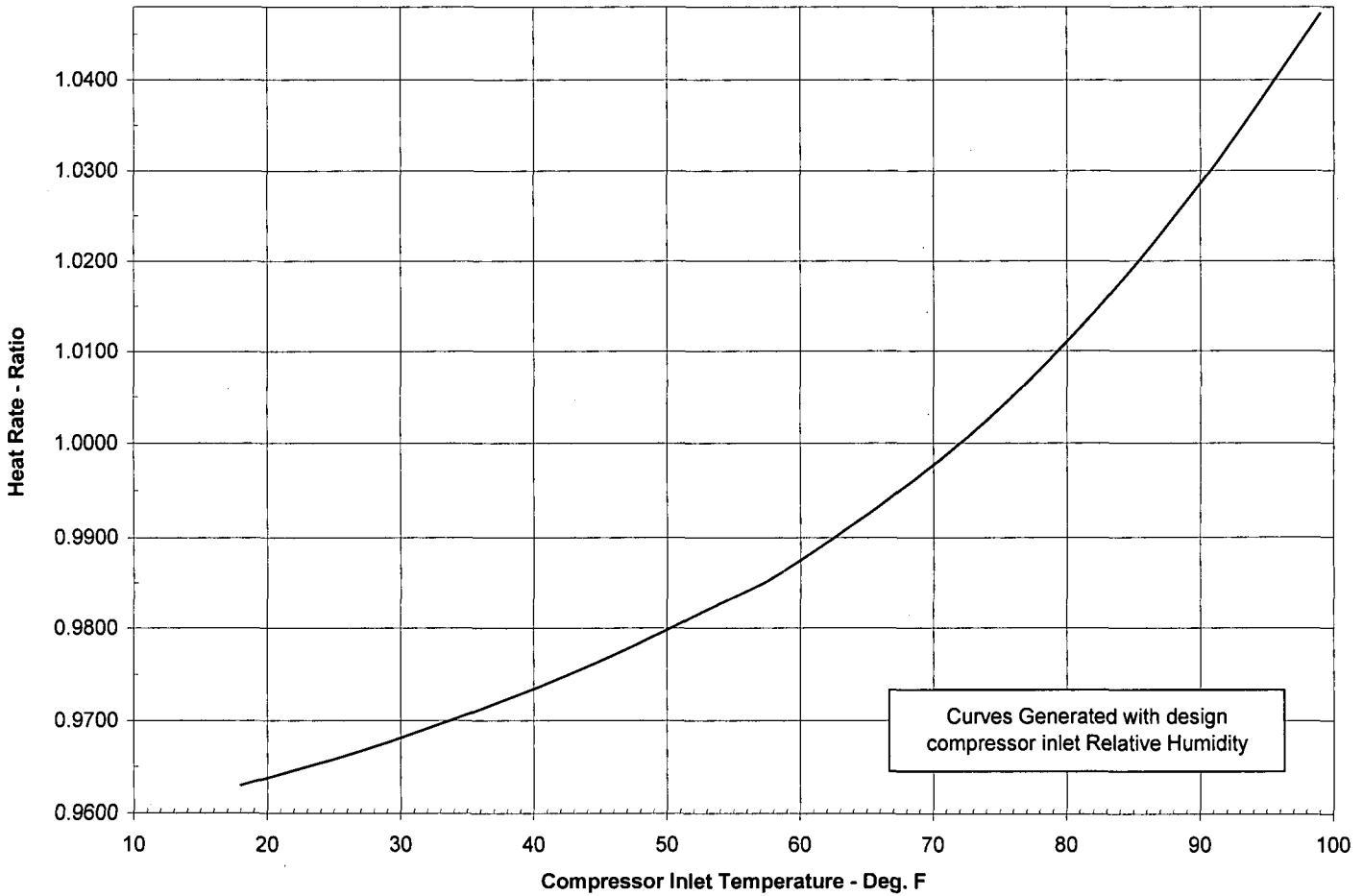
Effect of Compressor Inlet Temperature on Heat Rate

Design Values Referenced on 553HA8109 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297831 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Heat Rate Ratio		0.962974	0.966695	0.971189	0.976463	0.982674	0.986511	1.000000	1.012611	1.028524	1.047230

