APPENDICES

APPENDIX A

FORMS

Source ID No. 0550137 C-10933 Larry

Kansas Department of Health and Environment
Bureau of Air and Radiation
Phone (785) 296-1570 Fax (785) 291-3953

Notification of Construction or Modification
(K.A.R. 28-19-300 Construction permits and approvals; applicability)

Check one: X Applying for a Permit under K.A.R. 28-19-300(a) Applying for an Approval under K.A.R. 28-19-300(b)*

1) Source ID Number: TBD

2) Mailing Information:
Company Name: Kansas Municipal Energy Agency
Address: 6300 W. 95th St.
City, State, Zip: Overland Park, KS 66212

RECEIVED
FEB 04 2013
BUREAU OF AIR

3) Source Location:
Street Address: 345 South Jennie Barker Road
City, County, State, Zip: Garden City, Kansas 67846
Section, Township, Range:
Latitude & Longitude Coordinates:

4) NAICSC/SIC Code (Primary): 221112 / 4911

5) Primary Product Produced at the Source: Electric Power

6) Would this modification require a change in the current operating permit for your facility? Yes X No

If no, please explain: New Construction

7) Is a permit fee being submitted? X Yes No

If yes, please include the facility=s federal employee identification number (FEIN #) 48-0879434

8) Person to Contact at the Site: Robert L. Poehling Phone: (913) 660 - 0234

Title: General Manager

9) Person to Contact Concerning Permit: Robert L. Poehling Phone: (913) 660 - 0234

Title: General Manager

Email: poehling@kmea.com Fax: (913) 667-0804

Please read before signing:
Reporting forms provided may not adequately describe some processes. Modify the forms if necessary. Include a written description of the activity being proposed, a description of where the air emissions are generated and exhausted and how they are controlled. A simple diagram showing the proposed activity addressed in this notification which produces air pollutants at the facility (process flow diagrams, plot plan, etc.) with emission points labeled must be submitted with reporting forms. Information that, if made public, would divulge methods or processes entitled to protection as trade secrets may be held confidential. See the reverse side of this page for the procedure to request information be held confidential. A copy of the Kansas Air Quality Statutes and Regulations will be provided upon request.

Name and Title : Robert L Poehling, General Manager
Address: 6300 W. 95th St. Overland Park, KS 66212

Signature: Date: 02/01/13 Phone: (913) 660-0234

March 15, 2006
Revision 6

CALCULATING THE CONSTRUCTION PERMIT APPLICATION FEE

[These requirements are found at K.A.R. 28-19-304(b).]

Calculate the construction permit application fee as follows:

Estimated capital cost of the proposed activity for which the application is made, including the total cost of equipment and services to be capitalized.	**Line 1** $ >8,000,000	
Multiply by .05% (.0005)		x .0005
Total	**Line 2** $ 4,000	

If Line 2 is less than $100, enter $100 on Line 3.
If Line 2 is greater than $4,000, enter $4,000 on Line 3.

Otherwise, copy Line 2 to Line 3.

Construction permit application fee. **Line 3** $ 4,000 Minimum fee is $100

Robert L Poehling
(Print)

Certifier of Capital Cost _____ 02/01/13
(Signature) Date

K.A.R. 28-19-350 is a complex regulation pertaining to prevention of significant deterioration (PSD). An additional fee of $1,500 will be required if a PSD review is necessary. If you believe the proposed activity in this Notification of Construction or Modification will be subject to the requirements of K.A.R. 28-19-350, contact the Department for further evaluation.

For purposes of construction permit or approval applications, the following are not considered modifications:

1. Routine maintenance or parts replacement.
2. An increase or decrease in operating hours or production rates if:
   a. production rate increases do not exceed the originally approved design capacity of the stationary source or emissions unit; and
   b. the increased potential-to-emit resulting from the change in operating hours or production rates do not exceed any emission or operating limitations imposed as a permit condition.

Kansas Department of Health and Environment
Division of Environment
Bureau of Air and Radiation

STATIONARY INTERNAL COMBUSTION ENGINES (EU-001)

1) Source ID Number : TBD__

2) Company/Source Name: Jameson Energy Center

3) Type of Engine: Turbine _X_; Reciprocating _____ ; Other_____

4) Engine Manufacturer : Siemens
   Model No.: SGT-400
   Date of Manufacture: TBD
   Serial No.: TBD

5) Use of Engine: Electric power generation _X_ ; Compressor ___ ; Pump___ ; Other - describe_____
6) Maximum Brake horsepower at continuous rating: _____ BHP
   Normal operating engine speed: _____ RPM
   Rated Brake Horsepower at normal operating RPM: _____ BHP
   or
   Maximum Generator Nameplate Capacity: 12,320 (approx. at site elevation and range of ambient temperature) kW
   Maximum design heat input rate: 132,098,000 (HHV), (approx) BTU/hr

7) Operating schedule: 1,518 MMSCF/yr for all 5 turbines

8) Date of Installation: Fall 2013
   Date of Last modification: _____

TURBINES

9) Type of Gas Turbine: Simple cycle __X____ ; Co-generation _____ ; Regenerative _____ ; Combined cycle_____

10) Fuel data for all the different types of fuel to be used :
    a) Fuel Type Natural Gas ; Sulfur content % by weight 0 ;
       Lower heating value 1002 BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    b) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    c) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon

STATIONARY INTERNAL COMBUSTION ENGINES
(cont.)

11) Heat recovery unit or steam generator unit installed? Yes _____; No X
Supplementary fired ? Yes _____; No X If yes, type of fuel used: _____
Capacity of the burner _____ gals per hr
Fuel heating value _____ BTU per cu ft or gal
Sulfur content of fuel by weight _____ %; Please attach complete supplementary fuel oil/distillate analysis.

12) Emission control system(s) used: Water injection_____ ; Steam injection_____ ;
Selective Catalytic reduction with Water injection _____ ; Selective catalytic reduction _____ ;
Describe Selective Catalytic emission reduction control installed:_____
Manufacturer's name:_____ Model No.: _____

POLLUTANT	MANUFACTURER'S REDUCTION EFFICIENCY %

13) Did construction, modification, or reconstruction commence after October 3, 1977? Yes X No _____
If yes, this facility may be subject to NSPS, 40 CFR 60, Subpart GG. Subject to 40 CFR Subpart KKKK

APPLICABLE TO ALL STATIONARY INTERNAL COMBUSTION ENGINES

19) Enclose available engine manufacturers emissions data. Appendix D

20) For emission control equipment, use the appropriate CONTROL EQUIPMENT form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.

