ORANGE COGENERATION

1050231-002-AC

June 6, 1997

Mr. Al Linero, P.E.
Administrator, New Source Review Section
Division of Air Resources Management
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Orange Cogeneration Facility
AC53-233851B, PSD-FL-206B

Dear Mr. Linero:

This correspondence is submitted on behalf of Orange Cogeneration Limited Partnership ("OCLP") to request that Specific Conditions 10, 11, 15, 19 and Table 1 of permit AC53-233851B be modified to require compliance with a maximum NO_x emissions level, 1-hour average, of 15 ppmvd @ 15% O_2 by January 1, 1999 instead of January 1, 1998.

The Orange Cogeneration Facility utilizes a dry low-NO_x technology ("DLE") developed by General Electric Company ("GE") to control NO_x and CO emissions. During the development of the Orange Cogeneration Facility, GE advised OCLP to seek an air permit NO_x limit of 15 ppm effective December 31, 1997. GE believed that their DLE combustion system would be able to sustain NO_x levels below 15 ppm by the end of 1997. However, technical difficulties have delayed their program by approximately one year.

GE has been working towards their commitment to OCLP to achieve 15 ppm NO_x by December 31, 1997. GE has conducted a number of tests to reduce NO_x emissions and they plan to continue their design, research and testing efforts to reach the 15 ppm NO_x emissions level. They are currently testing a newly designed premixer which was installed in one of the combustion turbines at the facility in March. The NO_x emissions levels from the facility currently range from 18-21 ppm. GE believes that they may be able to reduce the NO_x emissions to 15 ppm by the end of this year, but they are not confident that the 15 ppm level will be sustainable.

GE has recommended that OCLP request a one-year extension of the current 25 ppm NO_x emissions level so that they can continue to improve their DLE combustion system. They are confident that they will be able to consistently demonstrate a NO_x emissions level of 15 ppm or less by the end of 1998.

I have enclosed a letter from GE Marine and Industrial Engines to OCLP and a copy of a presentation given to the Florida Department of Environmental Protection by GE on January 13, 1997. These enclosures address the DLE program status and explain GE's plans and commitment for achieving 15 ppm NO_x levels by the end of 1998. The letter was prepared by the GE team responsible for the development of the DLE combustion system and it was signed by a Professional Engineer. In addition I have enclosed a letter from a Professional Engineer registered in Florida supporting the letter from GE Marine and Industrial Engines.

OCLP request that the air permit be modified as follows in response to the recommendations of GE:

Under Specific Condition

#10 Change the compliance date from "Prior to January 1, 1998," to "Prior to January 1, 1999,".

1125 US Highway 98 South • Suite 100 • Lakeland, Florida 33801
(941) 682-6338 • FAX (941) 683-8257

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As you requested during our meeting earlier this year, copies of this letter and all of the enclosures are being furnished to Mr. Brian Beals, Mr. Bill Thomas and Mr. John Bunyak so that they can provide any comments to you.

I have also enclosed a check for $250.00 for the permit modification fee.

If you have any questions please call me at 941-682-6338.

Sincerely,
Orange Cogeneration Limited Partnership
by Orange Cogeneration GP, Inc.
its general partner

Allan Wade Smith
General Manager

enclosures

cc: Mr. Brian Beals, EPA
Mr. Bill Thomas - FDEP
Mr. John Bunyak - NPS
Mr. Dennis Oehring - CSWE Operations

GE Marine and
Industrial Engines

APR 11 1997

Charles Blankenship, Jr.
Manager, LM5000/LM6000 Projects

One Neumann Way, MD5122
Cincinnati, OH 45215-6301
(513) 552-5320 Fx: (513) 552-5009

11 MAR 97

Mr. Wade Smith
General Manager
Orange Cogeneration GP, Inc.
1125 US Highway 98 South, Suite 100
Lakeland Florida 33801

Dear Mr. Smith,

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The initial focus of this program has been on achieving 15ppm levels at the Orange Cogen site by 12/31/97. As you know, several tests have been conducted on these engines in the last 2 years as a part of this program. While these changes yielded emissions improvements, other changes were also needed to improve acoustics and durability problems. As a result, our program is approximately one year behind our original schedule.

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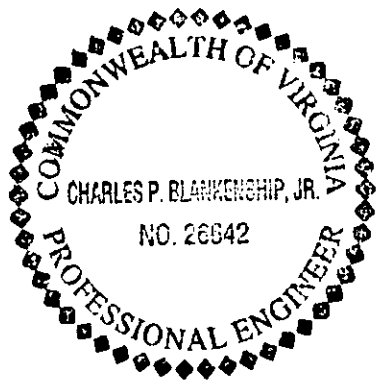
Sincerely,

James N. Reinhold, P.E.
Staff Engineer
GE M&I Engine Systems

Richard B. Hook
LM6000 Engineering Leader
GE M&I Engine Systems

Charles P. Blankenship, Jr., Ph.D., P.E.
LM6000 Project Manager
GE M&I



GE Power Systems

MAY 30 1997

Alan P. Johnson, P.E.
Manager - Commercial Programs

General Electric Company
7650 Courtney Campbell Causeway
Suite 900
Tampa, Fl. 33607
(813) 286-4839
E-Mail: Johnsoa2@schrmt2.sch.ge.com

May 28, 1997

Orange Cogeneration GP, Inc.
1125 US Highway 98 South, Suite 100
Lakeland, Fl. 33801

Attn: Mr. Wade Smith
General Manager

Subject: NOx Emissions Reduction Program

Dear Wade:

The subject program for reduction of NOx levels on our LM6000 DLE engines is continuing. The status of that program was described in a letter dated March 11, 1997 from the Project Manager, Mr. Charles Blankenship, Jr. of our Marine & Industrial Engine Group in Cincinnati, Ohio.

As stated in that letter, the program is approximately one year behind schedule. We therefore recommend that you request a one year extension of your currently permitted NOx levels.

Please feel free to call if you have any questions concerning this issue.

Very truly yours,

Alan P. Johnson, P.E.

License No. 31806

LM6000 DLE Program Status

Presented To The
Florida Department Of
Environmental Protection
1/13/97

By
Gary Leonard
LM6000 Product Manager

GE Gas Turbine Businesses

- GE Power Generation - Schenectady, NY
  - Steam Turbines
  - Generators
  - Heavy Frame Gas Turbines (Frame 9, 7, 6, 5, 3)

- GE Aircraft Engines - Cincinnati, OH
  - Aircraft Engines
  - Aeroderivative Gas Turbines (**LM6000**, LM2500, ...)

LM6000 Gas Turbine

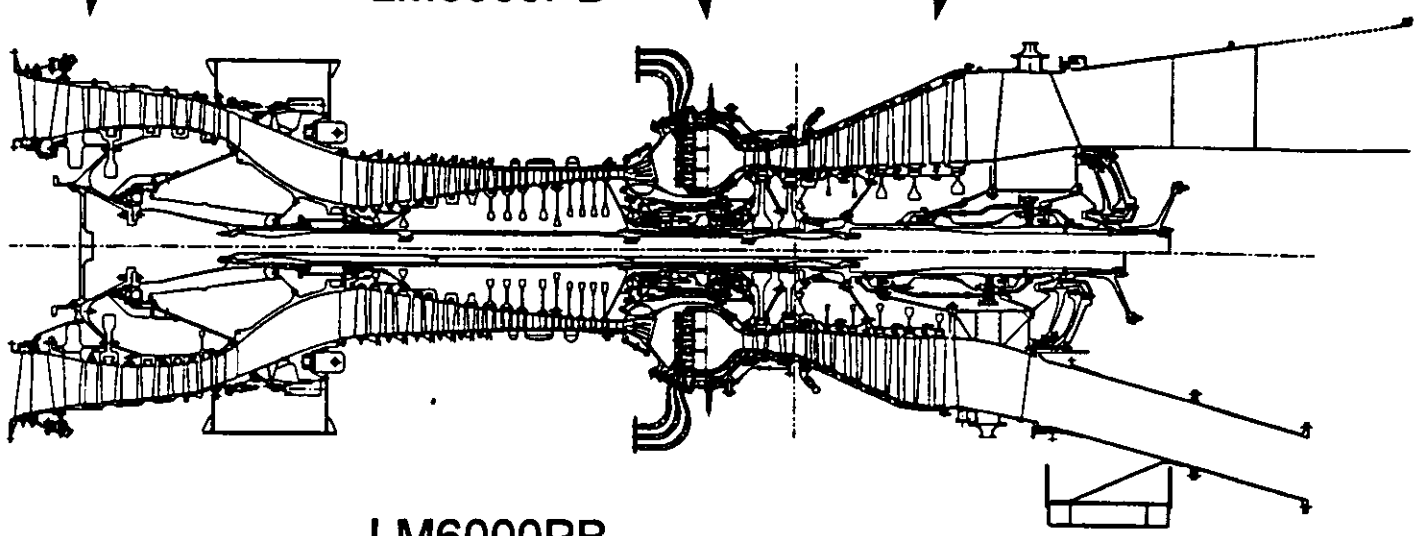
- Engine first entered service in 1992
- Currently 85 engines in operation (12 DLE engines)
- World's most efficient simple cycle gas turbine (>42%)
- World's most efficient combined cycle gas turbine in its size class (>53%)
- LM6000 fleet availability > 97.5%

LM6000 Cross Section Comparison

New Booster Vanes (0-3)
- More Efficient

Dual Fuel DLE
Combustor

Improved LPT Components
- More Efficient
- Mechanical Drive Capable
- Less Exhaust Noise

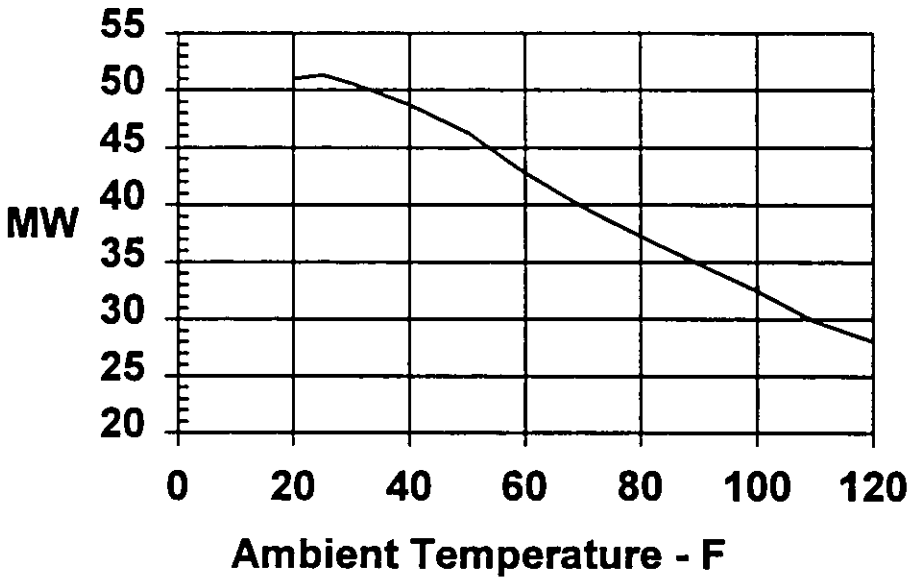


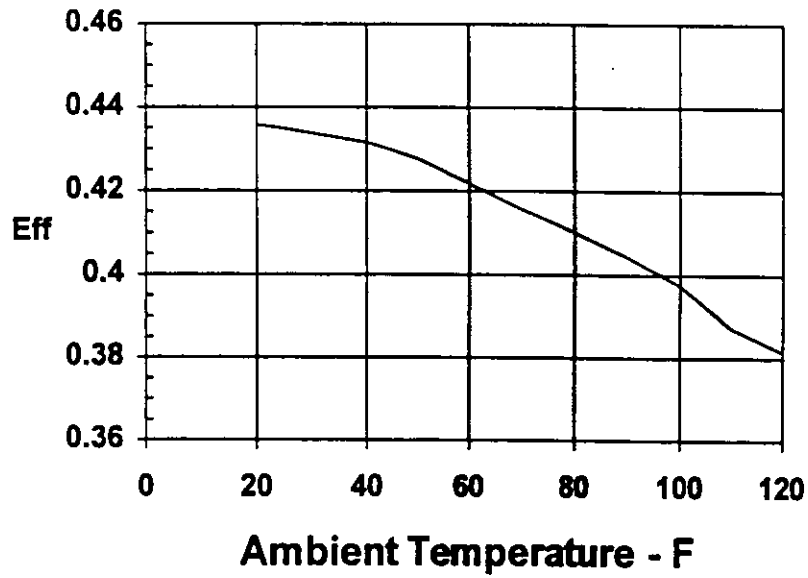
LM6000PD

LM6000PB

LM6000PD Performance

(Zero inlet & exhaust system losses, natural gas, sea level, 60% RH)





