

WEST COUNTY POWER PARTNERS, LLC

11401 Lamar Avenue
Overland Park, Kansas 66211
Tel: (913) 458-2000
Fax: (913) 458-2934

527 Logwood
San Antonio, TX 78221
Ph: 210-475-8000
Fax: 210-475-8060

RECEIVED

Florida Power & Light Company
West County Energy Center – Units 1&2
Permit No. – PSD-FL-354
DEP File No. – 0990646-001-AC

NOV 16 2009

WCPP Project 144553
WCPP Files 14.0100/32.0440
WCPP-2009-TP-572
November 13, 2009

BUREAU OF AIR REGULATION

E-mail, Express Mail

Ms. Elizabeth Walker
Florida Department of Environmental Protection
Division of Air Resource Management
Bureau of Air Regulation, Bureau Chief
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399-2400

Subject: West County Energy Center Unit #1 & #2 CT Performance Curves

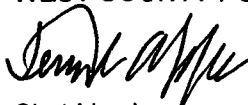
Dear Ms. Walker:

On behalf of Florida Power & Light Company (FPL) and its Designated Representative, Sheila M. Wilkinson, the West County Power Partners, LLC (WCPP), EPC Contractor for construction of the new combined cycle generating Units 1 and 2 at the FPL West County Energy Center, is submitting the combustion turbine performance curves per West County's Air Permit (Permit No. PSD-FL-354, Performance Restrictions, #7).

If you have any questions about this notification, please contact Terry Apple at (913) 458-7220 or Chet Lloyd.

Very truly yours,

WEST COUNTY POWER PARTNERS, LLC



Chet Lloyd
Project Executive

WS:hs

enclosures

cc: all listed via email:
Dave McNeal, USEPA Air, Pesticides and Toxics Management
Art Diem, USEPA Clean Air Markets Division
Errin Pichard, FDEP Air Resource Management
Lee Hoefert, FDEP Southeast District
Tim Gray, FDEP Southeast District
Tom Cascio, FDEP Bureau of Air Regulation
Mike Halpin, FDEP Siting Coordination Office
K. M. Davis, FPL ACG/GO

E.N. Scoville II, FPL Director Construction
Sheila M. Wilkinson, FPL Designated Rep
Mike Helmke, PBC Health Department
Laxmana Tallam, PBC Health Department
Jim Stormer, PBC Health Department
Tom Tittle, PBC Health Department
Tom Young, FPL Construction Project General Manager
Jan Kirwan, FPL Environmental Specialist
Carmine Priore, FPL Plant General Manager
Chet Lloyd, WCPP Project Executive
John Tidwell, WCPP Senior Project Manager
Greg Hines, WCPP Site Environmental Manager
Terry Apple, WCPP Project Manager/ Project File
William Stevenson, WCPP Environmental Specialist



5. CORRECTION CURVES

Reference Correction

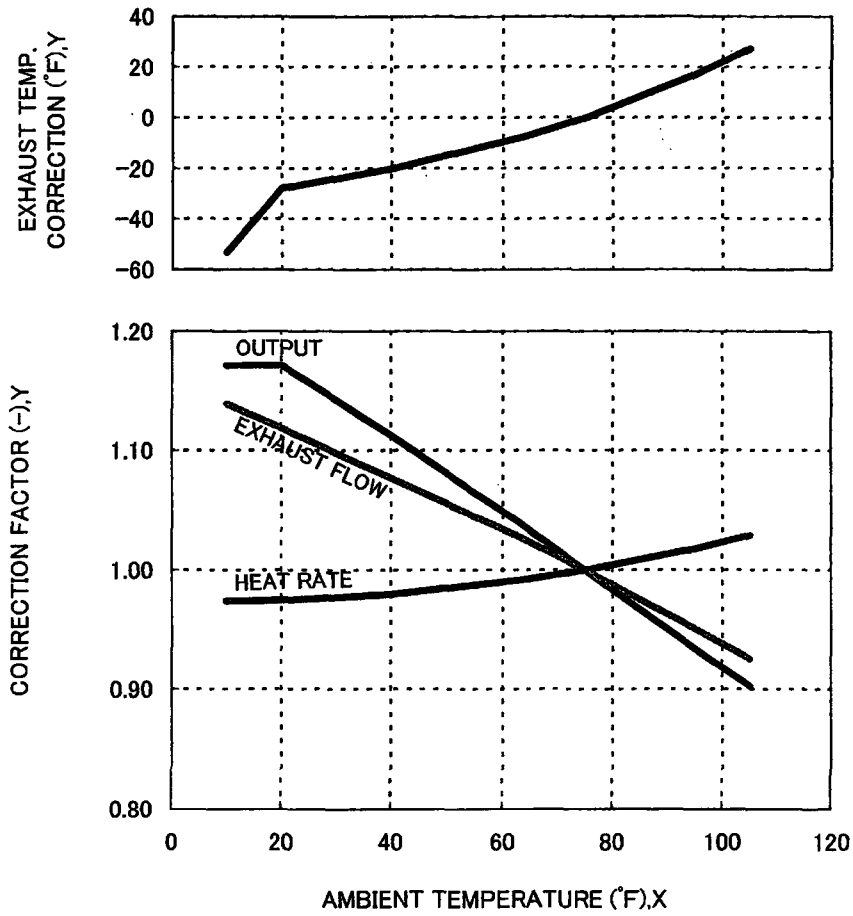
Item	Net Output Correction Curve	Heat Rate Correction Curve	Exhaust Flow Correction Curve	Exhaust Temp. Correction Curve
Ambient Air Dry Bulb Temperature	E01-05228-01(R2)			
Ambient Pressure	E01-05228-03(R2)			
Relative Air Humidity	E01-05228-02(R2)			
Fuel Gas Supply Temperature	NA	E01-05228-11(R2)	NA	
Fuel Gas Calorific Value and C/H ratio	E01-05228-08(R1)			
Gas Turbine Generator Frequency	E01-05228-06(R2)			
Excess Exhaust Static Pressure Loss	E01-05228-05(R2)			
Combustor Cooling Steam Heat Duty	E01-05228-09(R2) [△]			
Degradation	E01-01908(R1)		E01-02970(R1)	
GT Generator Efficiency	KC918369			
Combustor Cooling Steam Heat Duty	E01-05228-D1 (R0)	E01-05228-D2 (R0)	NA	
Turbine Cooling Air Heat Duty	E01-05228-D3 (R0)	E01-05228-D4 (R0)	NA	

MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M 501G

CORRECTION FACTOR FOR AMBIENT TEMPERATURE vs. OUTPUT, HEAT RATE, EXHAUST FLOW and EXHAUST TEMPERATURE

[CONDITION]
 FUEL : Natural GAS
 AMBIENT PRESSURE : 14.67psi
 RELATIVE HUMIDITY : 60%
 FREQUENCY : 60Hz



MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M 501G

**CORRECTION EQUATION
FOR
AMBIENT TEMPERATURE vs. OUTPUT, HEAT RATE, EXHAUST FLOW
and EXHAUST TEMPERATURE**

[CONDITION]

FUEL	: Natural GAS
AMBIENT PRESSURE	: 14.67psi
RELATIVE HUMIDITY	: 60%
FREQUENCY	: 60Hz

OUTPUT

10-20F	$y = 1.1715576$
20-105F	$y = -0.00000142x^2 - 0.002984329x + 1.231812178$

HEAT RATE

10-20F	$y = 0.00008248x + 0.97407149$
20-105F	$y = -0.000000002x^3 + 0.000006391x^2 - 0.000134379x + 0.974972801$

EXHAUST FLOW

10-20F	$y = -0.00198600x + 1.15898862$
20-105F	$y = -0.00000321x^2 - 0.00186902x + 1.15823275$

EXHAUST TEMPERATURE

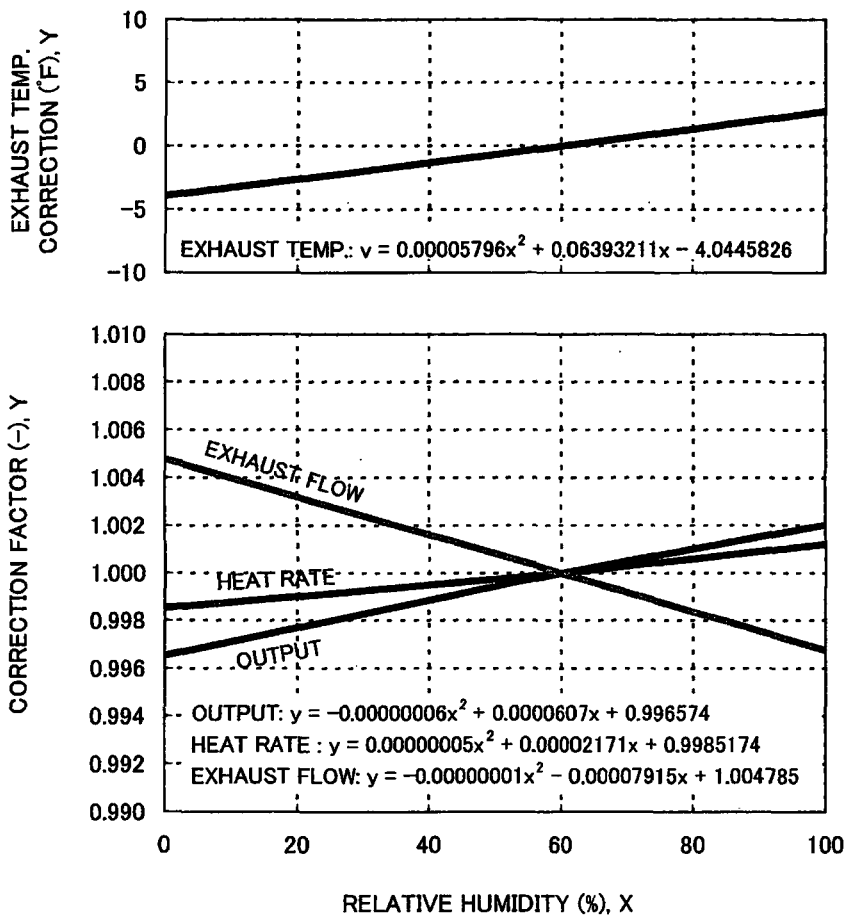
10-20F	$y = 2.51712x - 78.2316$
20-105F	$y = 0.00451945x^2 + 0.07735822x - 31.22377275$

MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

**CORRECTION FACTOR
 FOR
 RELATIVE HUMIDITY vs. OUTPUT, HEAT RATE, EXHAUST FLOW
 and EXHAUST TEMPERATURE**

[CONDITION]
 FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 AMBIENT PRESSURE : 14.67psi
 FREQUENCY : 60Hz