Kansas Department of Health and Environment
Division of Environment
Bureau of Air and Radiation

STATIONARY INTERNAL COMBUSTION ENGINES (EU-002)

1) Source ID Number : TBD__

2) Company/Source Name: Jameson Energy Center

3) Type of Engine: Turbine _X_; Reciprocating _____ ; Other_____

4) Engine Manufacturer : Siemens
   Model No.: SGT-400
   Date of Manufacture: TBD
   Serial No.: TBD

5) Use of Engine: Electric power generation X ; Compressor ___ ; Pump___ ; Other - describe_____
6) Maximum Brake horsepower at continuous rating: _____ BHP
   Normal operating engine speed: _____ RPM
   Rated Brake Horsepower at normal operating RPM: _____ BHP
   or
   Maximum Generator Nameplate Capacity: 12,320 (approx. at site elevation and range of ambient temperature) kW
   Maximum design heat input rate: 132,098,000 (HHV), (approx) BTU/hr

7) Operating schedule: 1,518 MMSCF/yr for all 5 turbines

8) Date of Installation: Fall 2013
   Date of Last modification: _____

TURBINES

9) Type of Gas Turbine: Simple cycle __X____ ; Co-generation _____ ; Regenerative _____ ; Combined cycle_____

10) Fuel data for all the different types of fuel to be used :
    a) Fuel Type Natural Gas ; Sulfur content % by weight 0 ;
       Lower heating value 1002 BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    b) Fuel Type _ _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    c) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon

STATIONARY INTERNAL COMBUSTION ENGINES
(cont.)

11) Heat recovery unit or steam generator unit installed? Yes _____; No X
Supplementary fired ? Yes _____; No X If yes, type of fuel used: _____
Capacity of the burner _____ gals per hr
Fuel heating value _____ BTU per cu ft or gal
Sulfur content of fuel by weight _____ %; Please attach complete supplementary fuel oil/distillate analysis.

12) Emission control system(s) used: Water injection_____ ; Steam injection_____ ;
Selective Catalytic reduction with Water injection _____ ; Selective catalytic reduction _____ ;
Describe Selective Catalytic emission reduction control installed:_____
Manufacturer's name:_____ Model No.: _____

POLLUTANT	MANUFACTURER'S REDUCTION EFFICIENCY %

13) Did construction, modification, or reconstruction commence after October 3, 1977? Yes X No _____
If yes, this facility may be subject to NSPS, 40 CFR 60, Subpart GG. Subject to 40 CFR Subpart KKKK

APPLICABLE TO ALL STATIONARY INTERNAL COMBUSTION ENGINES

19) Enclose available engine manufacturers emissions data. Appendix D

20) For emission control equipment, use the appropriate CONTROL EQUIPMENT form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.

Kansas Department of Health and Environment
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Bureau of Air and Radiation

STATIONARY INTERNAL COMBUSTION ENGINES (EU-003)

1) Source ID Number : TBD__

2) Company/Source Name: Jameson Energy Center

3) Type of Engine: Turbine _X_; Reciprocating _____ ; Other_____

4) Engine Manufacturer : Siemens
   Model No.: SGT-400
   Date of Manufacture: TBD
   Serial No.: TBD

5) Use of Engine: Electric power generation X ; Compressor ___ ; Pump___ ; Other - describe_____
6) Maximum Brake horsepower at continuous rating: _____ BHP
   Normal operating engine speed: _____ RPM
   Rated Brake Horsepower at normal operating RPM: _____ BHP
   or
   Maximum Generator Nameplate Capacity: 12,320 (approx. at site elevation and range of ambient temperature) kW
   Maximum design heat input rate: 132,098,000 (HHV), (approx) BTU/hr

7) Operating schedule: 1,518 MMSCF/yr for all 5 turbines

8) Date of Installation: Fall 2013
   Date of Last modification: _____

TURBINES

9) Type of Gas Turbine: Simple cycle __X____ ; Co-generation _____ ; Regenerative _____ ; Combined cycle_____

10) Fuel data for all the different types of fuel to be used :
    a) Fuel Type Natural Gas ; Sulfur content % by weight 0 ;
       Lower heating value 1002 BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    b) Fuel Type _ _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    c) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon

STATIONARY INTERNAL COMBUSTION ENGINES
(cont.)

11) Heat recovery unit or steam generator unit installed? Yes _____; No X
Supplementary fired ? Yes _____; No X If yes, type of fuel used: _____
Capacity of the burner _____ gals per hr
Fuel heating value _____ BTU per cu ft or gal
Sulfur content of fuel by weight _____ %; Please attach complete supplementary fuel oil/distillate analysis.

12) Emission control system(s) used: Water injection_____ ; Steam injection_____ ;
Selective Catalytic reduction with Water injection _____ ; Selective catalytic reduction _____ ;
Describe Selective Catalytic emission reduction control installed:_____
Manufacturer's name:_____ Model No.: _____

POLLUTANT	MANUFACTURER'S REDUCTION EFFICIENCY %

13) Did construction, modification, or reconstruction commence after October 3, 1977? Yes X No _____
If yes, this facility may be subject to NSPS, 40 CFR 60, Subpart GG. Subject to 40 CFR Subpart KKKK

APPLICABLE TO ALL STATIONARY INTERNAL COMBUSTION ENGINES

19) Enclose available engine manufacturers emissions data. Appendix D

20) For emission control equipment, use the appropriate CONTROL EQUIPMENT form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.

Kansas Department of Health and Environment
Division of Environment
Bureau of Air and Radiation

STATIONARY INTERNAL COMBUSTION ENGINES (EU-004)

1) Source ID Number : TBD

2) Company/Source Name: Jameson Energy Center

3) Type of Engine: Turbine X ; Reciprocating _____ ; Other_____

4) Engine Manufacturer : Siemens
   Model No.: SGT-400
   Date of Manufacture: TBD
   Serial No.: TBD

5) Use of Engine: Electric power generation X ; Compressor ___ ; Pump___ ; Other - describe_____
6) Maximum Brake horsepower at continuous rating: _____ BHP
   Normal operating engine speed: _____ RPM
   Rated Brake Horsepower at normal operating RPM: _____ BHP
   or
   Maximum Generator Nameplate Capacity: 12,320 (approx. at site elevation and range of ambient temperature) kW
   Maximum design heat input rate: 132,098,000 (HHV), (approx) BTU/hr

7) Operating schedule: 1,518 MMSCF/yr for all 5 turbines

8) Date of Installation: Fall 2013
   Date of Last modification: _____

TURBINES

9) Type of Gas Turbine: Simple cycle X ; Co-generation _____ ; Regenerative _____ ; Combined cycle_____

10) Fuel data for all the different types of fuel to be used :
    a) Fuel Type Natural Gas ; Sulfur content % by weight 0 ;
       Lower heating value 1002 BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    b) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    c) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon

STATIONARY INTERNAL COMBUSTION ENGINES
(cont.)

11) Heat recovery unit or steam generator unit installed? Yes _____; No X
Supplementary fired ? Yes _____; No X If yes, type of fuel used: _____
Capacity of the burner _____ gals per hr
Fuel heating value _____ BTU per cu ft or gal
Sulfur content of fuel by weight _____ %; Please attach complete supplementary fuel oil/distillate analysis.

12) Emission control system(s) used: Water injection_____ ; Steam injection_____ ;
Selective Catalytic reduction with Water injection _____ ; Selective catalytic reduction _____ ;
Describe Selective Catalytic emission reduction control installed:_____
Manufacturer's name:_____ Model No.: _____

POLLUTANT	MANUFACTURER'S REDUCTION EFFICIENCY %

13) Did construction, modification, or reconstruction commence after October 3, 1977? Yes X_ No _____
If yes, this facility may be subject to NSPS, 40 CFR 60, Subpart GG. Subject to 40 CFR Subpart KKKK

APPLICABLE TO ALL STATIONARY INTERNAL COMBUSTION ENGINES

19) Enclose available engine manufacturers emissions data. Appendix D

20) For emission control equipment, use the appropriate CONTROL EQUIPMENT form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.