LM6000 DLE Program Status

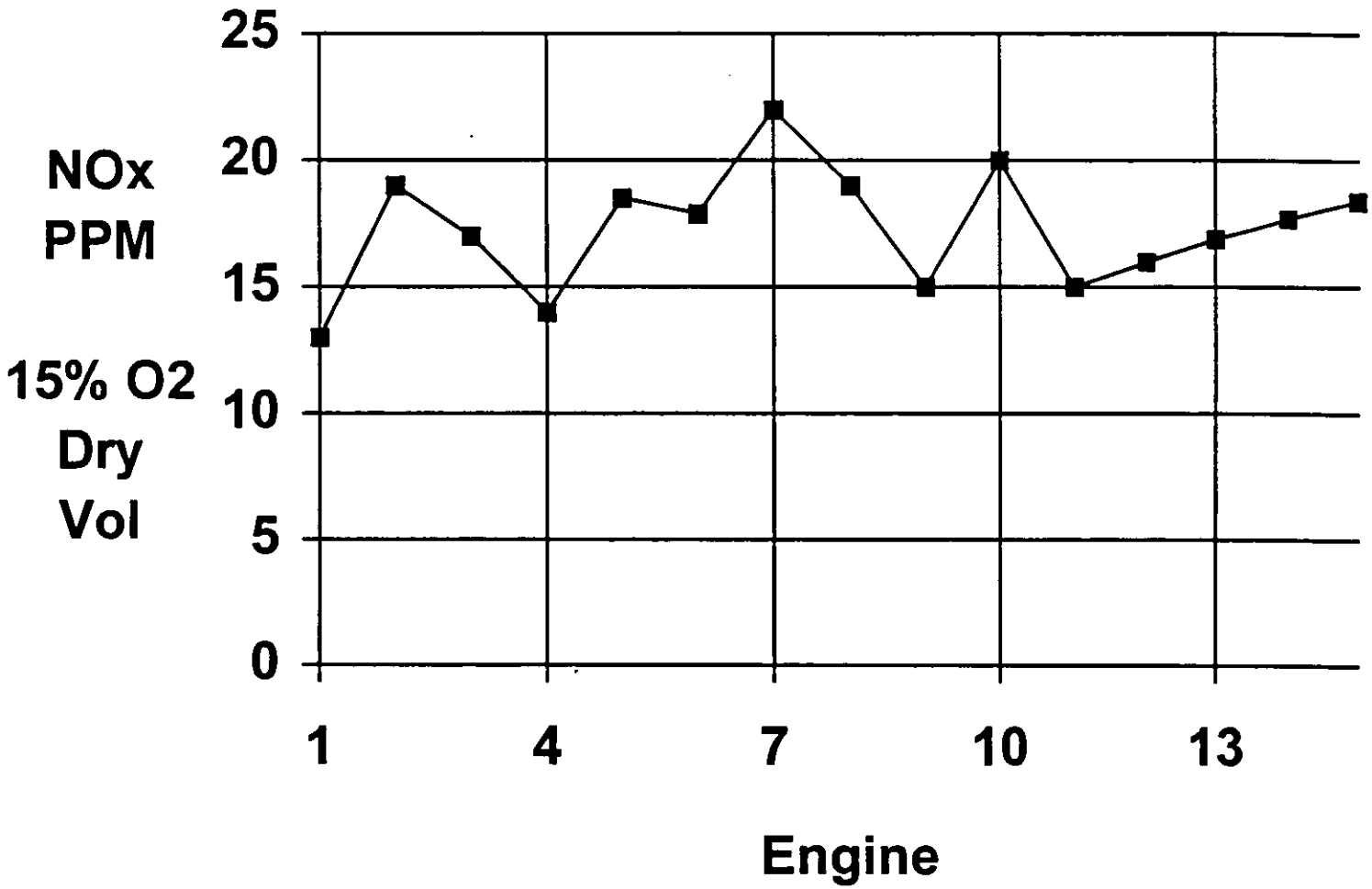
- 19 engine shipped to date
- All met current 25 ppm NOX and CO guarantees
- First DLE system with low emissions from start to full power
- 60,000 hours of experience
- Current development focusing on achieving
  - 15 ppm NOx
  - Dry Dual Fuel DLE

LM6000 Site Operating Hours

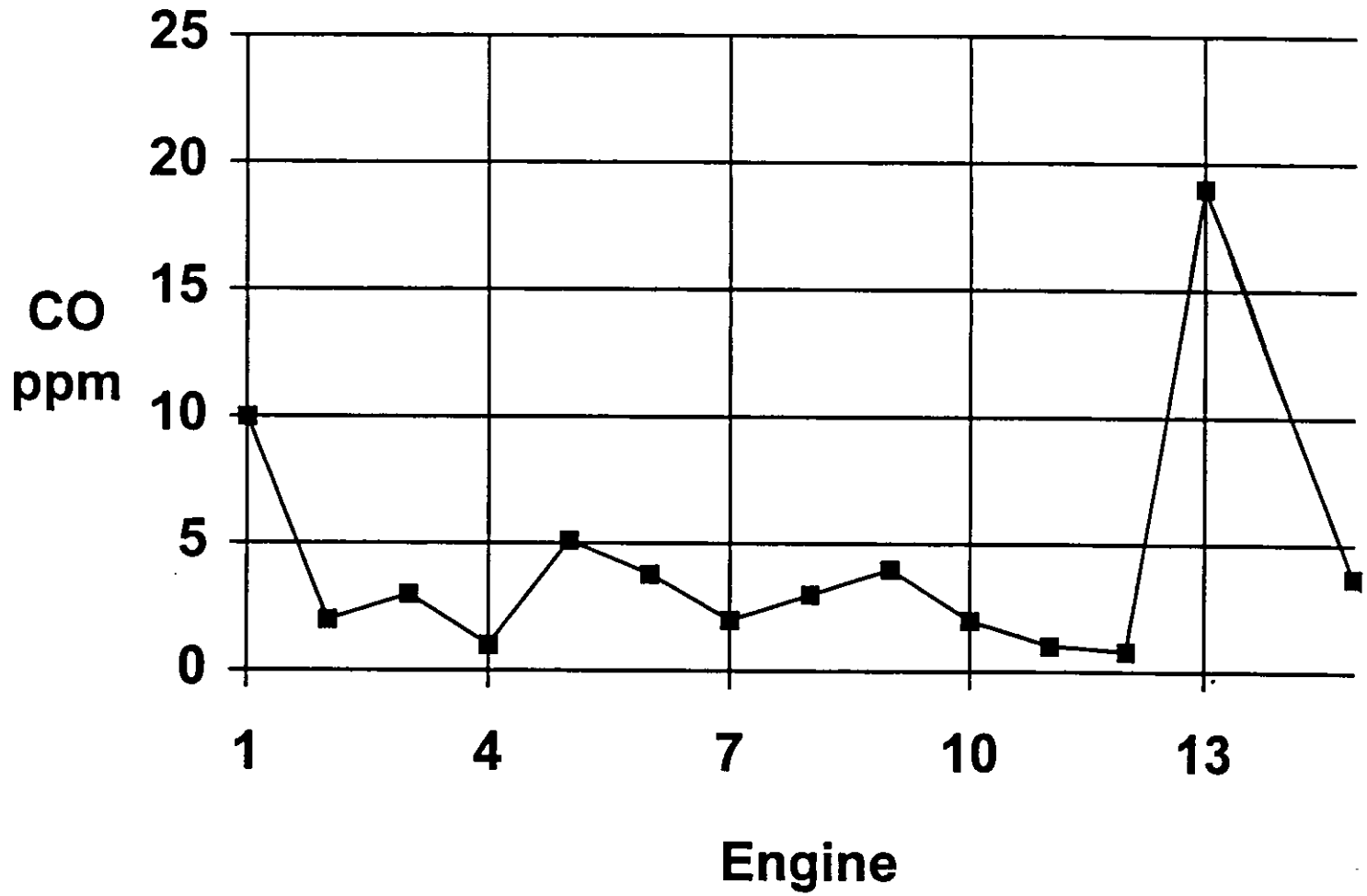
Site	Start up Date	Fired Hours
SPE Gent	1/95	14,000
Orange Cogen #1	3/95	9,100
#2	3/95	9,300
Eindhoven	8/95	7,500
Silkeborg #1	9/95	5,900
#2	9/95	6,100
Porcari #1	7/96	1,500
Porcari #2	7/96	2,000
Enso	9/96	1,500
Windsor	10/96	600
Zebrugge	12/96	100
Lanakan	12/96	100

Total of **57,650** hours of LM6000 DLE operating experience with an estimated average engine availability of greater than 96%

Factory Test Results - NOx



Factory Test Results - CO



Program History

- Basic DLE (premixed) technology developed during 1970s and 1980s
- GE M&I program launched in 1990
- First Commercial Availability - Gas Only Systems

Product	Date	NOx	CO
LM6000	1994	<25 ppm	<25 ppm
LM2500	1995	<25 ppm	<25 ppm
LM1600	1996	<25 ppm	<25 ppm

Key Program Requirements

- Retrofitable design - 2000 M&I engines currently operating
- Dry operation on both gas and oil
  - Many locations around the world where water is scarce
  - High incremental cost for water facilities at simple cycle plants
  - Required for future marine propulsion systems
- Lowest possible emissions over a broad operating range

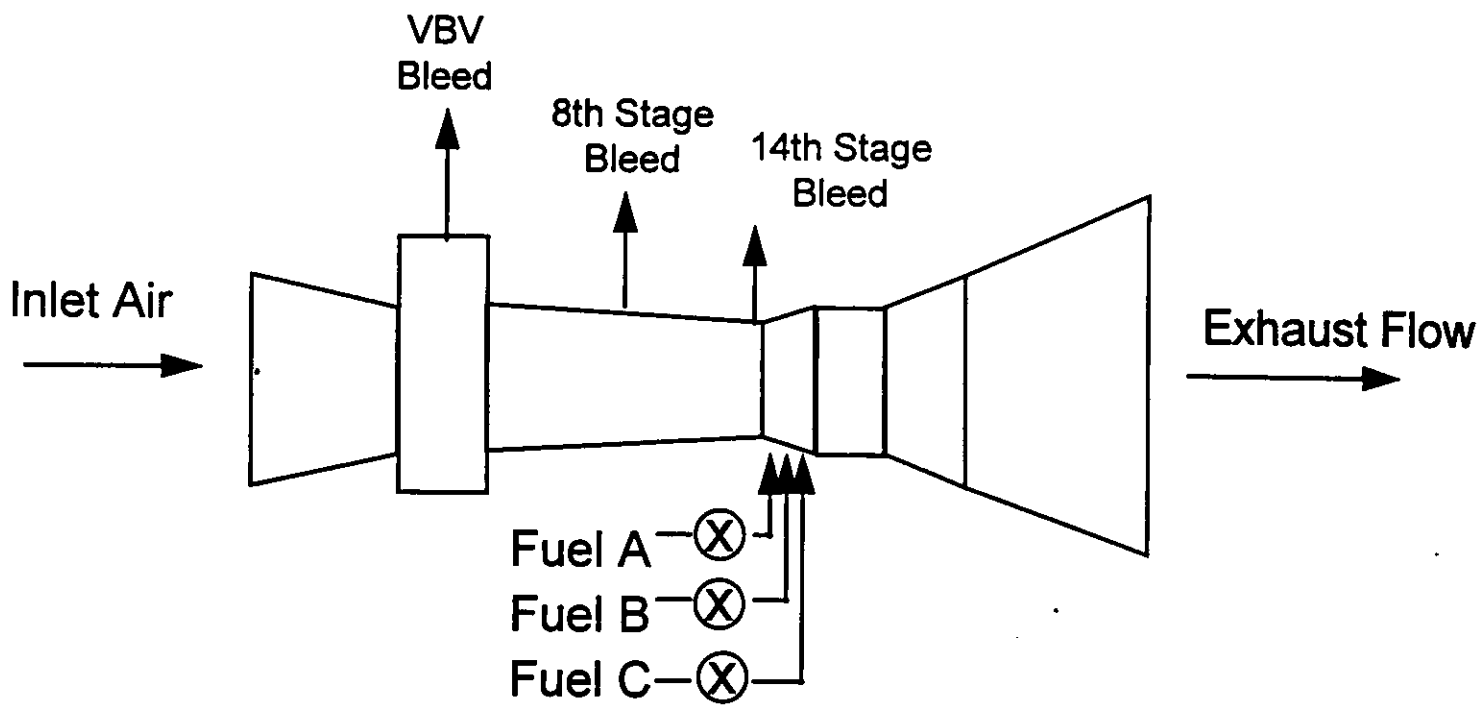
Impact Of Program Requirements On Design