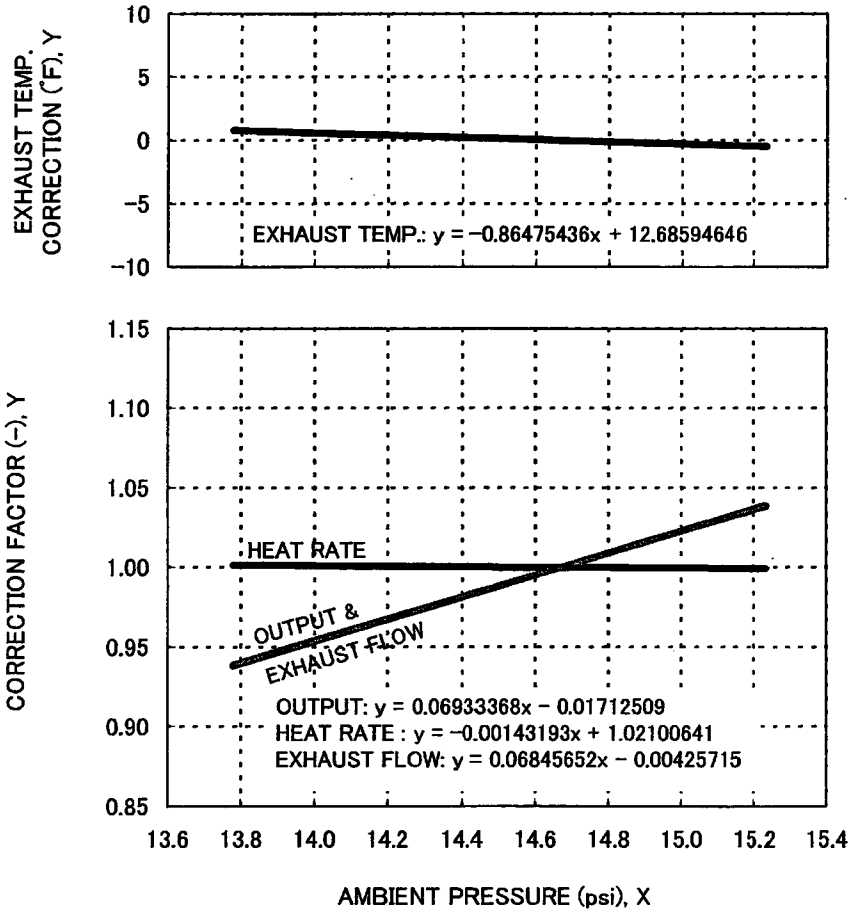


MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

**CORRECTION FACTOR
 FOR
 AMBIENT PRESSURE vs. OUTPUT, HEAT RATE, EXHAUST FLOW
 and EXHAUST TEMPERATURE**

[CONDITION]
 FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 RELATIVE HUMIDITY : 60%
 FREQUENCY : 60Hz

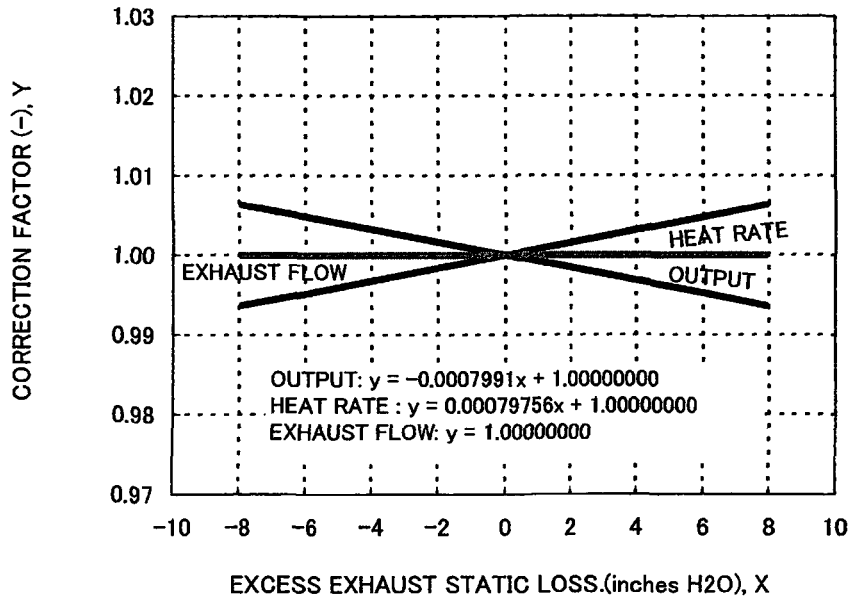
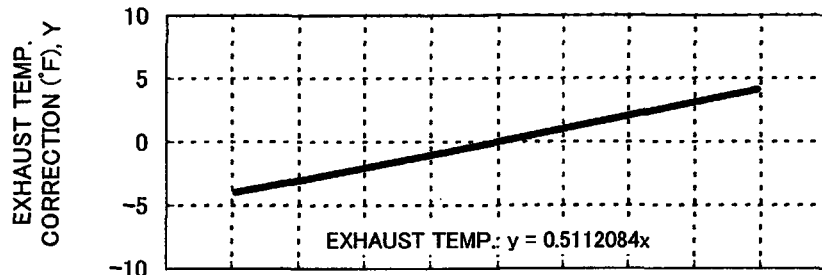


MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

CORRECTION FACTOR
FOR
EXCESS EXHAUST STATIC LOSS vs. OUTPUT, HEAT RATE, EXHAUST FLOW
and EXHAUST TEMPERATURE

[CONDITION]
 FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 AMBIENT PRESSURE : 14.67psi
 RELATIVE HUMIDITY : 60%
 FREQUENCY : 60Hz
 EXHAUST STATIC LOSS : 12.2 inches H2O