Kansas Department of Health and Environment
Division of Environment
Bureau of Air and Radiation

STATIONARY INTERNAL COMBUSTION ENGINES (EU-005)

1) Source ID Number : TBD__

2) Company/Source Name: Jameson Energy Center

3) Type of Engine: Turbine _X_; Reciprocating _____ ; Other_____

4) Engine Manufacturer : Siemens
   Model No.: SGT-400
   Date of Manufacture: TBD
   Serial No.: TBD

5) Use of Engine: Electric power generation _X_ ; Compressor ___ ; Pump___ ; Other - describe_____

6) Maximum Brake horsepower at continuous rating: _____ BHP
   Normal operating engine speed: _____ RPM
   Rated Brake Horsepower at normal operating RPM: _____ BHP
   or
   Maximum Generator Nameplate Capacity: 12,320 (approx. at site elevation and range of ambient temperature) kW
   Maximum design heat input rate: 132,098,000 (HHV), (approx) BTU/hr

7) Operating schedule: 1,518 MMSCF/yr for all 5 turbines

8) Date of Installation: Fall 2013
   Date of Last modification: _____

TURBINES

9) Type of Gas Turbine: Simple cycle __X____ ; Co-generation _____ ; Regenerative _____ ; Combined cycle_____

10) Fuel data for all the different types of fuel to be used :
    a) Fuel Type Natural Gas ; Sulfur content % by weight 0 ;
       Lower heating value 1002 BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    b) Fuel Type _ _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon
    c) Fuel Type _____ ; Sulfur content % by weight _____ ;
       Lower heating value _____ BTU per cu ft; **or** _____ BTU per lb; **or** _____ BTU per gallon

STATIONARY INTERNAL COMBUSTION ENGINES
(cont.)

11) Heat recovery unit or steam generator unit installed? Yes _____; No X
Supplementary fired ? Yes _____; No X If yes, type of fuel used: _____
Capacity of the burner _____ gals per hr
Fuel heating value _____ BTU per cu ft or gal
Sulfur content of fuel by weight _____ %; Please attach complete supplementary fuel oil/distillate analysis.

12) Emission control system(s) used: Water injection_____ ; Steam injection_____ ;
Selective Catalytic reduction with Water injection _____ ; Selective catalytic reduction _____ ;
Describe Selective Catalytic emission reduction control installed:_____
Manufacturer's name:_____ Model No.: _____

POLLUTANT	MANUFACTURER'S REDUCTION EFFICIENCY %

13) Did construction, modification, or reconstruction commence after October 3, 1977? Yes X No _____
If yes, this facility may be subject to NSPS, 40 CFR 60, Subpart GG. Subject to 40 CFR Subpart KKKK

APPLICABLE TO ALL STATIONARY INTERNAL COMBUSTION ENGINES

19) Enclose available engine manufacturers emissions data. Appendix D

20) For emission control equipment, use the appropriate CONTROL EQUIPMENT form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.

Kansas Department of Health and Environment
Division of Environment
Bureau of Air and Radiation

STATIONARY INTERNAL COMBUSTION ENGINES (EU-006)

1) Source ID Number : TBD

2) Company/Source Name: Jameson Energy Center

3) Type of Engine: Turbine __; Reciprocating X ; Other_____

4) Engine Manufacturer : Caterpillar or equivalent
   Model No.: CAT® C15 ATAAC Diesel Engine
   Date of Manufacture: TBD
   Serial No.: TBD

5) Use of Engine: Electric power generation _ ; Compressor ___ ; Pump_X_ ; Other – describe black start
6) Maximum Brake horsepower at continuous rating: 762 BHP
   Normal operating engine speed: 1,800 RPM
   Rated Brake Horsepower at normal operating RPM: 762 BHP
   or
   Maximum Generator Nameplate Capacity: ____kW
   Maximum design heat input rate: ___ BTU/hr

7) Operating schedule: 500 hrs per year

8) Date of Installation: Fall 2013
   Date of Last modification: _____

STATIONARY INTERNAL COMBUSTION ENGINES
(cont.)

RECIPROCATING ENGINES

14) Engine design details:

Number of cylinders 6

Aspiration: Normal _____ ; Turbo charged_X

Ignition: Spark _____ ; Compression _X

Design class 2 cycle lean burn _____ ; 4 cycle lean burn_X_; 4 cycle rich burn _____

15) 2 or 4 cycle lean burn with combustion modification, increased air/fuel ratio and intercooling ?

Yes _____; No__X___

If yes, attach the guaranteed performance of the conversion supplier **or** the actual monitored performance, and the engine operating conditions for the guarantee of performance.

16) Type of integral emission control: Selective Catalytic Reduction _____ ;

Non Selective Catalytic Reduction _____ ; Combustion Reduction _____(Describe)___DLE_____; None X

17) Fuel(s): Gasoline _____ ; Diesel X_; Natural Gas _____ ; Dual fuel _____

18) Fuel Heating Value: Gasoline _____ BTU per gal; Diesel 138,000 BTU per gal;

Natural Gas _____ BTU per cu ft ; Dual fuel mix _ ____ % diesel _____ % natural gas

Sulfur content of diesel by weight 0.0015 %

APPLICABLE TO ALL STATIONARY INTERNAL COMBUSTION ENGINES

19) Enclose available engine manufacturers emissions data. Appendix E

20) For emission control equipment, use the appropriate CONTROL EQUIPMENT form and duplicate as needed. Be sure to indicate the emission unit that the control equipment is affecting.

APPENDIX B

EMISSIONS CALCULATIONS

Blackstart Engine (EU-006)			
Size	500	kW	
Size	762	bhp	
Fuel	Diesel		
Ignition Type	CI		
Hours of Operation	500	Hour/year	
Fuel	36.6	gal/hr	
Diesel Heating Value	0.138	MMBtu/gal	GHG Rule
Diesel Density	6.943	lb/gal	
Sulfur Content	15	ppm	

Diesel Combustion GHG Emissions

Emission Factor Source	CO_2 EF	N_2O EF	CH_4 EF	CO_2e EF	Units
GHG Reporting Rule	163	1.3E-03	6.6E-03	165	lb/MMBtu

Maximum Potential to Emit of Engine

Pollutant	EF	Units	Source	TPY
NOx	5.74	g/hp-hr	Vendor	2.41
CO	0.4	g/hp-hr	Vendor	0.17
SO2	0.00075	lb/MMBtu	Fuel	0.00
VOC	0.01	g/hp-hr	Vendor	0.00
PM	0.018	g/hp-hr	Vendor	0.01
CO2e	165	lb/MMBtu	GHG	209

CTGs (EU-001 through EU-005)

Natural Gas Combustion GHG Emissions

Emission Factor Source	CO_2 EF	N_2O EF	CH_4 EF	CO_2e EF	Units
GHG Reporting Rule	117	2.4E-02	3.5E-03	118.49	lb/MMBtu

Natural Gas Heating Value

Design Basis	HHV	Units
Heating Value of Natural Gas	1,110	BTU/SCF

Turbine Fuel Burned Limit	
MMSCF/Yr limit of Avoid PSD	**1,518**

Maximum Potential to Emit of Turbines

Pollutant	EF	Units	Source	TPY
NOx	0.06623	lb/MMBtu	Vendor	55.8
CO	0.02688	lb/MMBtu	Vendor	22.6
SO2	0.0006	lb/MMBtu	Acid Rain	0.51
VOC	0.021	lb/MMBtu	Vendor	17.78
PM	0.007	lb/MMBtu	AP42	5.56
CO2e	118.492	lb/MMBtu	GHG	99,791