- Retrofitable design
  - Extremely compact combustor - about 12 inches long
- Dry operation on both gas and oil
  - Very short premixer - necessary for flashback/autoignition resistance when operating with oil
- Lowest possible emissions over a broad operating range
  - Premixed operation from start to full power
  - Short annular combustor to minimize liner cooling flow

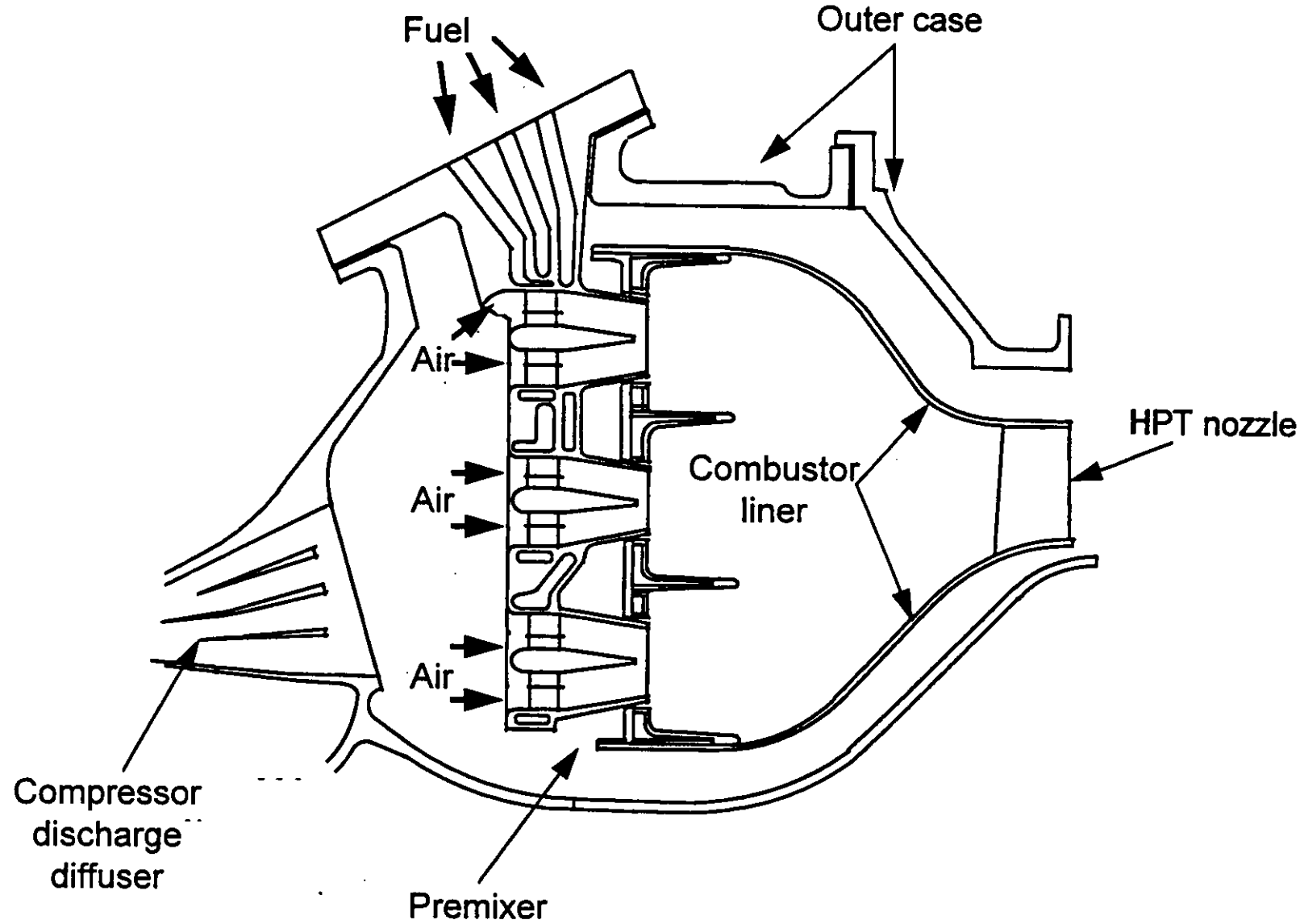
GE M&I Approach to DLE

- Combination of fuel and air staging: Required for premix operation from start to full power

- Triple annular combustor: Compact, minimal cooling air required, and facilitates fuel staging