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

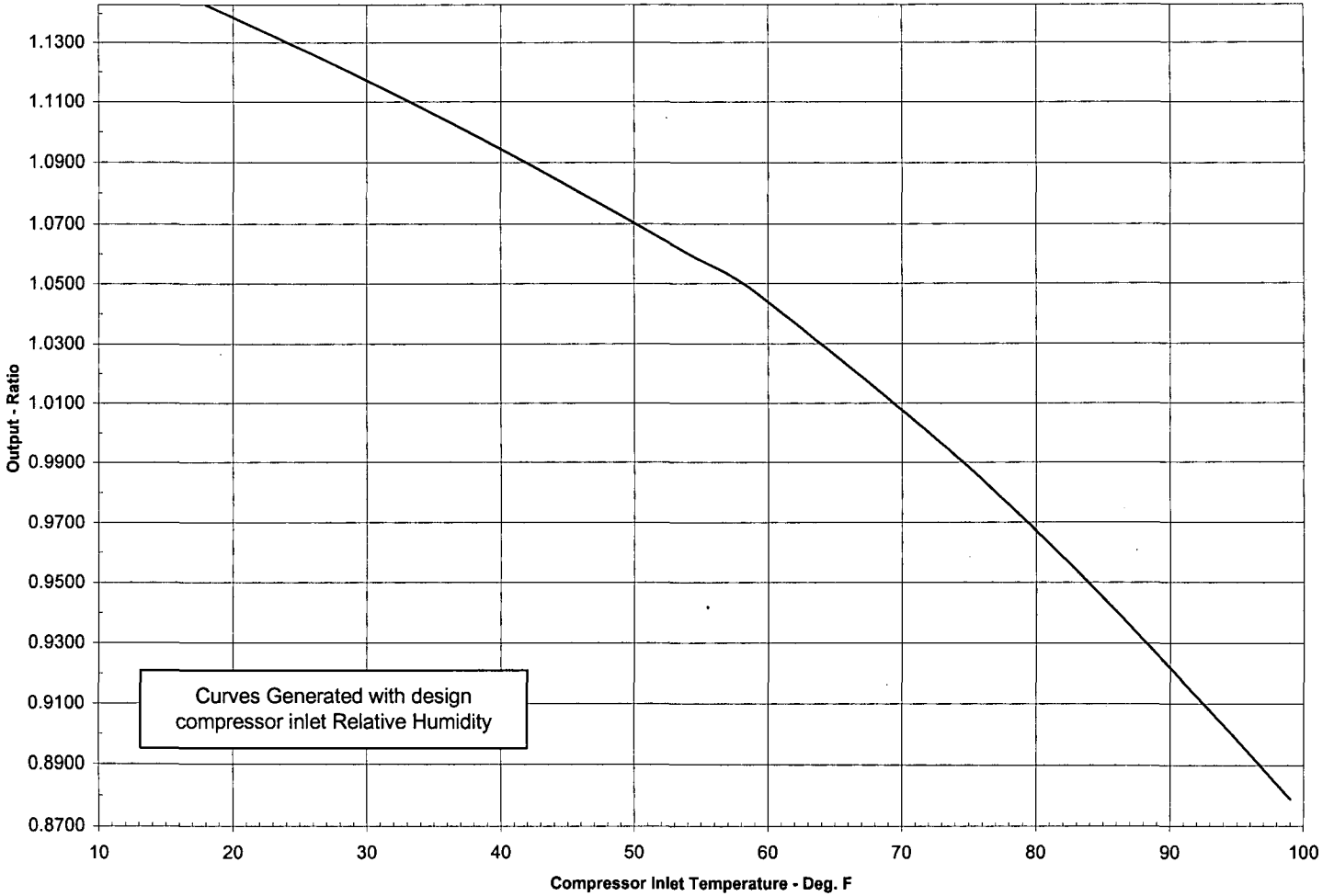
Effect of Compressor Inlet Temperature on Output

Design Values Referenced on 553HA8089 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297832 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Output Ratio		1.142896	1.123792	1.103636	1.082533	1.060213	1.047192	1.000000	0.962839	0.921897	0.878919