Maximum Potential to Emit of Facility

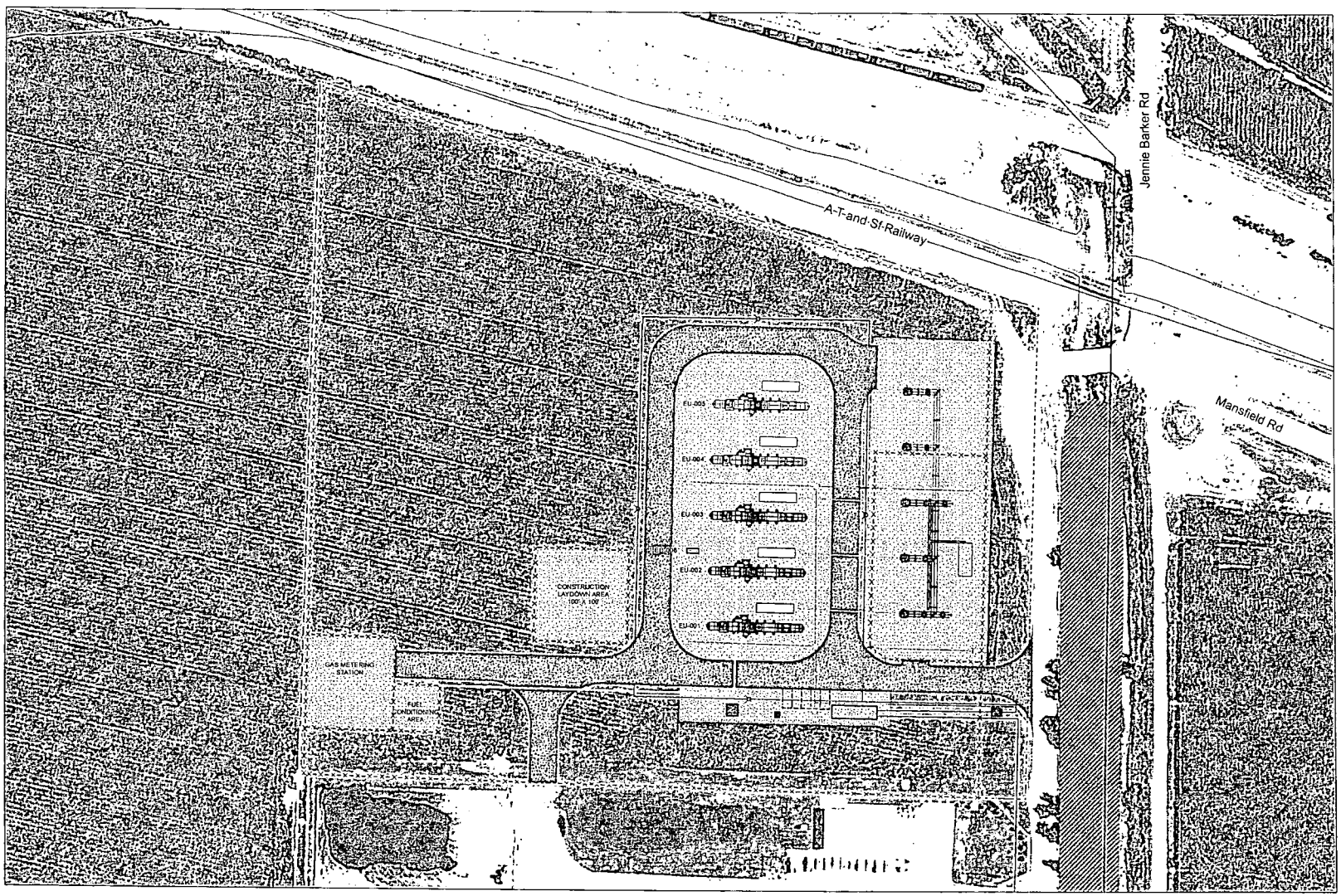
Pollutant	TPY
NOx	58.2
CO	22.8
SO2	0.5
VOC	17.8
PM	5.6
CO2e*	100,000

*Note: This includes emissions of CO2, N2O, and CH4 from the combustion of natural gas by the CTGs and diesel fuel oil from the black start engine.

APPENDIX C

SITE DRAWING

1590050 C-10935



SITE LAYOUT PLAN

N

50 25 0 50 100 150 200

Feet

Location of Stacks

Label	Latitude	Longitude
EU-001	640473.51	1789706.99
EU-002	640475.12	1789766.38
EU-003	640476.85	1789825.32
EU-004	640477.54	1789882.27
EU-005	640480.19	1789948.34
EU-006	640410.34	1789790.71

Coordinate System: NAD 83 State Plane Kansas South FIPS 1502 Feet

SEGA
ENGINEERING & TECHNICAL SERVICES
16041 Foster
P.O. Box 1000
Overland Park, Kansas 66085-1000
(913) 681-2881
www.segainc.com

Legend

- Black Start Diesel Generator
- **Substation Equipment**
  - Proposed
  - Future
- **SGT 400 and LER**
  - Proposed
  - Future
  - Security Lights
  - Underground Electrical
  - LER Electrical Duct Bank
  - Fire Hydrants
  - Water Line
- Auxiliary Transformer
- Water Meter Vault
- Compressed Air Skid
- Gas Line
- Sanitary Waste Water
- Property Line
- Fence
- Control Building (14' x 48')
- Parking (5 stalls)
- Crushed Rock Pavement (12")
- Crushed Rock Pavement (6")
- Stream / River
- Wetlands
- Railroads (Local)

REV.	DATE	DESCRIPTION	DWN	CHK
C	1/25/13	ISSUED FOR AIR PERMIT	JAC	MJB
B	1/10/13	ISSUED FOR AIR PERMIT	JAC	MJB
A	11/02/12	ISSUED FOR PROPOSAL	JAC	MJB

KMEA KANSAS MUNICIPAL ENERGY AGENCY

JAMESON ENERGY CENTER
SITE LAYOUT PLAN

DESIGN BY:	CHECKED BY: M. BLAKE
DRAWN BY: J. CLAUSSEN	DATE: 1-25-13
CLIENT I.D.	SEGA PROJECT NO. 12-0246

FILE NAME: WastewaterPlant_24_36.mxd

DRAWING NO.	REV
C100	C

APPENDIX D

TURBINE VENDOR

Siemens Industrial Turbomachinery
SGT-400
12.9MWe Large PT Nozzle Deck Versio 2.4 Issue Date: 21-Jan-08
SEGA
USA
TN0452
Rating Method: BOOK RATING (Fixed Heat Input)