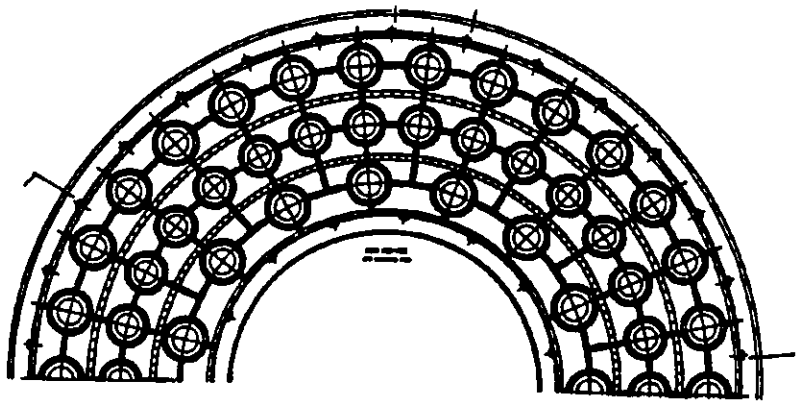


Primary Air and Fuel Flow

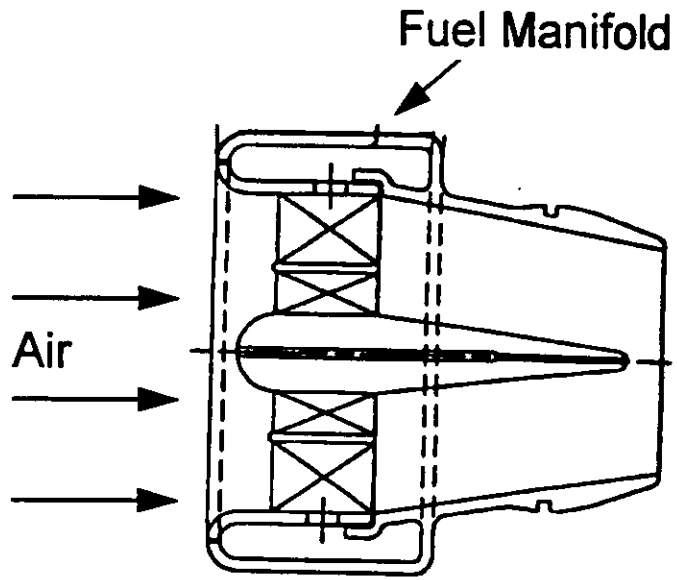


DLE Combustor Details

Dome

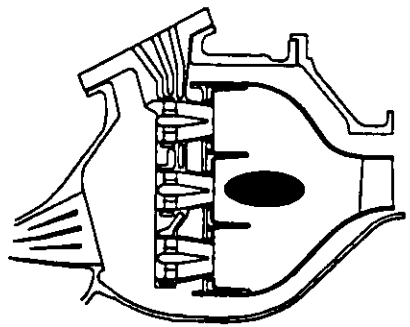


Premixer

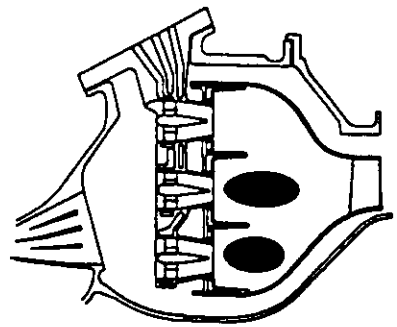


LM6000 DLE Burner Modes

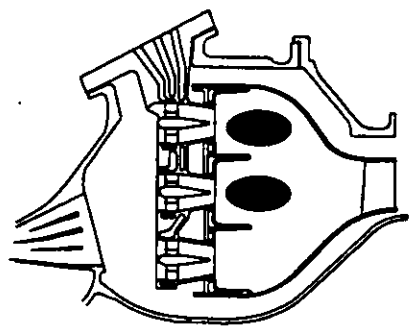
Starting configuration
B reaction zone



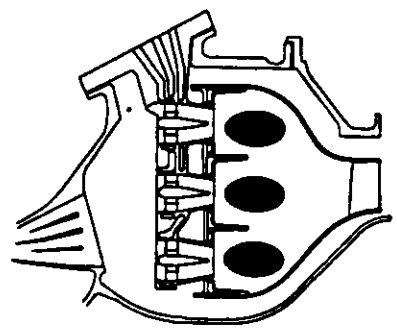
5 - 25% load
BC reaction zone



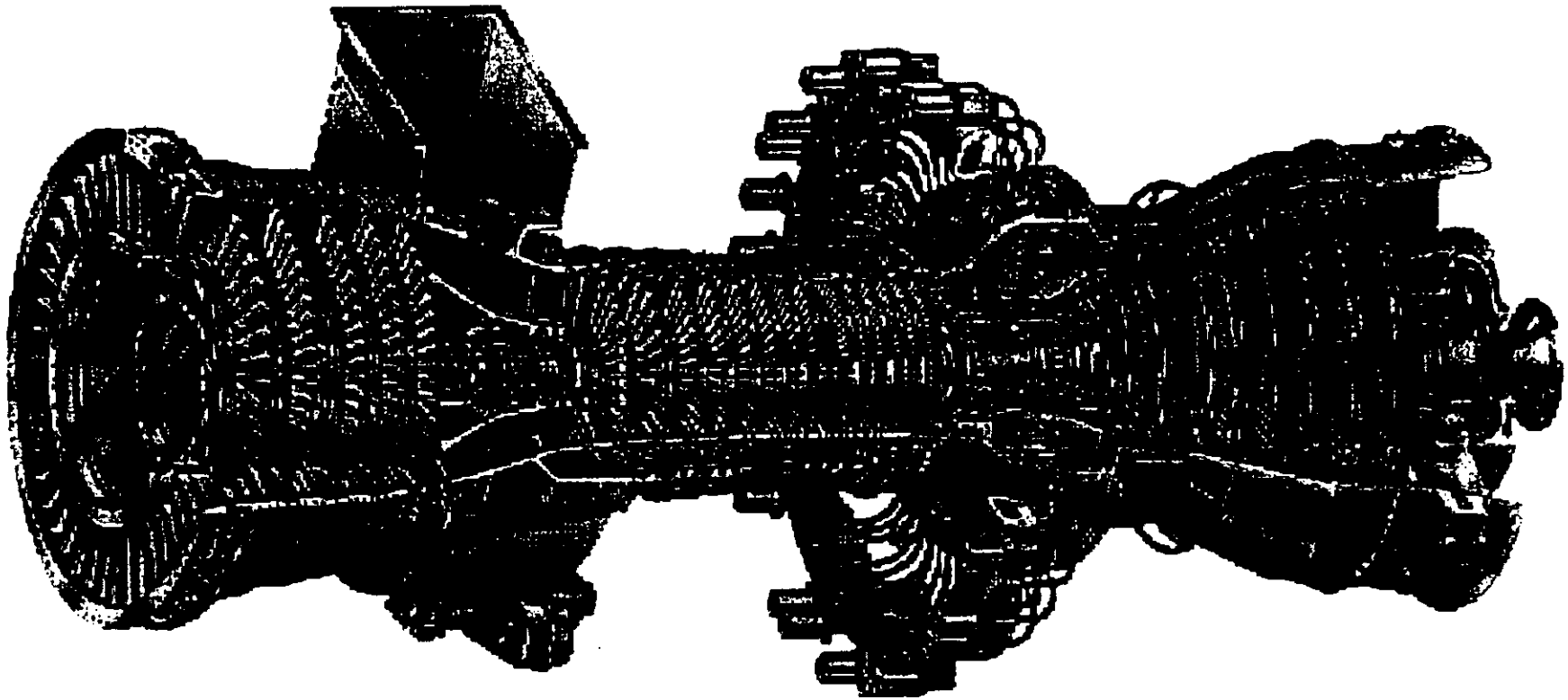
25 - 50% load
AB reaction zone



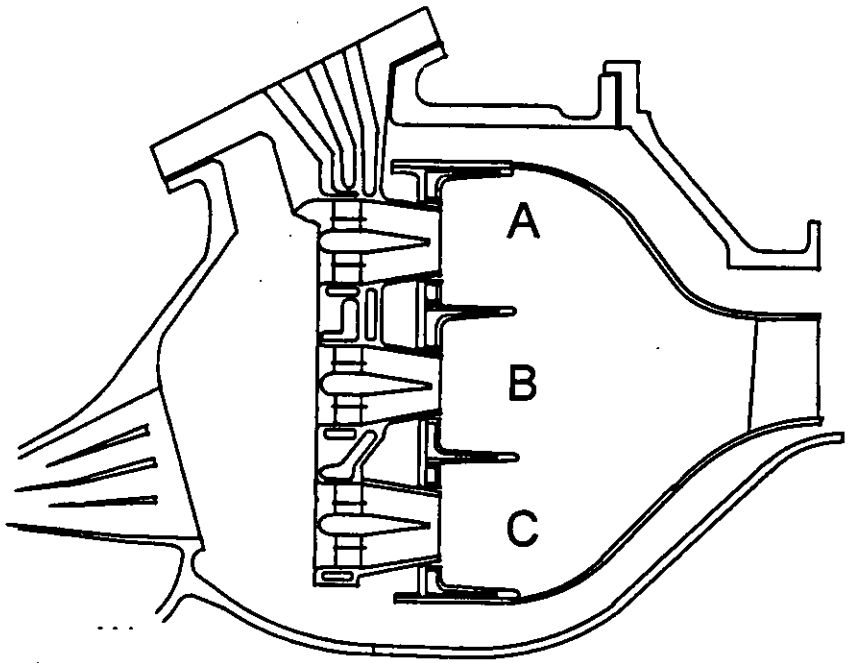
50% to full load
ABC reaction zone

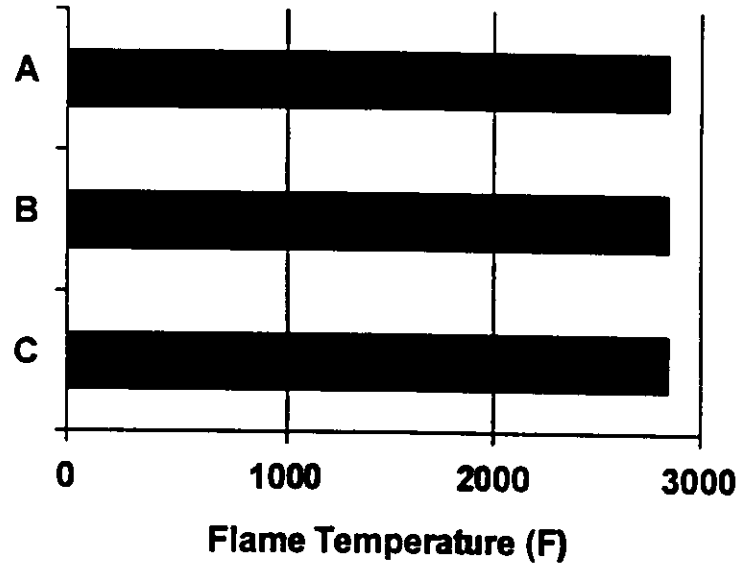


LM6000 DLE Gas Turbine



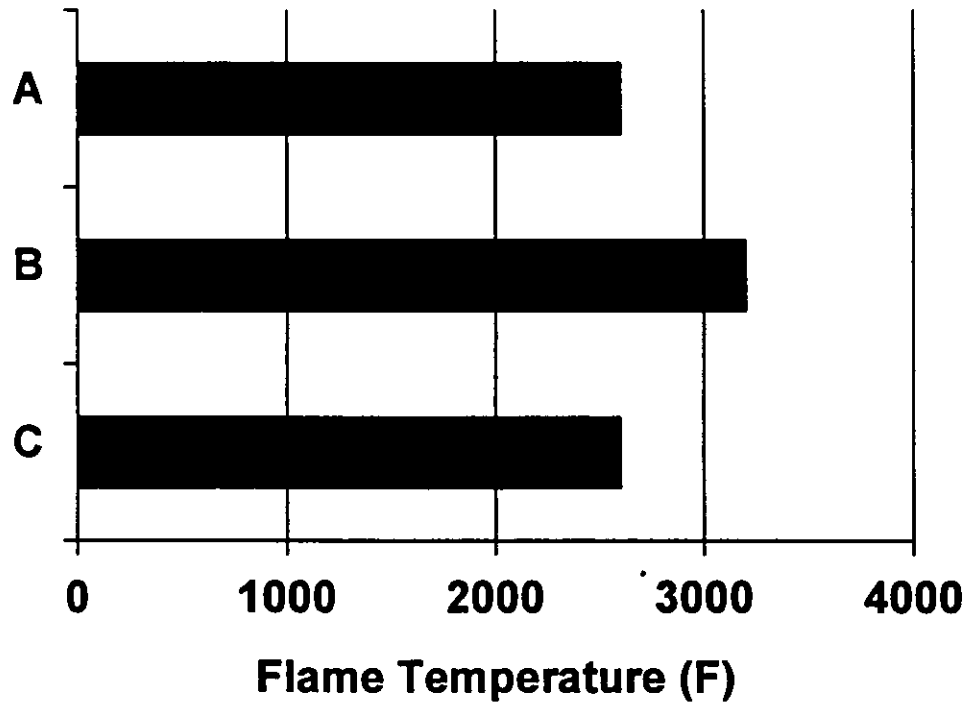
DLE Background - 1993





- With equal ring temperatures we were confident 12 +- 2 ppm Nox was achievable
- First (only) 15 ppm NOx guarantee was made for Orange Cogen / Dec 1997 effectivity

DLE Background - 1994



- First engine test demonstrated that equal ring flame temperature operation was not possible
- Discovered a 2600 F upper limit on A & C ring temperatures
- B dome temperature exceeded 3200 F
- Higher NOx resulted, 16 +- 2 ppm
- Reduce B dome combustor life
- 1994 focus on adding independent ring temperature control, reducing combustion dynamics and improving B ring dome life

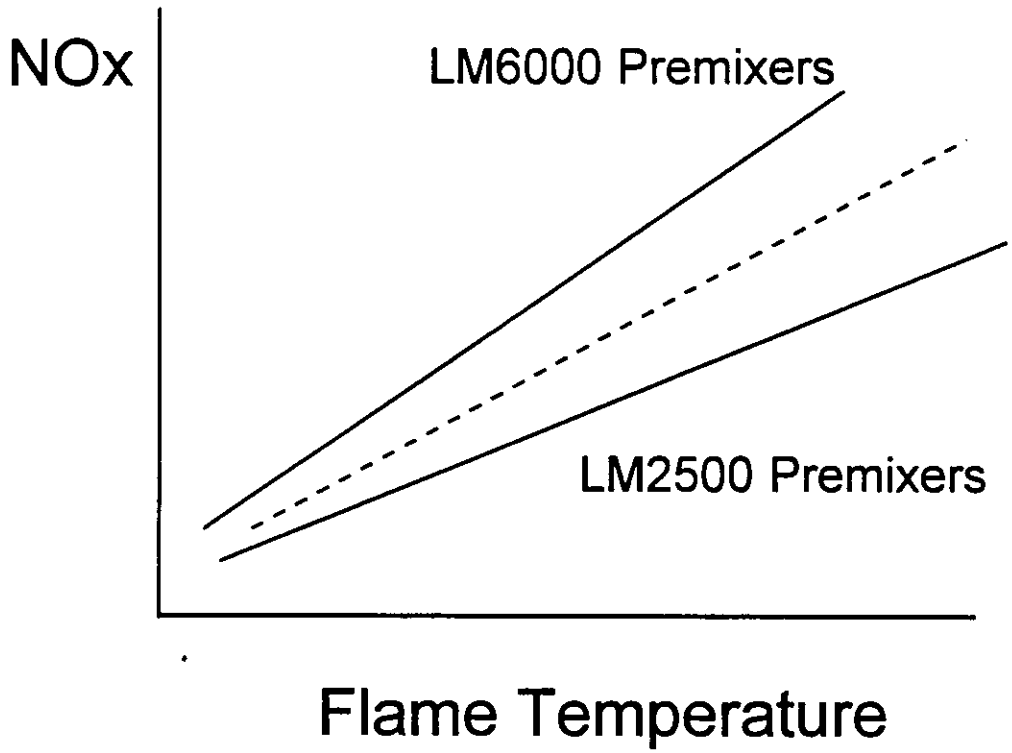
DLE Background - 1994/5

- Increased B ring cooling flow to achieve acceptable cyclic combustor life
  - Increased NOx another 0.5 ppm on average
- Added "B ELBO" circuit to reduce combustion dynamics to acceptable levels at high power
  - Resulted in another 0.5 ppm NOx increase
- Average NOx was about 17 ppm
- Dual fuel DLE program officially launched in 1995

DLE Background - 1996

- Increased A & C ring cooling flow to achieve acceptable combustor oxidation life
  - Increased NOx another 0.5 ppm on average
- Added "A ELBO" circuit to reduce combustion dynamics at low power to acceptable levels
  - Resulted in another 0.5 NOx increase
- Average NOx now about 18 ppm
- Early experience with dual fuel premixer - autoignition / flashback
- Current dual fuel premixer design looks very promising
  - Single cup rig results show <42 ppm NOx possible when operating on oil (assuming equal ring flame temperatures can be sustained)
  - Annular combustor tests show that equal ring temperatures may be possible when operating on oil
  - Premixer is very resistant to autoignition / flashback

DLE Background - 1996 (continued)



- LM6000 premixers where redesigned to approach LM2500 premixer performance
  - Expected a 3 ppm NOx reduction
  - Reduced dome temperatures
- First unit tested at Orange Cogen - results were disappointing - no apparent reduction in NOx.
- Test results are still being analyzed

DLE Plans - 1997

- Second redesign of premixers to be tested at Orange Cogen prior to June

- New premixer design incorporates increased air flow (2%) - B ring temperature should be reduced by several hundred degrees

- Anticipate an average engine NOx level of approximately 15 ppm

- Significantly reduce the complexity of the DLE system
  - 26 staging valves to 11 staging valves
  - 4 fuel metering valves to 3 metering valves

- First dual fuel DLE engine test to be conducted in May/June
  - Expect gas fuel NOx levels to be same as gas only system
  - Expect oil NOx levels of less than 42 ppm

- Will ship first dual fuel DLE system by Dec 31, 1997

1998 Plans & Goals

- Further improvements to the premixer
  - Achieve LM2500 levels of premixer performance
  - Add more air to the premixer (another 1-2%)
- Achieve gas fuel NOx levels consistent with a 15 ppm guarantee
- Achieve oil fuel NOx levels consistent with a 42 ppm guarantee

Current GE M&I DLE NOx Guarantee Policy

(75-100% Power - except where noted)

Fuel System	Engine Delivery	Gas*	Oil*
Gas Only	1/95 - 12/98	25 ppm	N/A
Intro Dual Fuel	12/97 - 6/99	25	65
Dual Fuel	6/99** -	15	42

* Assumes fuel has no fuel bound nitrogen

** Initial 15/42 guarantees limited to high power operation (95%-100%), Inlet air temperature control should be used to achieve low emissions part power operation

Current GE M&I DLE CO, THC, NMHC And Particulate Guarantee Policy (75-100% Power)

CO	25 ppm
THC	15
NMHC	6
Particulates*	3 lbs/hr

* Particulate guarantee has been established at the field proven limit of detectability, the DLE system itself is not expected to produce measureable quantities of particulates

Summary

- The LM6000 achieves its high level of efficiency by a combination of aerodynamically efficient components, high cycle pressure ratio (30) and high firing temperature (2300 F)

- Within the class of high efficiency medium sized gas turbines the LM6000 has the lowest available emission when operating on gas, 25 ppm today : 15 ppm by 12/98

- The LM6000 engine should be the first gas turbine with an all dry dual fuel system to achieve 25/65 ppm NOx levels - 12/97

- The LM6000 engine should be the first gas turbine with an all dry dual fuel system to achieve 15/42 ppm NOx levels - 6/99

- GE is committed to the development DLE systems and will continue to improve these systems to achieve:
  - reduced emissions
  - increased durability & reliability
  - lower life cycle costs

ORANGE COGENERATION

June 6, 1997

Mr. Al Linero, P.E.
Administrator, New Source Review Section
Division of Air Resources Management
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
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Orange Cogeneration Limited Partnership
by Orange Cogeneration GP, Inc.
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Allan Wade Smith
General Manager

enclosures

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GE Marine and
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Charles Blankenship, Jr.
Manager, LM5000/LM6000 Projects

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As we mentioned, work on the program is ongoing. A test of a new premixer design is scheduled to occur before June of this year on an Orange Cogen engine. We expect this premixer to reduce NOx emissions to just below 15ppm, but changes in engine operating characteristics could cause emissions levels just above 15ppm. Design studies are also ongoing at our Evendale plant near Cincinnati. As these studies are complete, additional testing will be scheduled.

We believe the technology to reduce NOx emissions to 15ppm on this product is available and understood. Unfortunately, unforeseen durability problems on this new product have delayed our schedule by nearly a year. GE recommends the Orange Cogen site request a one year extension of the current 25ppm permit. This will give us the time to develop and test changes to reduce NOx emissions to consistent, sustainable levels of less than 15ppm.