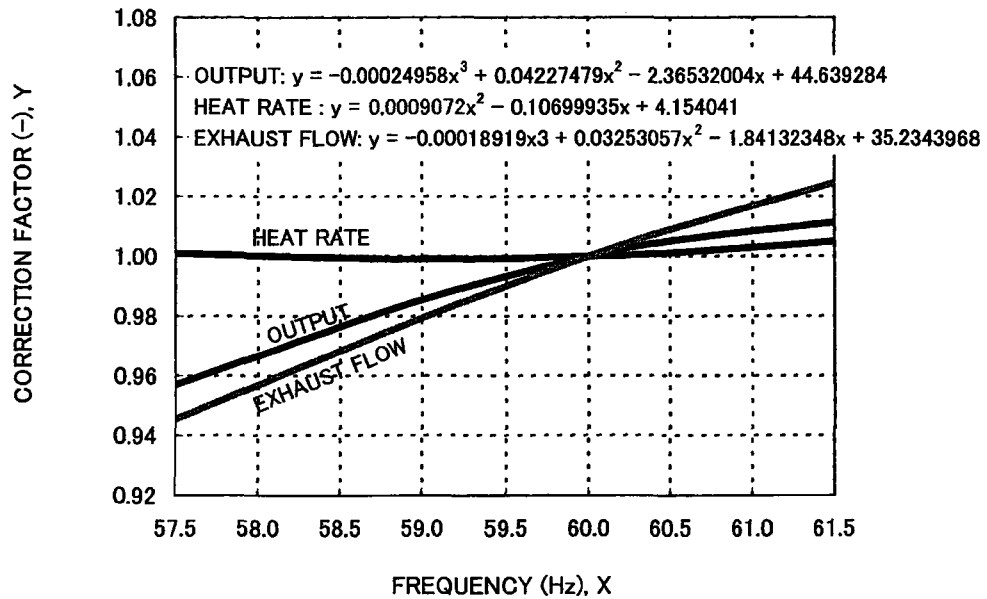
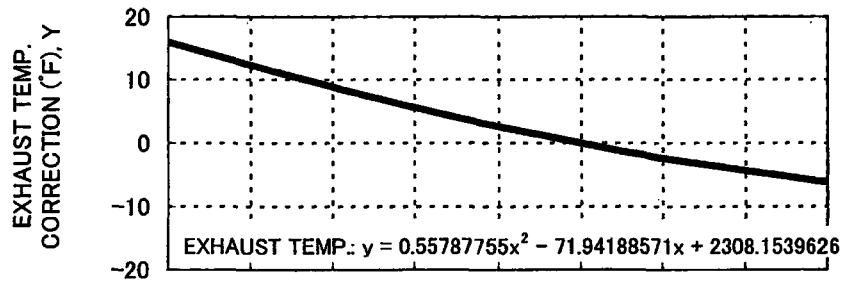


MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

**CORRECTION FACTOR
 FOR
 FREQUENCY vs. OUTPUT, HEAT RATE, EXHAUST FLOW
 and EXHAUST TEMPERATURE**

[CONDITION]
 FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 AMBIENT PRESSURE : 14.67psi
 RELATIVE HUMIDITY : 60%

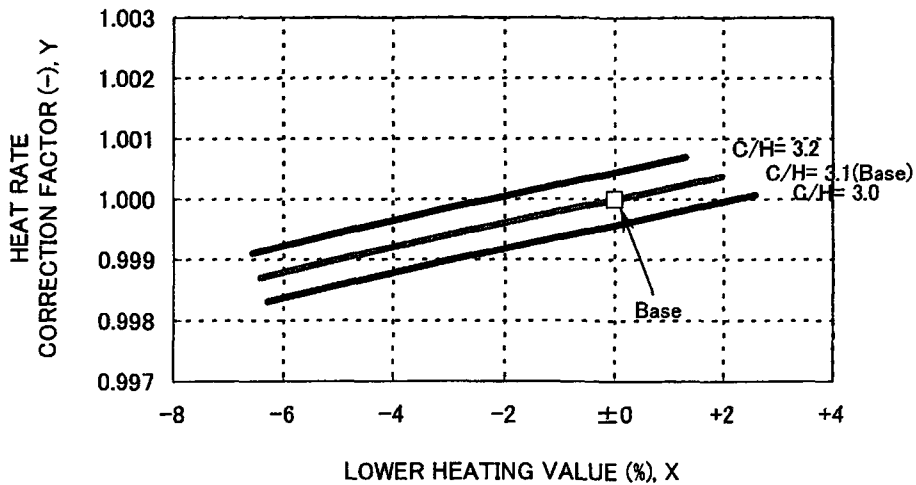
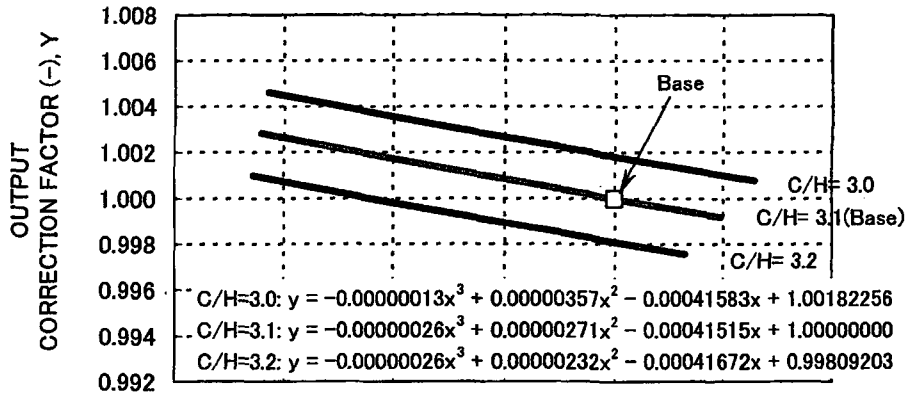


MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

**CORRECTION FACTOR
FOR
LOWER HEATING VALUE vs. OUTPUT, HEAT RATE, EXHAUST FLOW
and EXHAUST TEMPERATURE (1/2)**

[CONDITION]
 FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 AMBIENT PRESSURE : 14.67psi
 RELATIVE HUMIDITY : 60%
 FREQUENCY : 60Hz



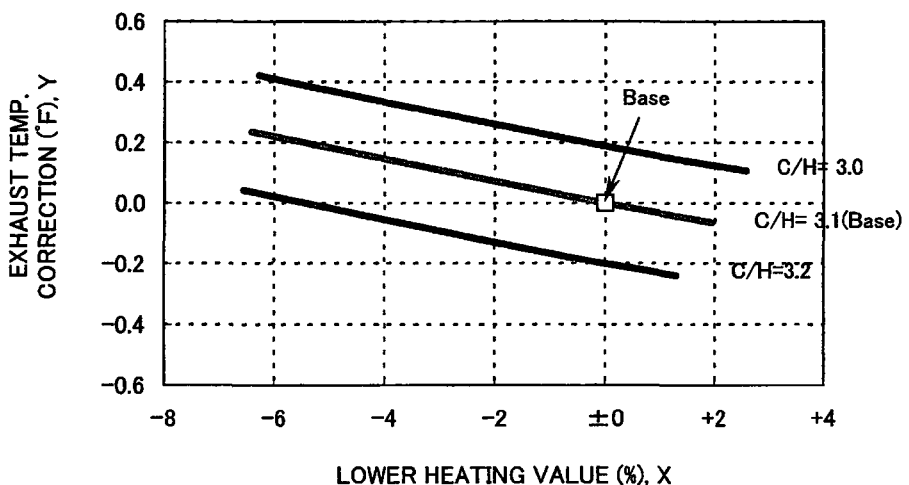
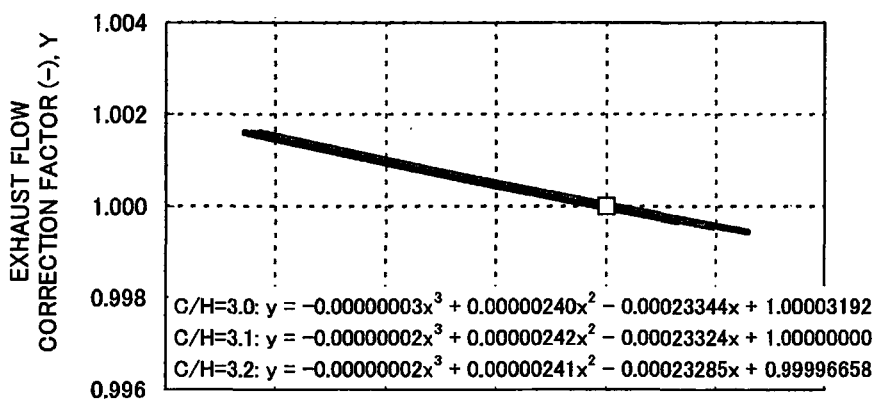
C/H=3.0: $y = 0.00000016x^3 - 0.00000053x^2 + 0.00019123x + 0.99957844$
 C/H=3.1: $y = 0.00000016x^3 - 0.00000049x^2 + 0.00019173x + 1.00000000$
 C/H=3.2: $y = 0.00000009x^3 - 0.00000075x^2 + 0.00019374x + 1.00044499$

MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

**CORRECTION FACTOR
 FOR
 LOWER HEATING VALUE vs. OUTPUT, HEAT RATE, EXHAUST FLOW
 and EXHAUST TEMPERATURE (2/2)**

[CONDITION]
 FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 AMBIENT PRESSURE : 14.67psi
 RELATIVE HUMIDITY : 60%
 FREQUENCY : 60Hz



$C/H=3.0: y = 0.00005285x^3 + 0.00082474x^2 - 0.03423881x + 0.18828155$
 $C/H=3.1: y = 0.00008099x^3 + 0.00089106x^2 - 0.03434501x$
 $C/H=3.2: y = 0.00013109x^3 + 0.00148578x^2 - 0.03290035x - 0.19955483$