CASE Number:	1	2	3	4	5	6	7	8	9	10	11	12
Control Power By	speed	speed	speed	speed	speed	speed	speed	speed	speed	speed	speed	speed
Ambient Temp (F)	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**	**110**
Inlet Temp (F)	0	10	20	30	40	50	60	70	80	90	100	110
Altitude (ft)	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**	**2827**
Ambient Press (psi)	13.25	13.25	13.25	13.25	13.25	13.25	13.25	13.25	13.25	13.25	13.25	13.25
Humidity (%)	60	60	60	60	60	60	60	55	50	45	21.5	21.5
Power (%)	100	100	100	100	100	100	100	100	100	100	100	100
Inlet Loss (inH2O)	4	4	4	4	4	4	4	4	4	4	4	4
Exhaust Loss (inH2O)	3	3	3	3	3	3	3	3	3	3	3	3
Gearbox Efficiency (%)	99	99	99	99	99	99	99	99	99	99	99	99
Generator Efficiency (%)	97	97	97	97	97	97	97	97	97	97	97	97
Water/Fuel	0	0	0	0	0	0	0	0	0	0	0	0
Steam/Fuel	0	0	0	0	0	0	0	0	0	0	0	0
Combustor Type	ULE	ULE	ULE	ULE	ULE	ULE	ULE	ULE	ULE	ULE	ULE	ULE
Fuel Type	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas
Fuel File	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**	**sega_c.fug**
PT Shaft Speed (rpm)	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500	9500

RESULTS:

Generator Output (kW)	**12121**	**12320**	**12267**	**12142**	**12031**	**11911**	**11546**	**10986**	**10422**	**9886**	**9208**	**8592**
Heat Input (MBtu/hr)(LHV)	118.83	119.33	119.25	118.65	118.15	117.83	115.49	111.46	107.43	103.62	98.47	94.23
Heat Input (MBtu/hr)(HHV)	131.54	132.10	132.01	131.35	130.79	130.44	127.85	123.39	118.93	114.71	109.01	104.31
Heat Rate (Btu/kW.h)	9803	9685	9721	9772	9821	9893	10002	10146	10308	10481	10694	10967
Exhaust Flow (lb/s)	88.95	88.02	86.77	85.29	83.88	82.34	80.22	77.6	74.88	72.31	69.42	66.46
Exhaust Temp. (F)	912.5	926.9	948.7	970.1	991.7	1013.7	1031.1	1042.7	1055.6	1068.2	1081	1097.2
Comp.Exit Pres. (psi)	228.7	231	229.1	226.5	224	221.3	216.3	209.5	202.4	195.7	187.6	179.8
Water Flow (lb/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Steam Flow (lb/hr)	0	0	0	0	0	0	0	0	0	0	0	0
TET (K)	**1520**	**1530.4**	**1549**	**1566.1**	**1583.5**	**1598.6**	**1607**	**1607**	**1607**	**1607**	**1607**	**1607**
CDP Bleed (%)	**1.3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

EXHAUST Analysis:												
Oxygen %Vol.	14.13	14.03	13.93	13.85	13.76	13.5	13.39	13.34	13.27	13.2	13.42	13.33
Nitrogen %Vol.	75.79	75.75	75.72	75.69	75.66	75.07	74.8	74.56	74.27	73.95	74.55	74.2
Water Vapour %Vol.	5.95	6.04	6.12	6.2	6.27	7.08	7.44	7.74	8.11	8.51	7.71	8.16
CO2 %Vol.	3.21	3.26	3.3	3.34	3.38	3.44	3.46	3.45	3.44	3.44	3.41	3.4
Argon %Vol.	0.9	0.9	0.9	0.9	0.9	0.89	0.89	0.88	0.88	0.88	0.88	0.88
SO2 %Vol.	0											
Oxygen %Mass.	15.87	15.76	15.66	15.57	15.47	15.22	15.12	15.08	15.02	14.96	15.17	15.09
Nitrogen %Mass.	74.13	74.11	74.09	74.07	74.06	73.69	73.53	73.37	73.19	72.99	73.37	73.15
Water Vapour %Mass.	3.76	3.82	3.87	3.92	3.97	4.49	4.72	4.92	5.16	5.43	4.9	5.19
CO2 %Mass.	4.96	5.03	5.1	5.17	5.23	5.33	5.37	5.36	5.36	5.37	5.3	5.3
Argon %Mass.	1.25	1.25	1.25	1.25	1.25	1.24	1.24	1.24	1.24	1.23	1.24	1.23
SO2 %Mass	0											
Molecular Wt.	28.48	28.48	28.47	28.47	28.46	28.38	28.35	28.31	28.27	28.23	28.31	28.26
CO2 % Vol dry	3.41	3.47	3.52	3.56	3.61	3.70	3.74	3.74	3.74	3.76	3.69	3.70
CO2 % Mass dry	5.15	5.23	5.31	5.38	5.45	5.58	5.64	5.64	5.65	5.68	5.57	5.59
NOx ppmvd @15%O2	15	15	15	15	15	15	15	15	15	15	15	15
CO ppmvd @15%O2	10	10	10	10	10	10	10	10	10	10	10	10
UHC ppmvd @15%O2	10	10	10	10	10	10	10	10	10	10	10	10
NOx lb/hr	8.37	8.40	8.40	8.34	8.30	8.40	8.28	8.05	7.82	7.60	7.13	6.88
CO lb/hr	3.40	3.41	3.41	3.38	3.37	3.41	3.36	3.27	3.17	3.08	2.89	2.79
UHC lb/hr	5.34	5.36	5.35	5.32	5.30	5.36	5.28	5.13	4.99	4.84	4.54	4.39
NOx lb/MMBtu	0.0636	0.0636	0.0636	0.0635	0.0635	0.0644	0.0648	0.0652	0.0657	0.0662	0.0654	0.0660
CO lb/MMBtu	0.0258	0.0258	0.0258	0.0258	0.0258	0.0261	0.0263	0.0265	0.0267	0.0269	0.0265	0.0268
UHC lb/MMBtu	0.0406	0.0405	0.0406	0.0405	0.0405	0.0411	0.0413	0.0416	0.0419	0.0422	0.0417	0.0421

Note UHC is as propane

Expected Data for New and Clean Engine Created on: 21 Jan 2013
Full Load Power Guarantee: Not less than 97% of above values
Full Load Heat Rate Guarantee: Not more than 103% of above values

APPENDIX E

BLACK-START ENGINE VENDOR

DIESEL GENERATOR SET

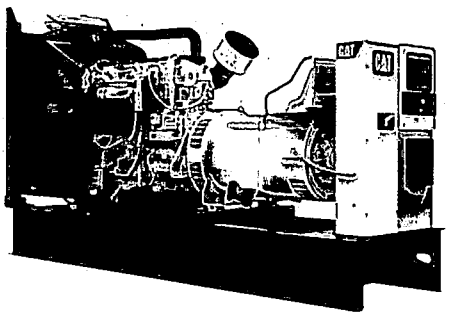


Image shown may not reflect actual package.

STANDBY
500 ekW 625 kVA
60 Hz 1800 rpm 480 Volts

Caterpillar is leading the power generation marketplace with Power Solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost-effectiveness.

FEATURES

FUEL/EMISSIONS STRATEGY
- EPA Certified for Stationary Emergency Application (EPA Tier 2 emissions levels)

DESIGN CRITERIA
- The generator set accepts 100% rated load in one step per NFPA 110 and meets ISO 8528-5 transient response.

UL 2200 / CSA - Optional
- UL 2200 listed packages
- CSA Certified

Certain restrictions may apply. Consult with your Cat® Dealer.