Sincerely,

James N. Reinhold, P.E.
Staff Engineer
GE M&I Engine Systems

Richard B. Hook
LM6000 Engineering Leader
GE M&I Engine Systems

Charles P. Blankenship, Jr., Ph.D., P.E.
LM6000 Project Manager
GE M&I

COMMONWEALTH OF VIRGINIA
CHARLES P. BLANKENSHIP, JR.
NO. 26042
PROFESSIONAL ENGINEER

GE Power Systems

Alan P. Johnson, P.E.
Manager - Commercial Programs

General Electric Company
7650 Courtney Campbell Causeway
Suite 900
Tampa, Fl. 33607
(813) 286-4839
E-Mail: Johnsoa2@schrmt2.sch.ge.com

MAY 30 1997

May 28, 1997

Orange Cogeneration GP, Inc.
1125 US Highway 98 South, Suite 100
Lakeland, Fl. 33801

Attn: Mr. Wade Smith
General Manager

Subject: NOx Emissions Reduction Program

Dear Wade:

The subject program for reduction of NOx levels on our LM6000 DLE engines is continuing. The status of that program was described in a letter dated March 11, 1997 from the Project Manager, Mr. Charles Blankenship, Jr. of our Marine & Industrial Engine Group in Cincinnati, Ohio.

As stated in that letter, the program is approximately one year behind schedule. We therefore recommend that you request a one year extension of your currently permitted NOx levels.

Please feel free to call if you have any questions concerning this issue.

Very truly yours,

Alan P. Johnson, P.E.

License No. 31806

LM6000 DLE Program Status

Presented To The
Florida Department Of
Environmental Protection
1/13/97

By
Gary Leonard
LM6000 Product Manager

GE Gas Turbine Businesses

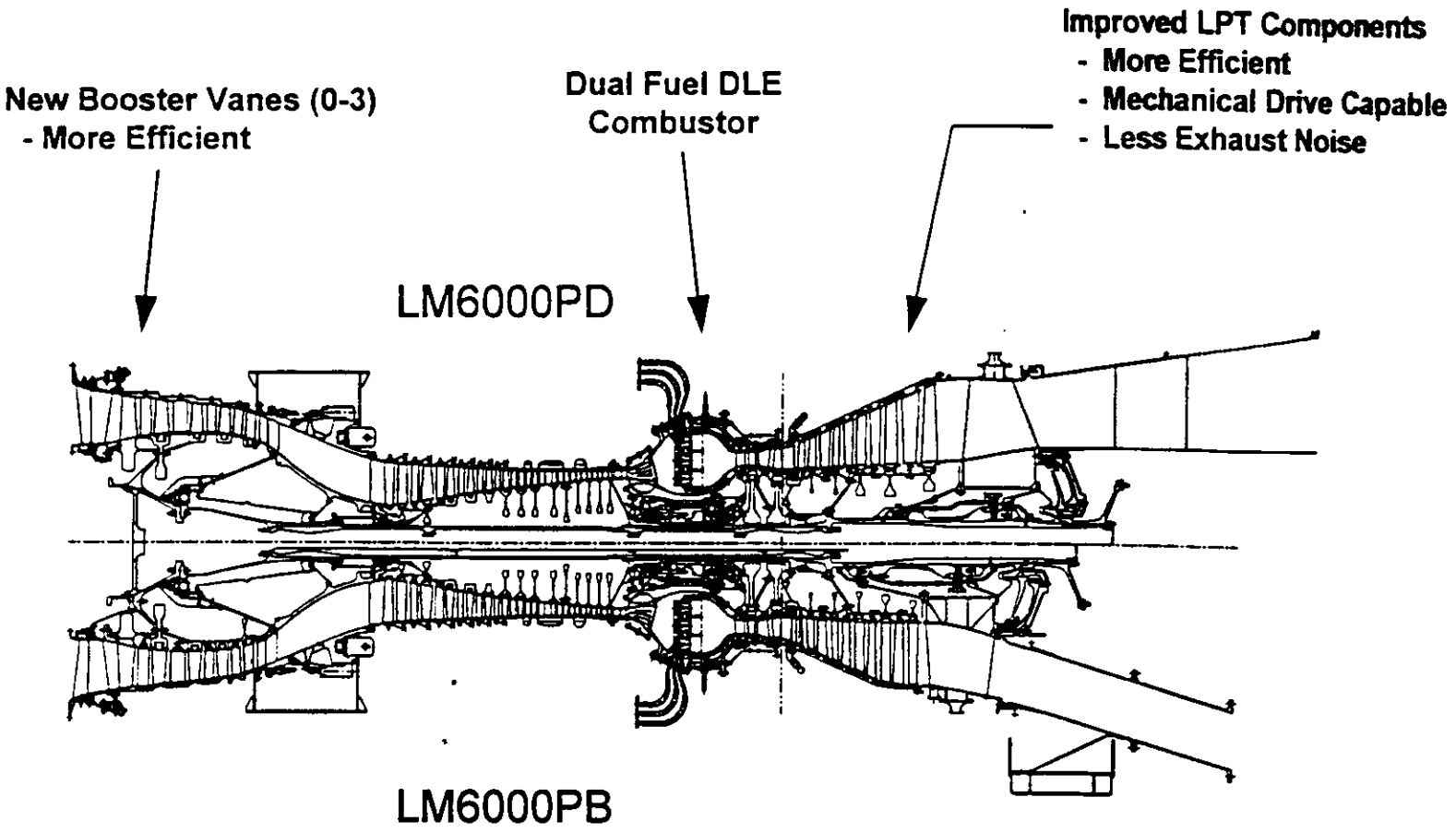
- GE Power Generation - Schenectady, NY
  - Steam Turbines
  - Generators
  - Heavy Frame Gas Turbines (Frame 9, 7, 6, 5, 3)

- GE Aircraft Engines - Cincinnati, OH
  - Aircraft Engines
  - Aeroderivative Gas Turbines (**LM6000**, LM2500, ...)

LM6000 Gas Turbine

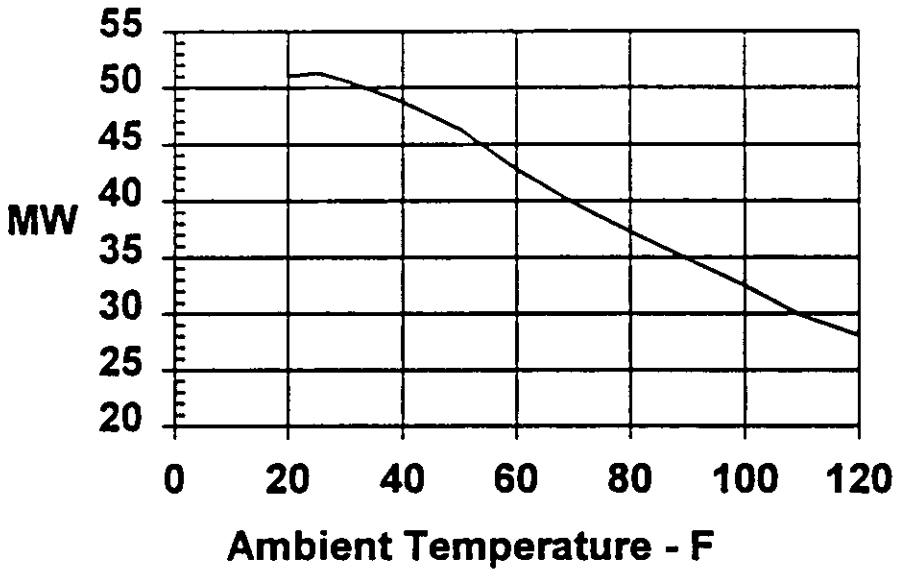
- Engine first entered service in 1992
- Currently 85 engines in operation (12 DLE engines)
- World's most efficient simple cycle gas turbine (>42%)
- World's most efficient combined cycle gas turbine in its size class (>53%)
- LM6000 fleet availability > 97.5%

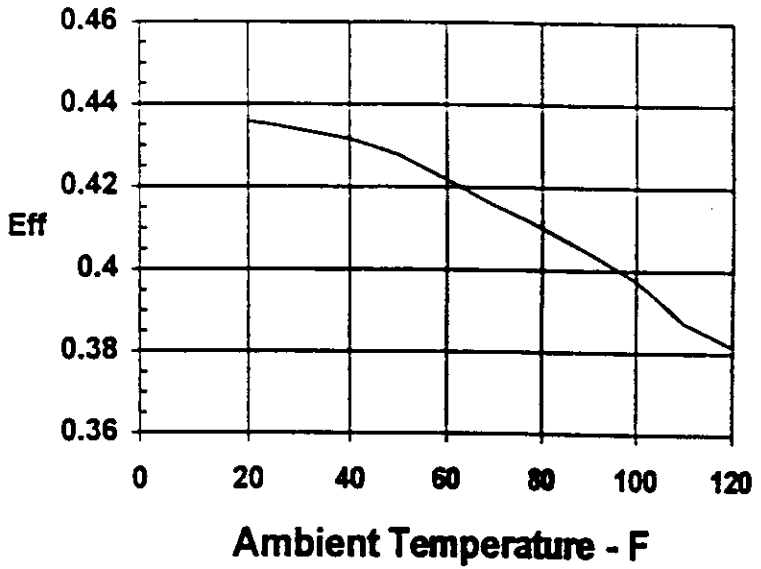
LM6000 Cross Section Comparison



LM6000PD Performance

(Zero inlet & exhaust system losses, natural gas, sea level, 60% RH)





LM6000 DLE Program Status

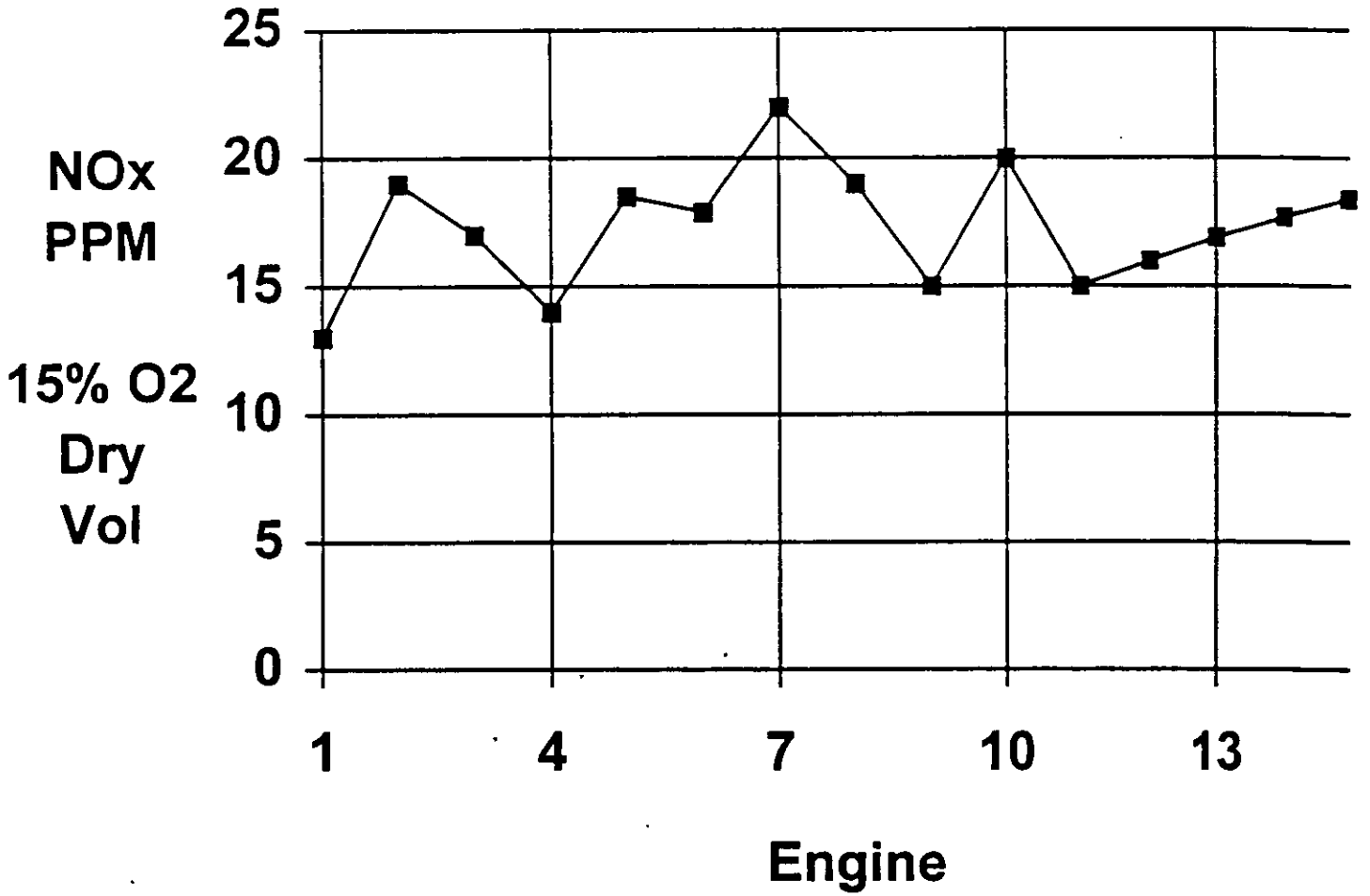
- 19 engine shipped to date
- All met current 25 ppm NOX and CO guarantees
- First DLE system with low emissions from start to full power
- 60,000 hours of experience
- Current development focusing on achieving
  - 15 ppm NOx
  - Dry Dual Fuel DLE