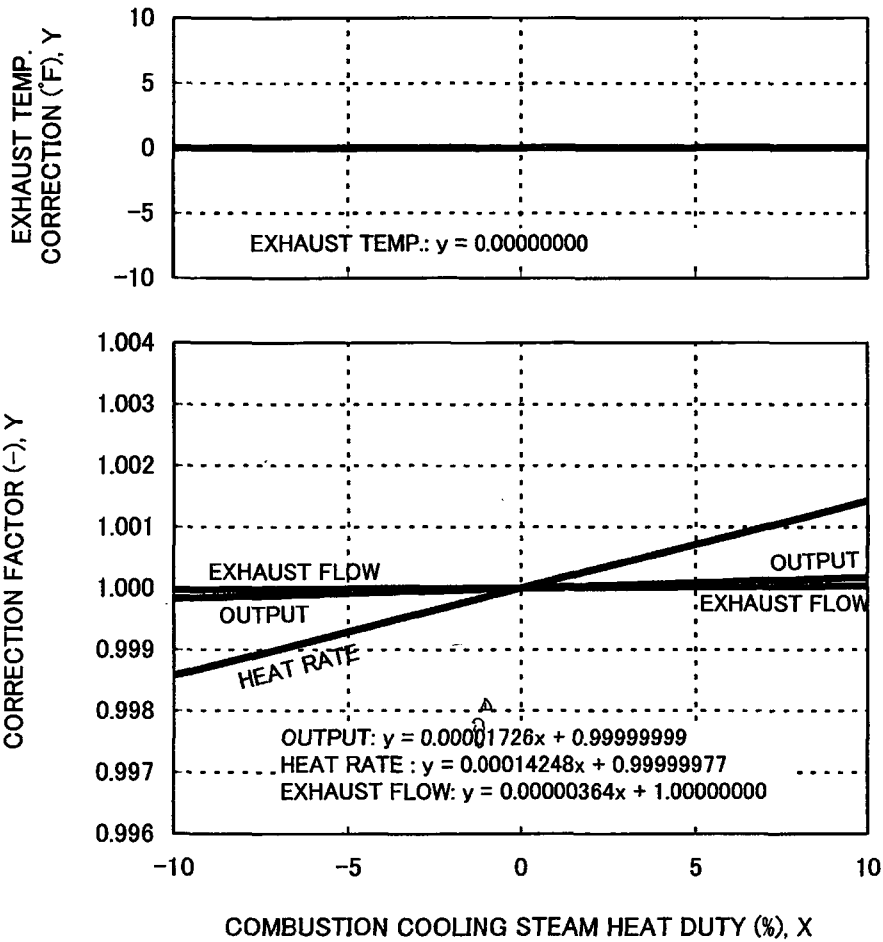
MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501G

**CORRECTION FACTOR
FOR
COMBUSTION COOLING STEAM HEAT DUTY vs. OUTPUT, HEAT RATE,
EXHAUST FLOW and EXHAUST TEMPERATURE**

[CONDITION]

FUEL : Natural GAS
 AMBIENT TEMP. : 75°F
 AMBIENT PRESSURE : 14.67psi
 RELATIVE HUMIDITY : 60%
 FREQUENCY : 60Hz
 COOLING STEAM DURY : 6.95Gcal/h