FULL RANGE OF ATTACHMENTS
- Wide range of bolt-on system expansion attachments, factory designed and tested
- Flexible packaging options for easy and cost effective installation

SINGLE-SOURCE SUPPLIER
- Fully prototype tested with certified torsional vibration analysis available

WORLDWIDE PRODUCT SUPPORT
- Cat dealers provide extensive post sale support including maintenance and repair agreements
- Cat dealers have over 1,800 dealer branch stores operating in 200 countries
- The Cat® S•O•S℠ program cost effectively detects internal engine component condition, even the presence of unwanted fluids and combustion by-products

CAT® C15 ATAAC DIESEL ENGINE
- Utilizes ACERT™ Technology
- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke diesel engine combines consistent performance and excellent fuel economy with minimum weight
- Electronic engine control

CAT GENERATOR
- Matched to the performance and output characteristics of Cat engines
- Load adjustment module provides engine relief upon load impact and improves load acceptance and recovery time
- UL 1446 Recognized Class H insulation

CAT EMCP 4 CONTROL PANELS
- Simple user friendly interface and navigation
- Scalable system to meet a wide range of customer needs
- Integrated Control System and Communications Gateway

SEISMIC CERTIFICATION
- Seismic Certification available
- Anchoring details are site specific, and are dependent on many factors such as generator set size, weight, and concrete strength.
  IBC Certification requires that the anchoring system used is reviewed and approved by a Professional Engineer
- Seismic Certification per Applicable Building Codes: IBC 2000, IBC 2003, IBC 2006, IBC 2009, CBC 2007
- Pre-approved by OSHPD and carries an OSP-0084-10 for use in healthcare projects in California

STANDBY 500 ekW 625 kVA

60 Hz 1800 rpm 480 Volts

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

System	Standard	Optional
Air Inlet	• Light Duty Air filter • Service indicator	[ ] Single element air filter [ ] Dual element air filter [ ] Heavy-duty dual element air filter with precleaner [ ] Air inlet shut-off
Cooling	• Radiator package mounted • Coolant level sight gauge • Coolant drain line with valve • Fan and belt guards • Cat® Extended Life Coolant	[ ] Radiator duct flange [ ] Low coolant level sensor
Exhaust	• Dry exhaust manifold • Stainless steel flex fittings with split-cuff connection • Exhaust flange outlet	[ ] Industrial [ ] Residential [ ] Critical Mufflers [ ] Manifold and turbocharger guards [ ] Elbows and through-wall kits
Fuel	• Primary fuel filter with integral water separator • Secondary fuel filters • Fuel priming pump • Engine fuel transfer pump • Fuel cooler* • Flexible fuel lines	[ ] Integral dual wall UL listed fuel tank base [ ] Sub-base dual wall UL listed fuel tank base [ ] Manual transfer pump [ ] Fuel level switch
Generator	• Class H insulation • Self excited (SE) • Class H temperature rise • VR6 voltage regulator with 3-phase sensing with load adjustment module • IP23 protection	[ ] Oversize generators [ ] Permanent magnet excitation (PMG) [ ] Internal excited (IE) [ ] Cat digital voltage regulator (CDVR) with kVAR/PF [ ] Anti-condensation space heaters [ ] Coastal Insulation Protection (CIP) [ ] Reactive droop
Power Termination	• Power Center houses EMCP controller and power/control terminations (rear mounted) • Circuit breaker, UL listed, 3 pole (80% & 100% Rated) • Circuit breaker, IEC compliant, 3-4 pole (100% Rated) • Segregated low voltage wiring termination panel • IP23 protection • Bottom cable entry	[ ] Power Center mounting option (right side) [ ] Multiple circuit breaker options [ ] C.B. Shunt trips [ ] C.B. Auxiliary contacts
Governor	• ADEM™A4	[ ] Load share module
Control Panel	• EMCP 4 Controller • Speed adjustment • Voltage adjustment • Emergency stop pushbutton	[ ] EMCP 4.2 [ ] Local annunciator module (NFPA 99/110) [ ] Remote annunicator module (NFPA 99/110) [ ] Digital I/O module
Lube	• Lubricating oil • Oil drain line with valves • Oil filter and dipstick • Fumes disposal • Lube oil level indicator • Oil cooler	[ ] Oil temperature sensor [ ] Manual sump pump
Mounting	• Formed steel narrow base frame • Linear vibration isolation-seismic zone 4	[ ] Oil skid base [ ] Formed steel wide base frame
Starting/Charging	• 24 volt starting motor • 24 volt, 45 amp charging alternator	[ ] Jacket water heater [ ] Block heater [ ] Ether starting aid [ ] Oversize batteries [ ] Battery disconnect switch [ ] Battery chargers (5 or 10 amp) [ ] Batteries with rack and cables

STANDBY 500 ekW 625 kVA

60 Hz 1800 rpm 480 Volts

SPECIFICATIONS

CAT GENERATOR

Frame size.....LC6114F
Excitation..... Self Excitation
Pitch.....0.6667
Number of poles.....4
Number of bearings..... Single bearing
Number of Leads.....012
Insulation..... UL 1446 Recognized Class H with tropicalization and antiabrasion
- Consult your Caterpillar dealer for available voltages

IP Rating.....Drip Proof IP23
Alignment..... Pilot Shaft
Overspeed capability.....125
Wave form Deviation (Line to Line)..... 2%
Voltage regulator.....Three phase sensing
Voltage regulation.....Less than +/- 1/2% (steady state)
Less than +/- ½% (w/ 3% speed change)

CAT DIESEL ENGINE

C15 ATAAC, I-6, 4-Stroke Water-cooled Diesel
Bore..... 137.20 mm (5.4 in)
Stroke..... 171.40 mm (6.75 in)
Displacement.....15.20 L (927.56 in^3)
Compression Ratio..... 16.1:1
Aspiration..... Air-to-Air Aftercooled
Fuel System..... MEUI
Governor Type..... Caterpillar ADEM control system

CAT EMCP 4 SERIES CONTROLS

EMCP 4 controls including:
- Run / Auto / Stop Control
- Speed and Voltage Adjust
- Engine Cycle Crank
- 24-volt DC operation
- Environmental sealed front face
- Text alarm/event descriptions

Digital indication for:
- RPM
- DC volts
- Operating hours
- Oil pressure (psi, kPa or bar)
- Coolant temperature
- Volts (L-L & L-N), frequency (Hz)
- Amps (per phase & average)
- ekW, kVA, kVAR, kW-hr, %kW, PF (4.2 only)

Warning/shutdown with common LED indication of:
- Low oil pressure
- High coolant temperature
- Overspeed
- Emergency stop
- Failure to start (overcrank)
- Low coolant temperature
- Low coolant level

Programmable protective relaying functions:
- Generator phase sequence
- Over/Under voltage (27/59)
- Over/Under Frequency (81 o/u)
- Reverse Power (kW) (32) (4.2 only)
- Reverse reactive power (kVAr) (32RV)
- Overcurrent (50/51)

Communications:
- Four digital inputs (4.1)
- Six digital inputs (4.2 only)
- Four relay outputs (Form A)
- Two relay outputs (Form C)
- Two digital outputs
- Customer data link (Modbus RTU) (4.2 only)
- Accessory module data link (4.2 only)
- Serial annunciator module data link (4.2 only)
- Emergency stop pushbutton