LM6000 Site Operating Hours

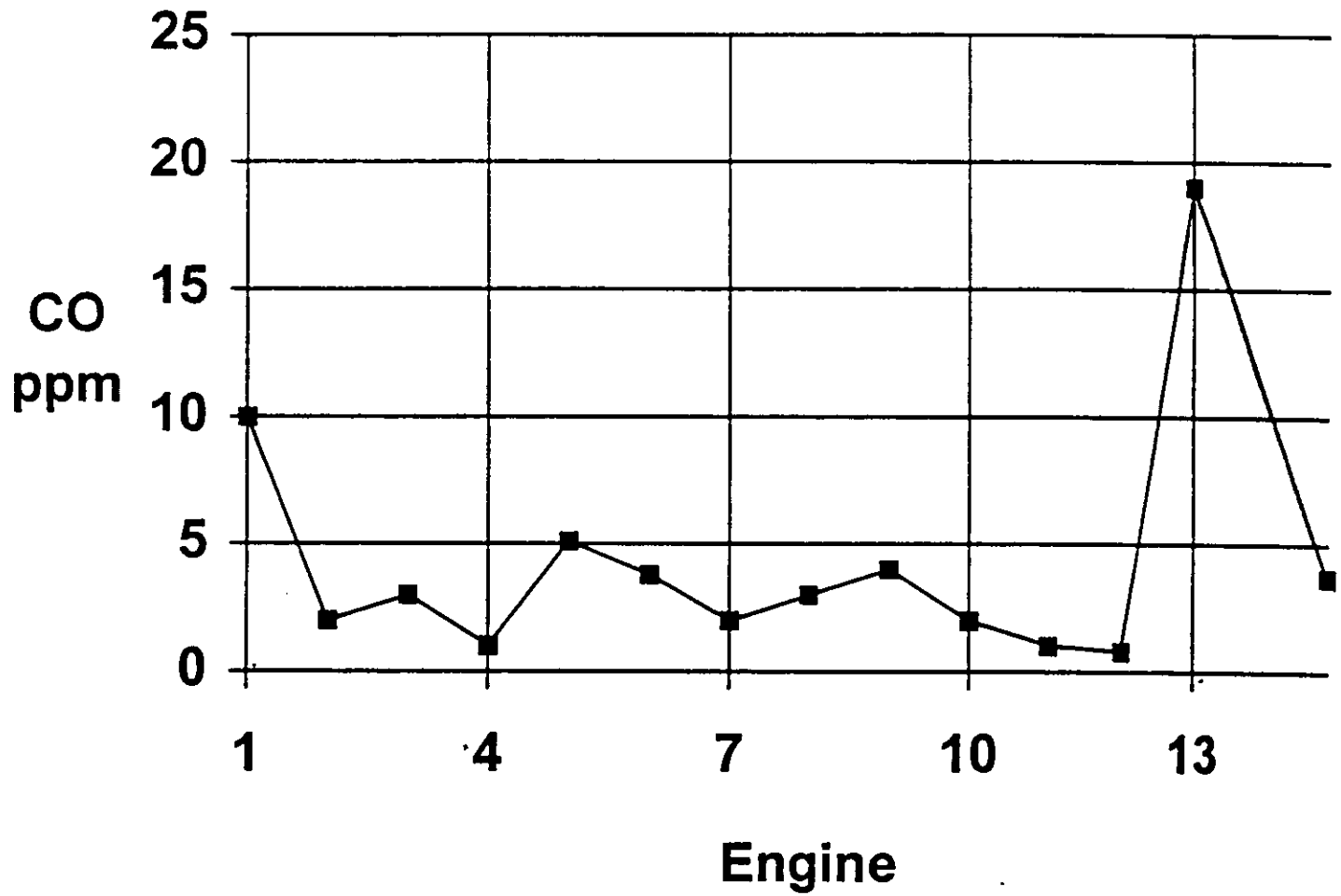
Site	Start up Date	Fired Hours
SPE Gent	1/95	14,000
Orange Cogen #1	3/95	9,100
#2	3/95	9,300
Eindhoven	8/95	7,500
Silkeborg #1	9/95	5,900
#2	9/95	6,100
Porcari #1	7/96	1,500
Porcari #2	7/96	2,000
Enso	9/96	1,500
Windsor	10/96	600
Zebrugge	12/96	100
Lanakan	12/96	100

Total of **57,650** hours of LM6000 DLE operating experience with an estimated average engine availability of greater than 96%

Factory Test Results - NOx



Factory Test Results - CO



Program History

- Basic DLE (premixed) technology developed during 1970s and 1980s
- GE M&I program launched in 1990
- First Commercial Availability - Gas Only Systems

Product	Date	NOx	CO
LM6000	1994	<25 ppm	<25 ppm
LM2500	1995	<25 ppm	<25 ppm
LM1600	1996	<25 ppm	<25 ppm

Key Program Requirements

- Retrofitable design - 2000 M&I engines currently operating
- Dry operation on both gas and oil
  - Many locations around the world where water is scarce
  - High incremental cost for water facilities at simple cycle plants
  - Required for future marine propulsion systems
- Lowest possible emissions over a broad operating range

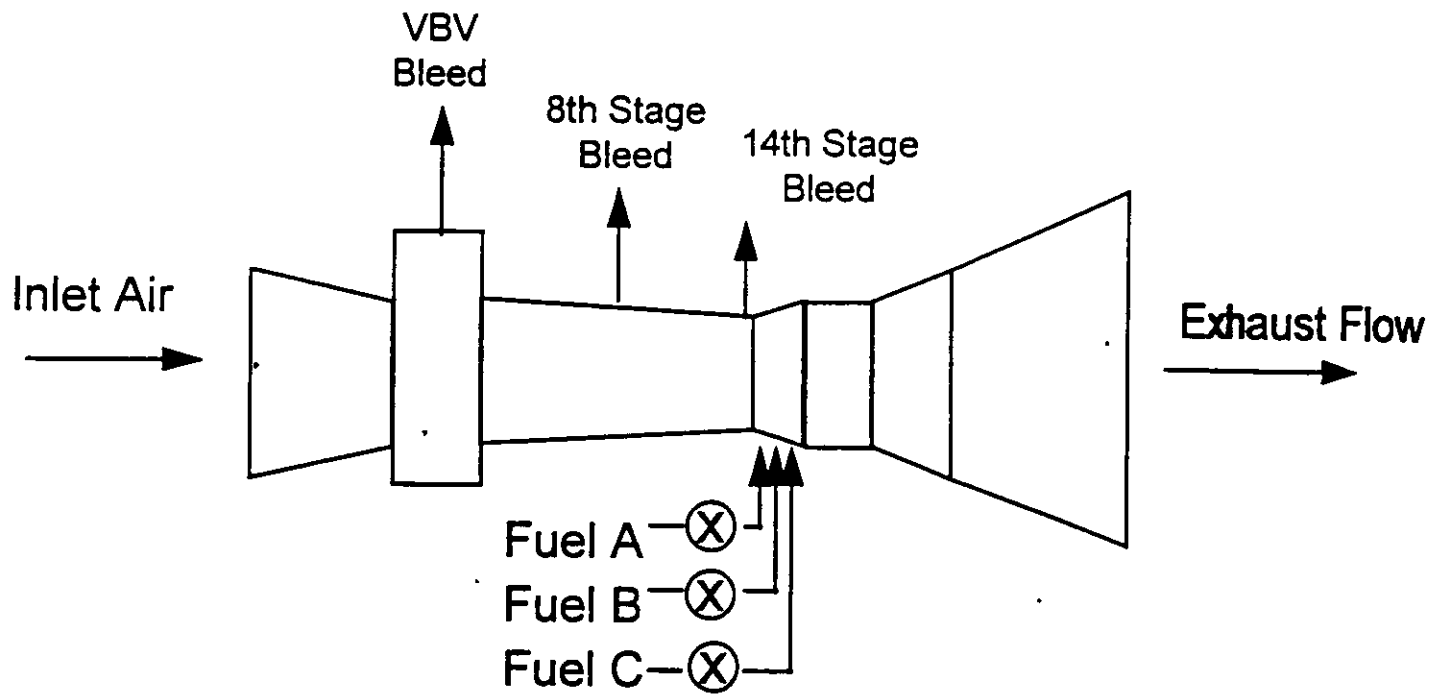
Impact Of Program Requirements On Design

- Retrofitable design
  - Extremely compact combustor - about 12 inches long
- Dry operation on both gas and oil
  - Very short premixer - necessary for flashback/autoignition resistance when operating with oil
- Lowest possible emissions over a broad operating range
  - Premixed operation from start to full power
  - Short annular combustor to minimize liner cooling flow

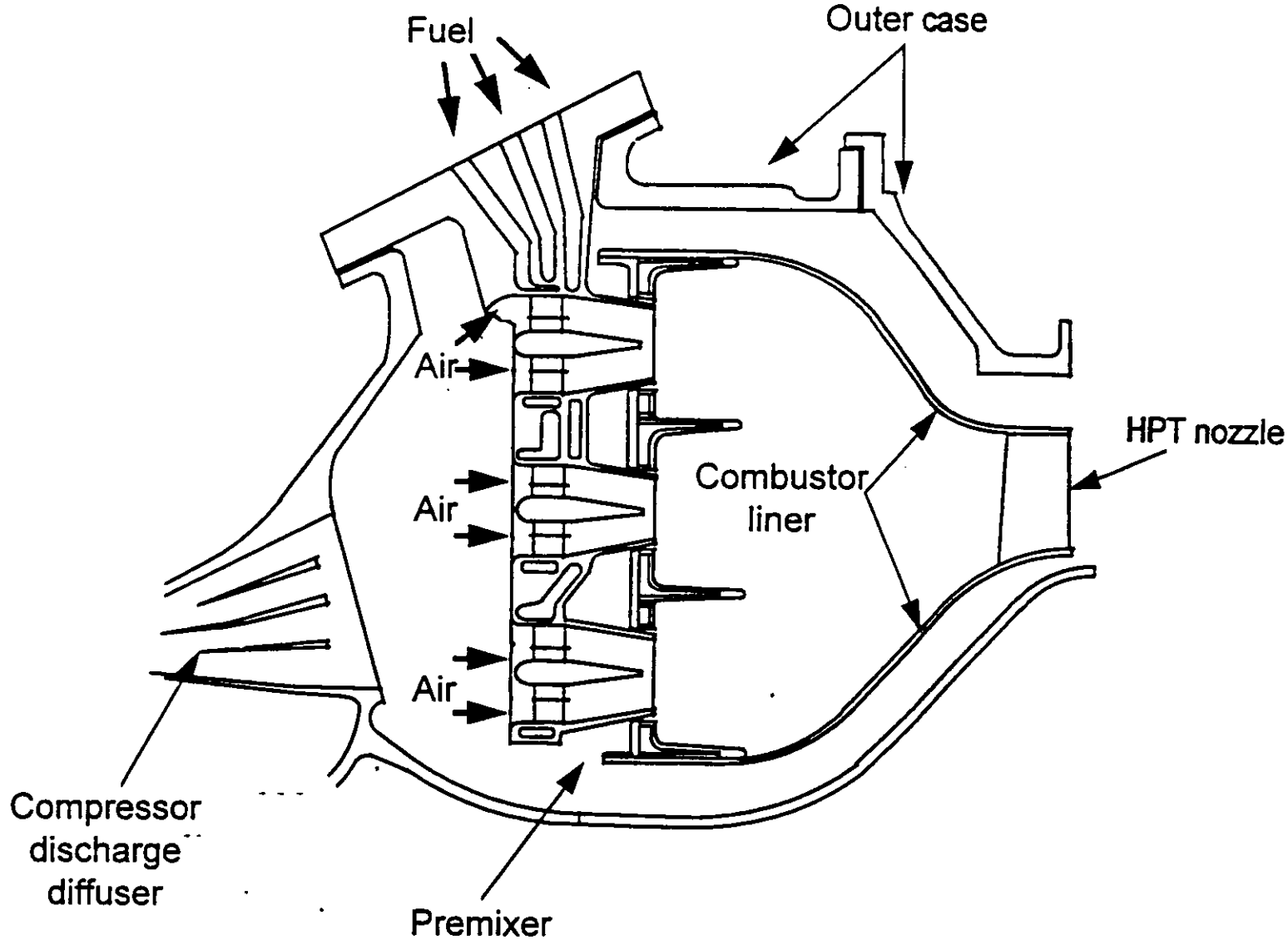
GE M&I Approach to DLE

- Combination of fuel and air staging: Required for premix operation from start to full power