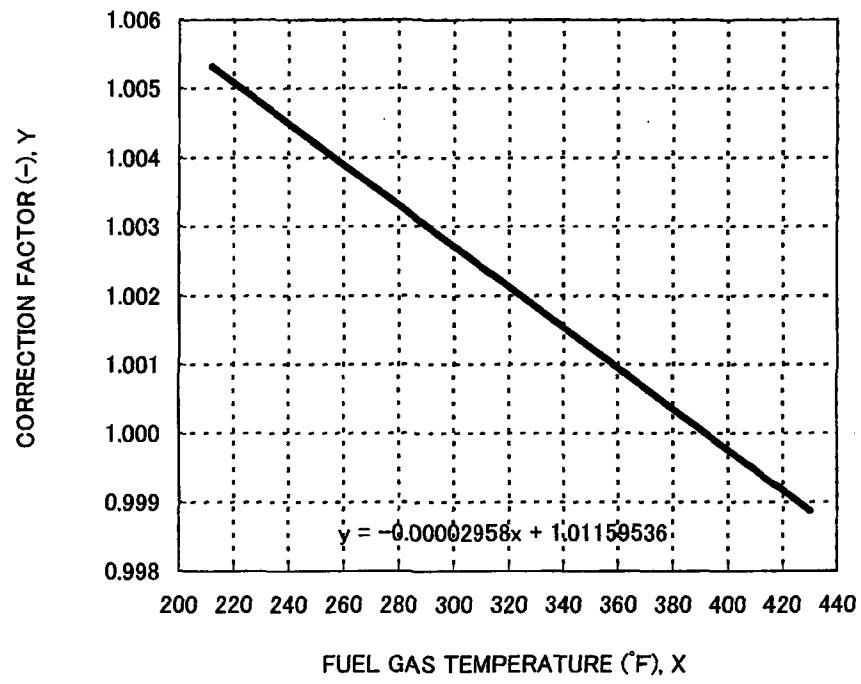


MITSUBISHI COMBUSTION TURBINE EXPECTED PERFORMANCE CURVE

Model No. M501 G

CORRECTION FACTOR FOR FUEL GAS TEMPERATURE vs. HEAT RATE

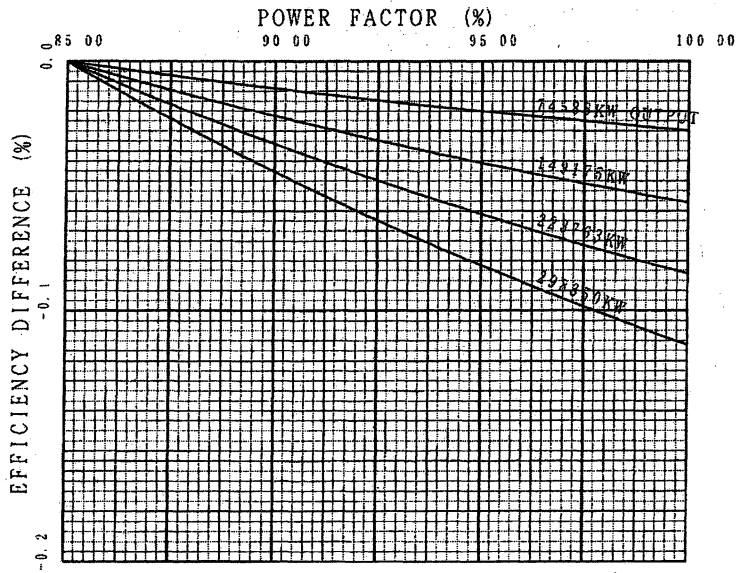
[CONDITION]
FUEL : Natural GAS
AMBIENT TEMP. : 75°F
AMBIENT PRESSURE : 14.67psi
RELATIVE HUMIDITY : 60%
FREQUENCY : 60Hz
FUEL GAS TEMPERATURUF: 392deg.F



West County Energy Center GTG
 351000 KVA, 298350 KW, 85.00 % PF, 60 HZ, 3600 min⁻¹
 21 KV, 9650 A, 0.30 MPag GAS PRESS., 330 V EXC.
 HYDROGEN-COOLED TURBINE GENERATOR
 EFFICIENCY CORRECTION CURVE

EFFICIENCY AT 85.00 % PF CAN BE ESTIMATED BY ADDING EFFICIENCY DIFFERENCE VALUE TO EFFICIENCY AT A CERTAIN POWER FACTOR.

(NOTE) EFFICIENCY IS CALCULATED AT GENERATOR TERMINAL.
 EXCITER LOSS AND FIELD WINDING LOSS ARE NOT INCLUDED IN THE CALCULATION

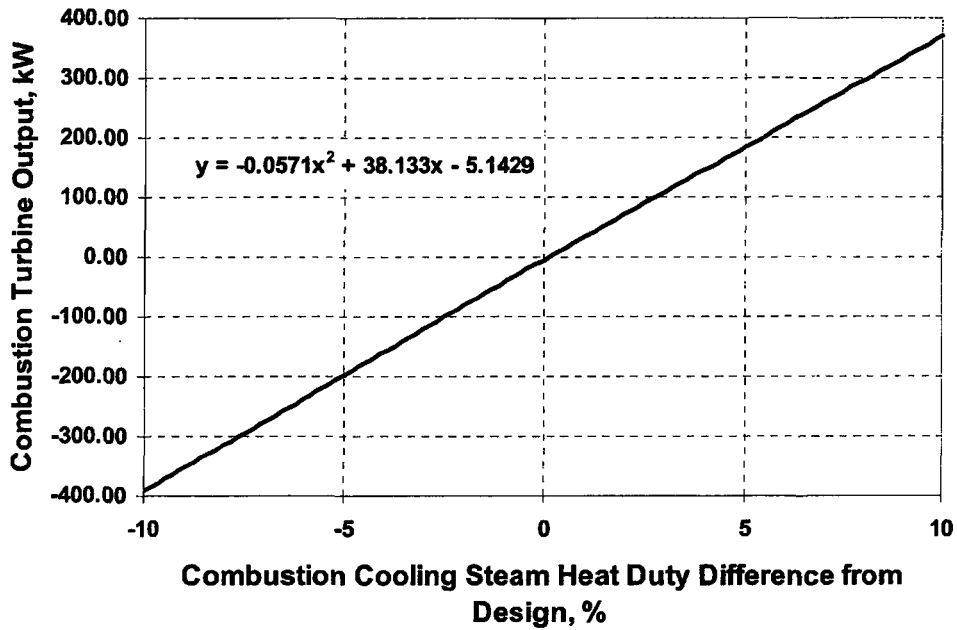


APPROVED	<i>Z. Nishida</i>
CHECKED	<i>A. Yoshi</i>
DESIGNED	Dec. 5, '05 A. Yoshi

KC918369

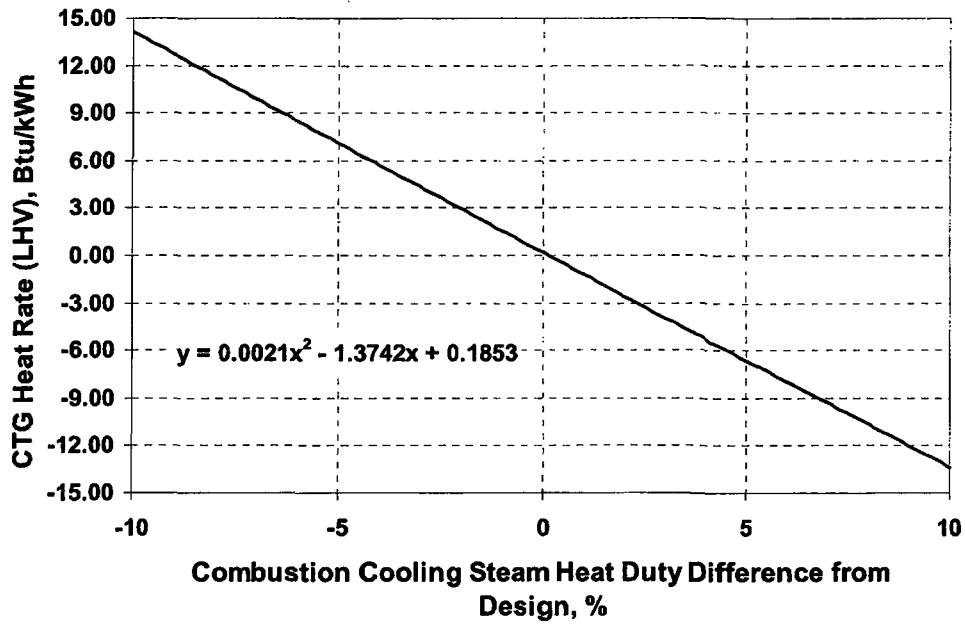
**Correction Curve
For
Combustion Cooling Steam Heat Duty vs. Combustion Turbine Output**