Compatible with the following:
- Digital I/O module
- Local Annunciator
- Remote CAN annunciator
- Remote serial annunciator

STANDBY 500 ekW 625 kVA

60 Hz 1800 rpm 480 Volts

TECHNICAL DATA

Open Generator Set - - 1800 rpm/60 Hz/480 Volts	DM8155	
EPA Certified for Stationary Emergency Application (EPA Tier 2 emissions levels)		
Generator Set Package Performance		
Genset Power rating @ 0.8 pf	625 kVA	
Genset Power rating with fan	500 ekW	
Fuel Consumption		
100% load with fan	138.5 L/hr	36.6 Gal/hr
75% load with fan	106.1 L/hr	28.0 Gal/hr
50% load with fan	88.1 L/hr	23.3 Gal/hr
Cooling System[1]		
Air flow restriction (system)	0.12 kPa	0.48 in. water
Air flow (max @ rated speed for radiator arrangement)	822 m³/min	29029 cfm
Engine Coolant capacity with radiator/exp. tank	57.8 L	15.3 gal
Engine coolant capacity	20.8 L	5.5 gal
Radiator coolant capacity	37.0 L	9.8 gal
Inlet Air		
Combustion air inlet flow rate	39.8 m³/min	1405.5 cfm
Exhaust System		
Exhaust stack gas temperature	505.6 ° C	942.1 ° F
Exhaust gas flow rate	108.8 m³/min	3842.2 cfm
Exhaust flange size (internal diameter)	152.4 mm	6.0 in
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.2 in. water
Heat Rejection		
Heat rejection to coolant (total)	189 kW	10748 Btu/min
Heat rejection to exhaust (total)	505 kW	28719 Btu/min
Heat rejection to atmosphere from engine	94 kW	5346 Btu/min
Heat rejection to atmosphere from generator	29.1 kW	1654.9 Btu/min
Alternator[2]		
Motor starting capability @ 30% voltage dip	1428 skVA	
Frame	LC6114F	
Temperature Rise	130 ° C	234 ° F
Lube System		
Sump refill with filter	60.0 L	15.9 gal
Emissions (Nominal)[3]		
NOx g/hp-hr	5.74 g/hp-hr	
CO g/hp-hr	.4 g/hp-hr	
HC g/hp-hr	.01 g/hp-hr	
PM g/hp-hr	.018 g/hp-hr	

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.
[2] Generator temperature rise is based on a 40° C (104° F) ambient per NEMA MG1-32. Some packages may have oversized generators with a different temperature rise and motor starting characteristics.
[3] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77°F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 btu/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications: AS1359, CSA, IEC60034-1, ISO3046, ISO8528, NEMA MG 1-22, NEMA MG 1-33, UL508A, 72/23/EEC, 98/37/EC, 2004/108/EC

Standby - Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046. Standby ambients shown indicate ambient temperature at 100% load which results in a coolant top tank temperature just below the shutdown temperature.

Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions. **Fuel rates** are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Cat representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

STANDBY 500 ekW 625 kVA

60 Hz 1800 rpm 480 Volts

DIMENSIONS

Package Dimensions		
Length	**3775.1 mm**	**148.63 in**
Width	**1110.0 mm**	**43.7 in**
Height	**2091.0 mm**	**82.32 in**

NOTE: For reference only - do not use for installation design. Please contact your local dealer for exact weight and dimensions. (General Dimension Drawing #2781052).

Performance No.: DM8155

Feature Code: C15DE6X

Gen. Arr. Number: 2351211

Source: U.S. Sourced

January 14 2013 21362632

www.Cat-ElectricPower.com

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Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.

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APPENDIX F

KANSAS DEPARTMENT OF HEALTH & ENVIRONMENT EXAMPLE PERMIT

Bureau of Air
Curtis State Office Building
1000 SW Jackson, Suite 310
Topeka, KS 66612-1366

Phone: 785-296-1578
Fax: 785-291-3953
jwebb@kdheks.gov
www.kdheks.gov/bar

Kansas

Robert Moser, MD, Acting Secretary

Department of Health & Environment

Sam Brownback, Governor

AIR EMISSIONS SOURCE CONSTRUCTION PERMIT

Source ID No.: TBD

Effective Date: Draft, 2013

Source Name: Kansas Municipal Energy Agency, Jameson Energy Center

NAICS Code: 221112, Fossil Fuel Electric Power Generation

SIC Code: 4911, Electric Services

Source Location: 345 South Jennie Barker Road
Garden City, Kansas 67846

Mailing Address: 6300 W. 95th St.
Overland Park, Kansas 66212

Contact Person: Mr. Robert L. Poehling
General Manager
Telephone: (913) 660-0234
poehling@kmea.com

This permit is issued pursuant to K.S.A. 65-3008 as amended.

I. Description of Activity Subject to Air Pollution Control Regulations

The Kansas Municipal Energy Agency (KMEA) plans to install five Siemens trailer-mounted SGT-400 combustion turbine generator (CTG) sets using pipeline quality natural gas at a new green field site to be known as the Jameson Energy Center (JEC). The proposed facility (the Project) will be located in Garden City, Kansas (Finney County). Each CTG will be nominally rated at 12.3 megawatts (MW) of electricity at site conditions.

The goal of this project is to supply a new source of power to Garden City, Kansas for peaking operations. As a new source, KMEA is obtaining this construction permit in accordance with Kansas Air Quality Regulations (K.A.R.) 28-19-300. KMEA is permitting this facility as a minor stationary source by limiting annual fuel consumption for the CTGs and annual hours for the black-start engine. This approach limits emissions to levels below major source significance levels, eliminating the need for a major source permit.

The potential emissions of oxides of nitrogen (NO_X), carbon monoxide (CO), sulfur dioxide (SO_2), volatile organic compounds (VOCs), particulate matter (PM), and greenhouse gas (GHG) have been reviewed and the proposed project is subject to the provisions of K.A.R. 28-19-300 (Construction permits and approvals; applicability) because the potential emissions for NO_X are above the permitting thresholds.

The Project is subject to the provisions of K.A.R. 28-19-720, New Source Performance Standards (NSPS). The CTGs are subject to the requirements of 40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines. The black-start engine is subject to the requirements of 40 CFR 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines.

II. Significant Applicable Air Regulations

K.A.R. 28-19-275, Special provisions; acid rain deposition.

K.A.R. 28-19-300, Construction permits and approvals; applicability.

K.A.R. 28-19-500, Operating permit; applicability.

K.A.R. 28-19-650, Emissions opacity limits.

K.A.R. 28-19-720, which adopts by reference 40 CFR Part 60, New Source Performance Standards.

40 CFR Part 60, Subpart A, General Provisions.

40 CFR Part 60, Subpart KKKK, Standards of Performance for Stationary Combustion Turbines

40 CFR Part 60, Subpart IIII, Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

III. Air Emission Unit Technical Specifications

The following equipment or equivalent is approved:

A. Five new CTGs, [Siemens Model SGT400], used to generate electricity. The generating capacity of each EGU will be 12.3 megawatts. The CTGs are subject to the requirements of 40 CFR 60 Subpart KKKK.

B. One new black-start compression ignition engine, rated at 500 kW, which shall burn only diesel fuel. This engine is subject to the requirements of 40 CFR Part 60 Subpart IIII.