- Triple annular combustor: Compact, minimal cooling air required, and facilitates fuel staging

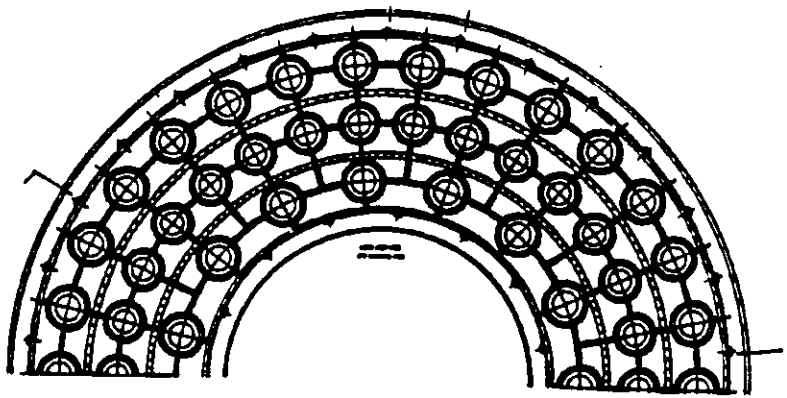


Primary Air and Fuel Flow

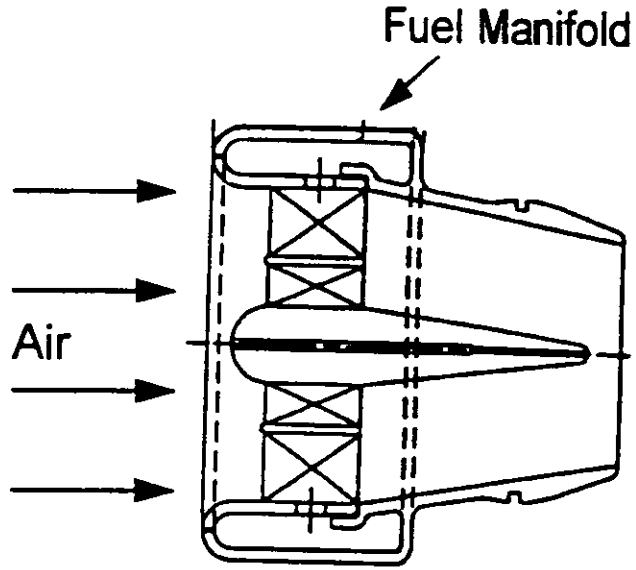


DLE Combustor Details

Dome

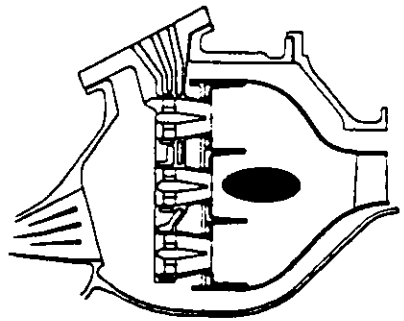


Premixer

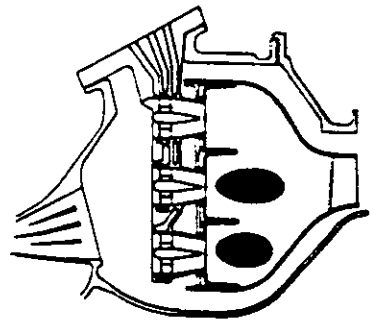


LM6000 DLE Burner Modes

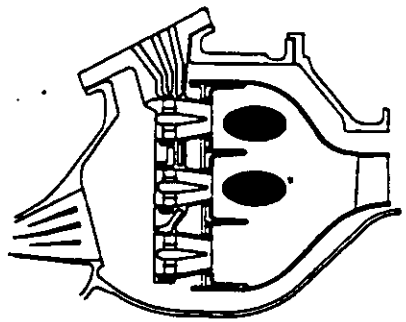
Starting configuration
B reaction zone



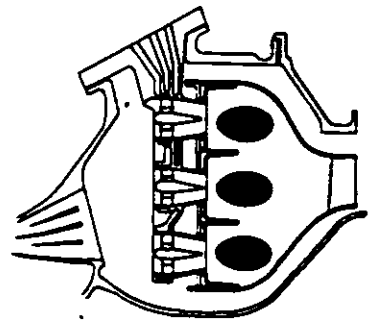
5 - 25% load
BC reaction zone



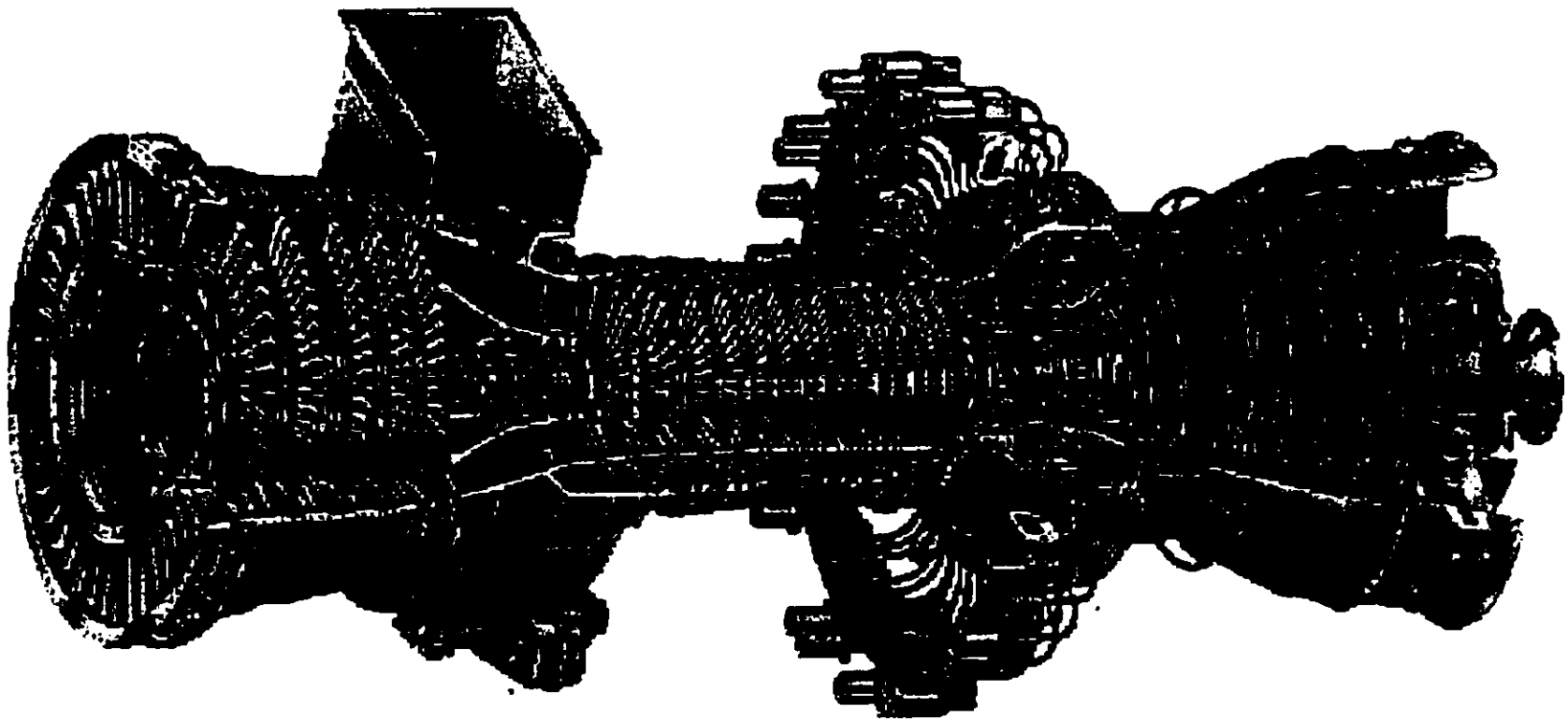
25 - 50% load
AB reaction zone



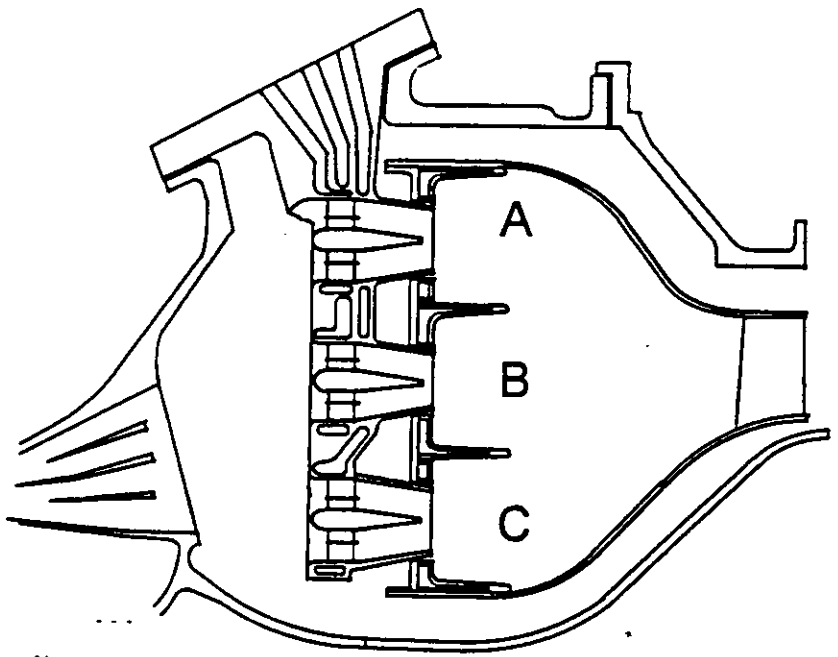
50% to full load
ABC reaction zone

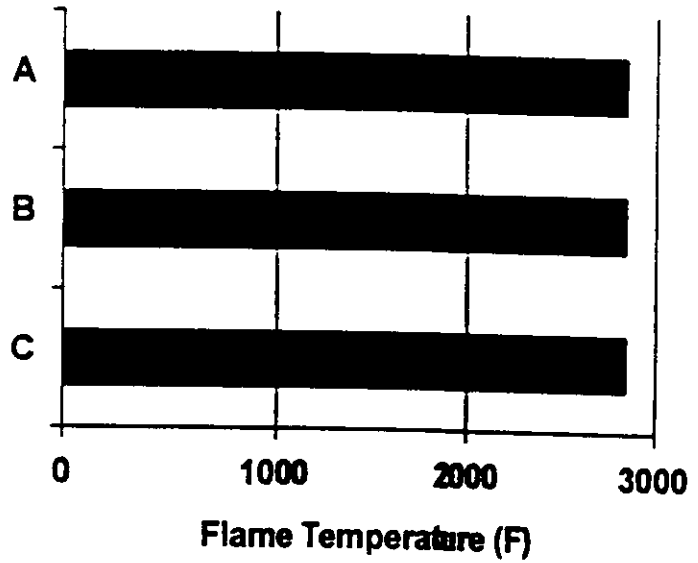


LM6000 DLE Gas Turbine



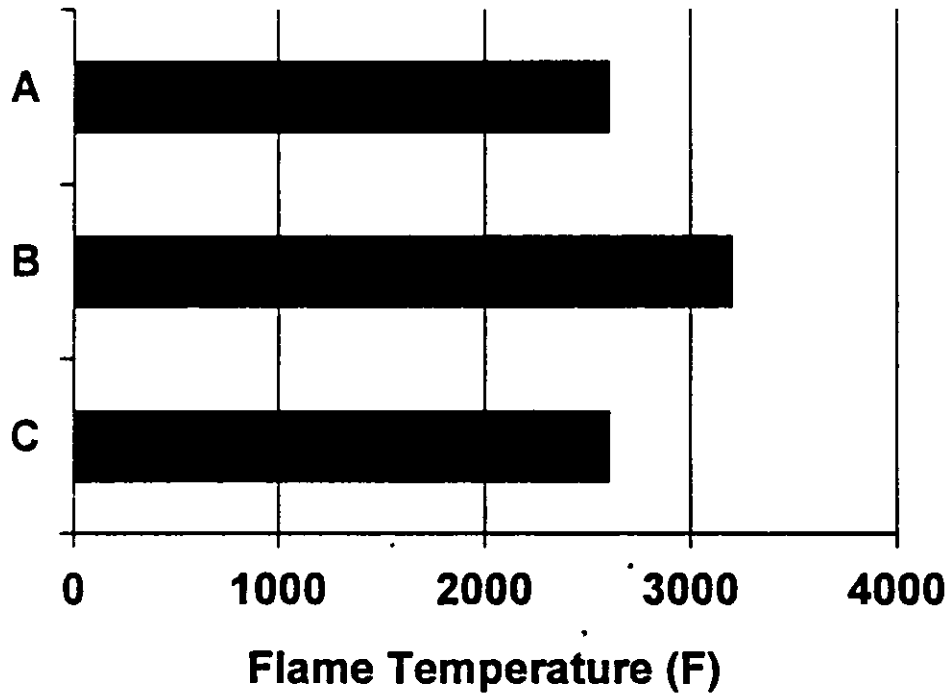
DLE Background - 1993





- With equal ring temperatures we were confident 12 +- 2 ppm Nox was achievable
- First (only) 15 ppm NOx guarantee was made for Orange Cogen / Dec 1997 effectivity