General Electric Model PG7241FA+e Gas Turbine TECO GR0647

Estimated Performance

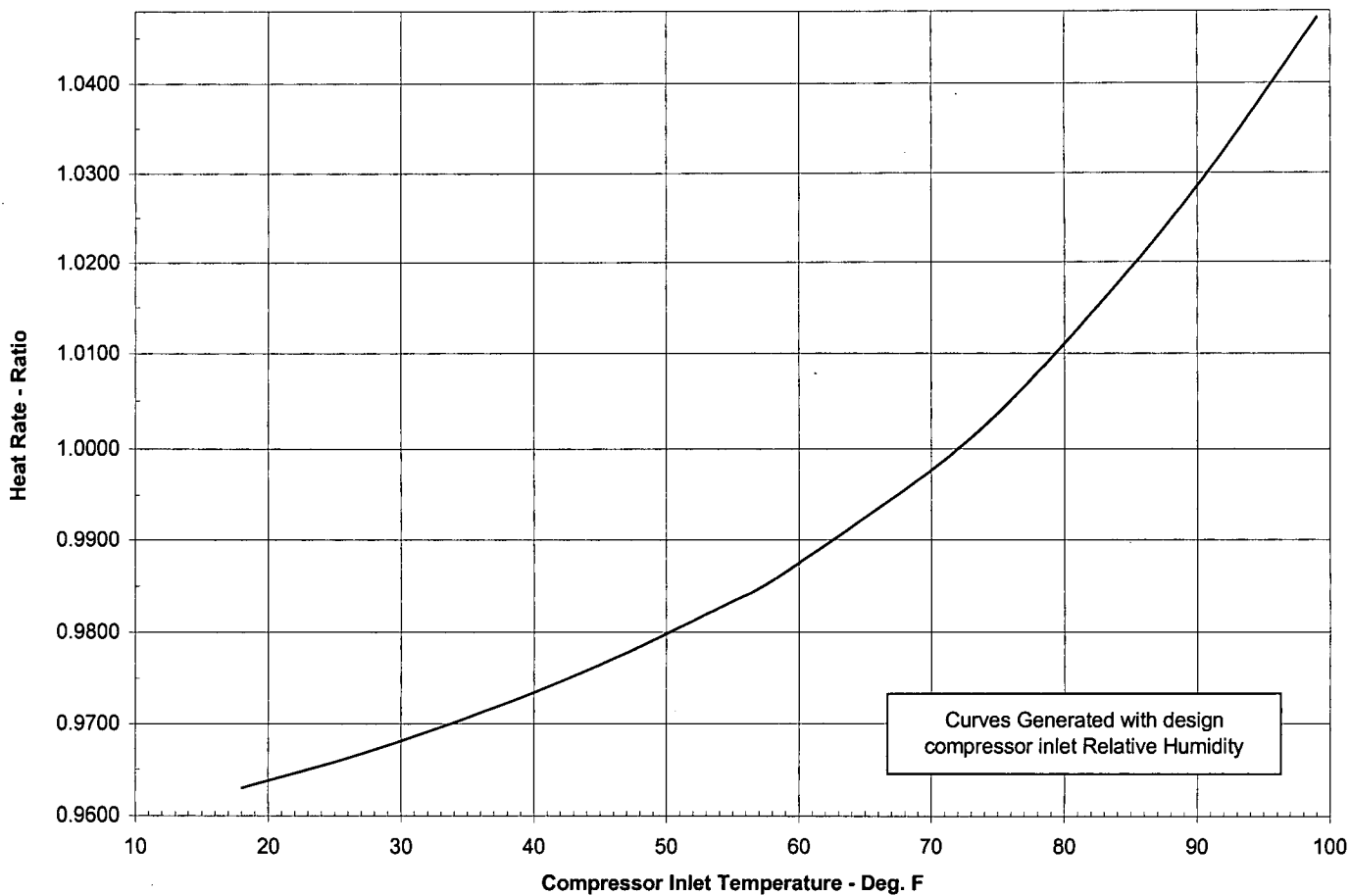
Effect of Compressor Inlet Temperature on Heat Rate

Design Values Referenced on 553HA8089 Rev -

Fuel: Gas

Mode: Base

Gas Turbine Generator(s) 297832 ONLY



	Units										
Compressor Inlet Temperature	F	18.00	27.00	36.00	45.00	54.00	59.00	72.00	81.00	90.00	99.00
Heat Rate Ratio		0.962974	0.966695	0.971189	0.976463	0.982674	0.986511	1.000000	1.012611	1.028524	1.047230