IV. Air Emissions Estimates from the Proposed Activity

The following table contains the PTE for air pollutants to be emitted from the proposed Project:

Table 1. Estimated Emissions	
Pollutant	Potential-to-emit (PTE)1 (tons per year)
NOx	58.2
CO	22.8
SO2	0.5
VOC	17.8
PM	5.6
CO_{2e}	100,000

V. Annual Operating Limitations

Annual Operation Limits

Combustion Turbines (EU-001 through EU-005)

The annual amount of natural gas burned shall be limited to 1,518 MMSCF/yr

Monitoring

The owner or operator shall monitor and record the cubic feet of natural gas burned by EU-001 through EU-005 on a monthly basis.

Recordkeeping and Reporting

The owner or operator shall record the total fuel burned by EU-001 through EU-005 during the previous 12 months on a monthly basis.

VI. State Regulatory Requirements

A. K.A.R 28-19-650(a)(3)
Opacity of any visible emissions from any new source is limited to less than 20 percent opacity, except as provided in K.A.R. 28-19-11.

B. Notification
Notify the Southwest District Office Air Program Field Staff at the Dodge City Office, 302 West McArtor Road, (620) 356-1075, within 30 days after construction is complete so that an evaluation may be conducted.

1 Potential-to-emit (PTE) means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

VII. 40 CFR Part 60 Subpart IIII

A. Emission Limitations

Pursuant to 40 CFR 60.4205(b), the owner or operator of the black-start engine, shall comply with the applicable emission standards in 40 CFR 89.112. The owner or operator shall also meet the requirements of §60.4206. In accordance with 40 CFR 89.112, the black-start engine NMHC+ NOX emissions shall not exceed 6.4 g/kW-hr, CO emissions shall not exceed 3.5 g/kW-hr, and PM emissions shall not exceed 0.2 g/kW-hr over the life of the engine. The engine shall be certified by the manufacturer to meet these emission limits per 40 CFR 60.4202(a).

B. Operating Limitations

1. For the black-start engine, the owner or operator shall comply with applicable diesel fuel requirements of 40 CFR 60.4207.

2. For the black-start engine, the provisions of 40 CFR 60.4211(f) apply. Maintenance checks and readiness testing is limited to 100 hours per year, of which up to 50 hours per year may be for non-emergency situations.

VIII. 40 CFR Part 60 Subpart KKKK

A. Emission Limitations

Pursuant to 40 CFR 60.4320, the owner or operator of the CTGs, shall comply with the applicable emission standards in Table 1 of 40 CFR 60 Subpart KKKK. In accordance with Table 1 of 40 CFR 60 Subpart KKKK, the CTG NO_X emissions shall not exceed 25 ppm at 15 percent O_2 or 150 ng/J of useful output (1.2 lb/MWh).

Pursuant to 40 CFR 60.4330, the owner or operator of the CTGs, shall comply with the applicable SO_2 emission standards. The CTGs shall not cause to be discharged into the atmosphere gases which contain SO_2 in excess of 0.90 lb/MWh. The CTGs shall not burn any fuel which contains total potential sulfur emissions in excess of 0.060 lb SO_2/MMBtu.

B. Operating Limitations

Pursuant to 40 CFR 60.4330, the owner or operator of the CTGs, shall operate and maintain the CTGs, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.

C. Monitoring Requirements

Pursuant to 40 CFR 60.4340(b)(2), the owner or operator of the CTGs, shall demonstrate continuous compliance with the NO_X limit by installing and operating a continuous parameter monitoring system, and continuously monitoring that the CTGs are operating in Dry Low NO_X Emissions (DLE) mode. The owner or operator of the CTGs, shall also establish and document a proper parameter monitoring plan required by 40 CFR 60.4355.

Pursuant to 40 CFR 60.4365, the owner of operator of the CTGs, shall be exempt from monitoring the total sulfur content of the fuel by either contracting the natural gas to 20 grains of sulfur or less per 100 standard cubic feet or having representative fuel sampling data which shows that the sulfur content of the fuel does not exceed 0.06 lb SO_2/MMBtu.

D. Reporting

Pursuant to 40 CFR 60.4375, the owner or operator of the CTGs, shall report excess emissions and monitor downtime of the continuous parameter monitor system in accordance with 40 CFR 60.7(c). Excess emissions must be reported for all periods of unit operation, including start-up, shutdown, and malfunction.

E. Performance Tests

Pursuant to 40 CFR 60.4440, the owner or operator of the CTGs, shall conduct an initial performance test, as required in 40 CFR 60.8. As required by 40 CFR 60.4410 during this initial performance test the appropriate parameters must be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in 40 CFR 60.4355.

IX. 40 CFR Part 72 Supbpart A

The CTGs are considered to be new utility units under 40 CFR 72.6. 40 CFR 72.7(b) states that any new utility unit that has not previously lost an exemption under 40 CFR 72.7(f)(4) and that meets provisions of 40 CFR 72.7(a) shall be exempt from the Acid Rain Program, except for the provisions of 40 CFR 72.2 through 72.6, and 72.10 through 72.13. This exemption shall be effective on January 1 of the first full calendar year for which the unit meets these requirements. By December 31 of the first year for which the unit is to be exempt, a statement signed by the designated representative or certifying official shall be submitted to the KDHE Bureau of Air. The statement shall identify the unit, state the nameplate capacity of each generator served by the unit and the fuels currently burned or expected to be burned by the unit and their sulfur content by weight, and state that the owners and operators of the unit will comply with 40 CFR 72.7(f).

X. Operating Permit

K.A.R. 28-19-500 requires the owner or operator to obtain a Class II Operating Permit for the facility. A complete application shall be submitted within one year of the initial startup of this facility as specified in K.A.R. 28-19-540.

XI. Permit General Provisions

A. This document will become void if construction or modification has not commenced within 18 months of the effective date, or if the construction or modification is interrupted for a period of 18 months or longer. [K.A.R. 28-19-301(c)].

B. A construction permit or approval must be issued by KDHE prior to commencing any construction or modification of equipment or processes which results in an increase of potential-to-emit equal to or greater than the thresholds specified at K.A.R. 28-19-300(a) and (b).

C. Upon presentation of credentials and other documents as may be required by law, representatives of KDHE (including authorized contractors of KDHE) shall be allowed to:
   a. enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records shall be kept under conditions of this document;
   b. have access to and copy, at reasonable times, any records that shall be kept under conditions of this document;
   c. inspect at reasonable times, any facilities, equipment (including monitoring and control equipment) practices or operations regulated or required under this document; and
   d. sample or monitor, at reasonable times, for the purposes of assuring compliance with this document or as otherwise authorized by the Secretary of KDHE, any substances or parameters at any location.

D. The emission unit or stationary source, which is the subject of this document, will be operated in compliance with all applicable requirements of the Kansas Air Quality Act and the federal Clean Air Act.

E. This document is subject to periodic review and amendment as deemed necessary to fulfill the intent and purpose of the Kansas Air Quality Statutes and Regulations and rules promulgated in accordance therewith.

F. This document does not relieve the permittee of the obligation to obtain all other approvals, permits, licenses, or documents of sanction, which may be required by other federal, state or local government agencies.

Permit Engineer

_____ _____

Date Signed