DLE Background - 1994



- First engine test demonstrated that equal ring flame temperature operation was not possible
- Discovered a 2600 F upper limit on A & C ring temperatures
- B dome temperature exceeded 3200 F
- Higher NOx resulted, 16 +- 2 ppm
- Reduce B dome combustor life
- 1994 focus on adding independent ring temperature control, reducing combustion dynamics and improving B ring dome life

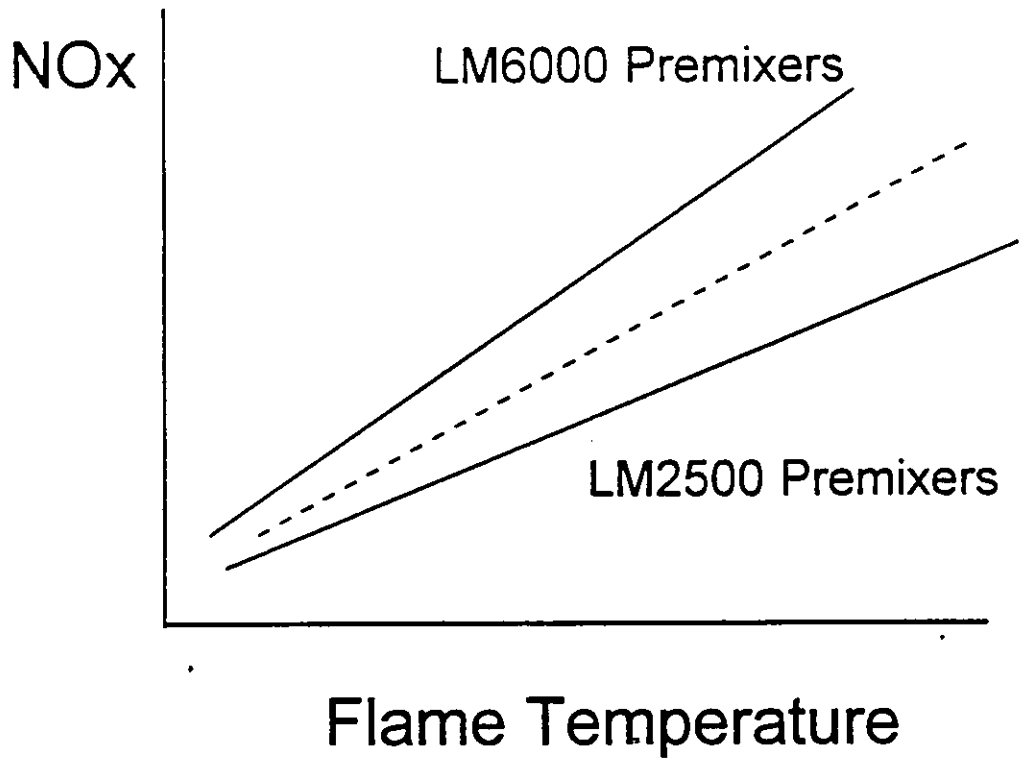
DLE Background - 1994/5

- Increased B ring cooling flow to achieve acceptable cyclic combustor life
  - Increased NOx another 0.5 ppm on average
- Added "B ELBO" circuit to reduce combustion dynamics to acceptable levels at high power
  - Resulted in another 0.5 ppm NOx increase
- Average NOx was about 17 ppm
- Dual fuel DLE program officially launched in 1995

DLE Background - 1996

- Increased A & C ring cooling flow to achieve acceptable combustor oxidation life
  - Increased NOx another 0.5 ppm on average
- Added "A ELBO" circuit to reduce combustion dynamics at low power to acceptable levels
  - Resulted in another 0.5 NOx increase
- Average NOx now about 18 ppm
- Early experience with dual fuel premixer - autoignition / flashback
- Current dual fuel premixer design looks very promising
  - Single cup rig results show <42 ppm NOx possible when operating on oil (assuming equal ring flame temperatures can be sustained)
  - Annular combustor tests show that equal ring temperatures may be possible when operating on oil
  - Premixer is very resistant to autoignition / flashback

DLE Background - 1996 (continued)



- LM6000 premixers where redesigned to approach LM2500 premixer performance
  - Expected a 3 ppm NOx reduction
  - Reduced dome temperatures
- First unit tested at Orange Cogen - results were disappointing - no apparent reduction in NOx.
- Test results are still being analyzed

DLE Plans - 1997

- Second redesign of premixers to be tested at Orange Cogen prior to June

- New premixer design incorporates increased air flow (2%) - B ring temperature should be reduced by several hundred degrees

- Anticipate an average engine NOx level of approximately 15 ppm

- Significantly reduce the complexity of the DLE system
  - 26 staging valves to 11 staging valves
  - 4 fuel metering valves to 3 metering valves

- First dual fuel DLE engine test to be conducted in May/June
  - Expect gas fuel NOx levels to be same as gas only system
  - Expect oil NOx levels of less than 42 ppm

- Will ship first dual fuel DLE system by Dec 31, 1997

1998 Plans & Goals

- Further improvements to the premixer
  - Achieve LM2500 levels of premixer performance
  - Add more air to the premixer (another 1-2%)
- Achieve gas fuel NOx levels consistent with a 15 ppm guarantee
- Achieve oil fuel NOx levels consistent with a 42 ppm guarantee

Current GE M&I DLE NOx Guarantee Policy

(75-100% Power - except where noted)

Fuel System	Engine Delivery	Gas*	Oil*
Gas Only	1/95 - 12/98	25 ppm	N/A
Intro Dual Fuel	12/97 - 6/99	25	65
Dual Fuel	6/99** -	15	42

* Assumes fuel has no fuel bound nitrogen

** Initial 15/42 guarantees limited to high power operation (95%-100%), Inlet air temperature control should be used to achieve low emissions part power operation

Current GE M&I DLE CO, THC, NMHC And Particulate Guarantee Policy (75-100% Power)

CO	25 ppm
THC	15
NMHC	6
Particulates*	3 lbs/hr

* Particulate guarantee has been established at the field proven limit of detectability, the DLE system itself is not expected to produce measureable quantities of particulates

Summary

• The LM6000 achieves its high level of efficiency by a combination of aerodynamically efficient components, high cycle pressure ratio (30) and high firing temperature (2300 F)

• Within the class of high efficiency medium sized gas turbines the LM6000 has the lowest available emission when operating on gas, 25 ppm today : 15 ppm by 12/98

• The LM6000 engine should be the first gas turbine with an all dry dual fuel system to achieve 25/65 ppm NOx levels - 12/97

• The LM6000 engine should be the first gas turbine with an all dry dual fuel system to achieve 15/42 ppm NOx levels - 6/99

• GE is committed to the development DLE systems and will continue to improve these systems to achieve:
  - reduced emissions
  - increased durability & reliability
  - lower life cycle costs

ORANGE COGENERATION, LP

1183

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FL 32399-2400

PERMIT NO. AC53-233851B,PSP-FL-206B
$250.00

1183

ORANGE COGENERATION, LP
1125 US HWY 98 SOUTH, SUITE 100
LAKELAND, FLORIDA 33801
(941) 682-6338

CITRUS & CHEMICAL BANK
LAKELAND, FLORIDA

63-597/631

TWO HUNDRED FIFTY DOLLARS AND NO/100----------

		DATE	AMOUNT
PAY TO THE ORDER OF	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FL 32399-2400	6/6/97	$250.00

AUTHORIZED SIGNATURE

⑈001183⑈ ⑆063105971⑆ 02000252 96⑈

Unit 1 - Orange Cogeneration Facility

Date	Hour	MW	Heat Input klbs/hr	CO ppm	CO lb/hr
07/21/97	0900	11.6	6.9	98	28.3
	1900	22.0	9.7	77	30.5
	2000	29.2	13.0	54	37.2
07/27/97	1000	20.9	10.0	83	33.3
	1900	40.3	16.8	16	13.1
	2000	40.5	16.8	17	13.4
08/13/97	0800	9.9	5.4	94	13.9
	0900	35.6	15.2	32	23.9
	1900	19.1	8.8	72	26.0
08/26/97	0900	10.1	5.7	94	23.9
	1000	37.3	15.9	33	24.7
	1800	30.4	13.7	59	41.4
08/31/97	0900	6.0	3.6	129	14.4
	1000	30.0	13.6	69	47.5
	2200	37.8	16.1	34	26.2
09/01/97	0900	4.9	3.1	119	12.3
	1000	7.2	3.9	91	11.6
	1100	2.2	2.4	213	20.4
	2200	37.7	16.1	34	26.2
09/03/97	0900	4.3	3.0	171	17.9
	1000	30.1	13.5	61	41.6
	2100	39.9	16.8	73	57.5
	2200	35.8	15.5	72	54.2
09/06/97	0900	5.5	3.4	117	12.5
	1000	29.9	13.5	53	36.0
	1100	40.3	16.8	32	25.9
	1800	40.3	16.9	34	27.2
09/12/97	0800	0.3	3.5	197	40.6
	0900	2.2	3.6	234	49.6
	1000	6.1	5.4	266	77.6
	2200	38.0	16.2	31	23.6
09/13/97	0700	0.3	1.7	246	18.3
	0800	0.3	3.8	233	75.3
	0900	0.9	4.2	184	62.0
	1000	3.4	5.1	136	51.5
09/14/97	0700	0.3	1.8	176	14.3
	0800	0.3	2.4	222	22.1
	0900	0.9	4.1	223	74.4
	1000	35.8	15.3	51	37.6
09/23/97	0900	2.9	2.6	176	17.5
	1000	29.5	13.4	74	51.0
	2200	38.2	16.3	32	25.0
09/28/97	0100	0.3	1.8	171	13.5
	0800	3.5	3.4	67	7.6
	0900	27.2	12.6	56	35.7

Unit 1 - Orange Cogeneration Facility

10/03/97	1600	6.3	5.1	102	25.0
	1700	13.4	8.4	72	34.0
	1800	6.6	4.0	88	10.2
10/09/97	0900	9.6	7.0	96	42.9
	1000	31.2	14.1	42	30.5
	2200	35.1	15.3	48	35.9
10/10/97	0900	5.2	3.2	96	9.9
	1000	31.9	14.0	51	36.3
	2200	36.4	15.5	41	31.6
10/21/97	0900	5.9	3.6	72	8.1
	1000	34.1	15.0	39	28.7
	2200	35.0	15.4	68	52.1
10/24/97	0900	3.0	3.2	103	12.7
	1000	28.7	13.1	49	34.0
	2200	38.3	16.3	33	26.0
10/25/97	0900	7.0	5.8	101	42.1
	1000	29.9	13.5	56	40.1
	2200	34.7	15.1	47	34.7
10/27/97	0900	5.3	3.3	73	7.4
	1000	30.5	13.8	43	30.3
	2200	32.0	14.1	51	37.6
10/28/97	0900	3.2	2.9	125	13.8
	1000	23.8	10.8	44	18.5
	2200	32.4	14.2	43	30.8
11/03/97	0600	4.5	3.0	75	8.0
	0800	36.9	15.7	125	96.6
	2100	36.5	15.7	41	31.8
11/18/97	0500	3.0	2.5	69	6.6
	0600	26.3	12.2	41	27.0
	2100	37.2	15.8	37	28.2
12/20/97	0500	5.5	3.3	64	6.7
	0600	20.5	10.5	63	35.9
	0700	5.1	3.5	84	10.4
	0800	22.9	11.0	49	28.8
	0900	7.9	5.1	118	17.9
	1000	23.3	11.2	54	32.0
	1100	23.9	11.3	32	18.8
	1200	8.0	4.2	56	7.3
	1400	17.9	8.1	60	21.7