Design Conditions	
Fuel	Natural Gas
Ambient Temperature	75 deg F
Ambient Pressure	14.67 psi
Relative Humidity	60 %
Frequency	60 Hz
Base Case Combustion Cooling Steam Duty	28.00 mmBtu/hr



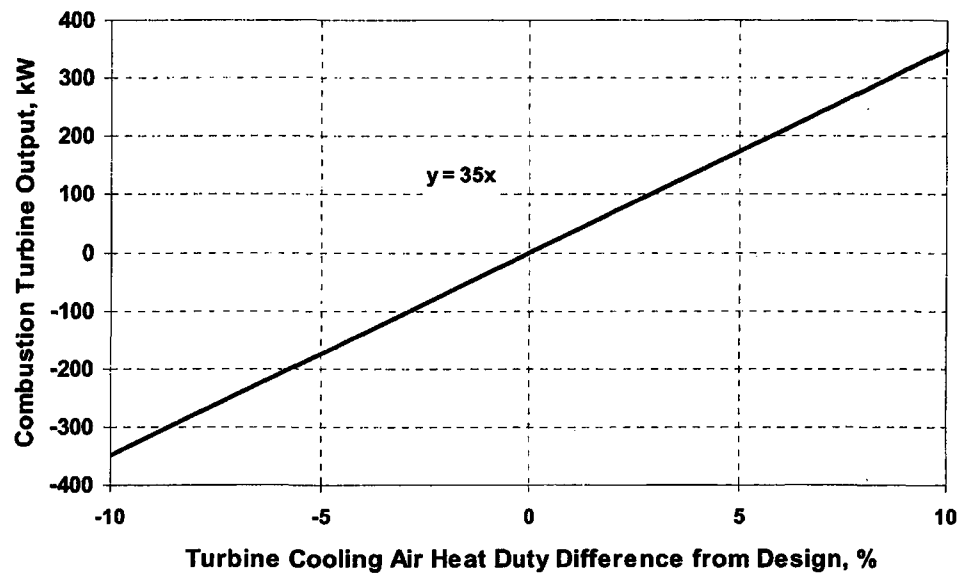
**Correction Curve
For
Combustion Cooling Steam Heat Duty vs. Combustion Turbine Heat Rate**

Design Conditions	
Fuel	Natural Gas
Ambient Temperature	75 deg F
Ambient Pressure	14.67 psi
Relative Humidity	60 %
Frequency	60 Hz
Base Case Combustion Cooling Steam Duty	28.00 mmBtu/hr



**Correction Curve
For
Turbine Cooling Air Heat Duty vs. Combustion Turbine Output**

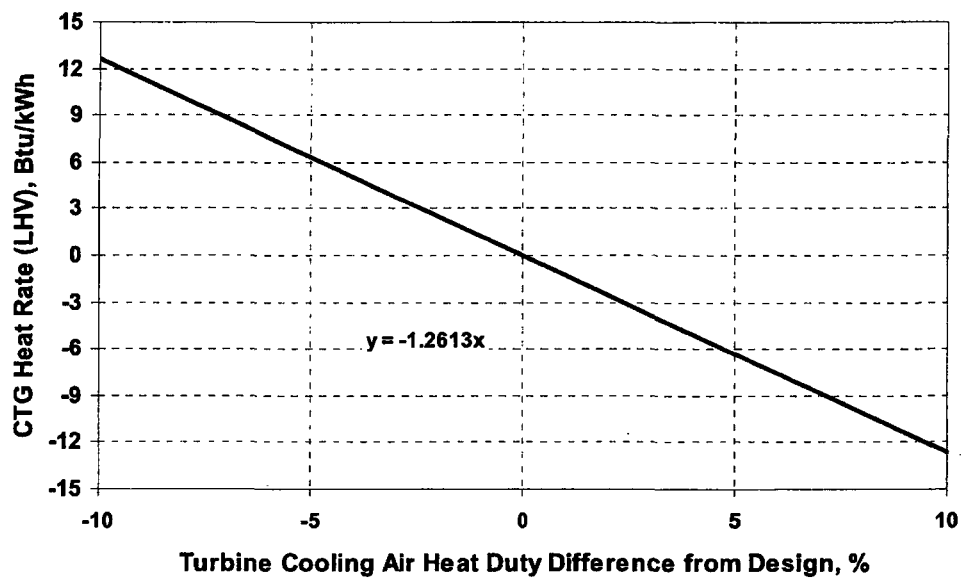
Design Conditions	
Fuel	Natural Gas
Ambient Temperature	75 deg F
Ambient Pressure	14.67 psi
Relative Humidity	60 %
Frequency	60 Hz



S4-75053

**Correction Curve
For
Turbine Cooling Air Heat Duty vs. Combustion Turbine Heat Rate**

Design Conditions	
Fuel	Natural Gas
Ambient Temperature	75 deg F
Ambient Pressure	14.67 psi
Relative Humidity	60 %
Frequency	60 Hz



S4-75053