

**Form INV-2 EMISSION POINT DESCRIPTION**

Duplicate this form for EACH Emission POINT

1) Company/Facility Name		ACME HOSPITAL		1a) Form INV-2 Page		4	of	4
2) Emission Point Number		EP7						
3) Emission Point Description		DUAL FUEL GENERATOR STACK						
4) Is this stack/vent used as an Emergency Bypass Stack?		No	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>			
If YES, for which stack(s)? List Emission Point Nos.:								
EMISSION POINT INFORMATION								
5) Emission Point Type								
Stack/Vent		<input checked="" type="checkbox"/>						
Fugitive (specify)		<input type="checkbox"/>						
Other (specify)		<input type="checkbox"/>						
6) Stack Shape and Dimensions: (interior dimensions at exit point)								
Circular Diameter:		<input checked="" type="checkbox"/>	15	inches				
Rectangular Dimensions:		<input type="checkbox"/>		inches	X		inches	
Other Dimensions		<input type="checkbox"/>		inches				
7) Stack Height Above Ground		30	feet					
8) Does the Emission Point have a rain cap (or anything else) which obstructs the flow of gases leaving the Emission Point, or a horizontal discharge?								
No	<input checked="" type="checkbox"/>	YES (specify):	<input type="checkbox"/>					
9) COMPOSITION OF EXHAUST STREAM								
Exhaust Stream Characteristics		Emission Point Composition of Exhaust Stream			Units of Measure			
a) Flow Rate	4,000			<input type="checkbox"/> ACFM <input checked="" type="checkbox"/> SCFM				
b) Temperature	500			Degree Fahrenheit				
10) BYPASS STACKS								
Bypass Stack – Emission Point No.		Bypass Stack Description						
Bypass Stack – Emission Point No.		Bypass Stack Description						
11) LIST OF EMISSION UNITS VENTING THROUGH THIS EMISSION POINT								
Emission Unit No.	Emission Unit No.		Emission Unit No.		Emission Unit No.			
EU7								

Duplicate this form as needed

TYPE ALL INFORMATION

(DNR Form 542-4004. December 24, 2007)

**Form INV-5 CALCULATIONS**

Duplicate this form for each Form it will accompany in the Questionnaire

1) Company/Facility Name	<b>ACME HOSPITAL</b>			1a) Form INV-5 Page	<b>4</b>	of	<b>7</b>
2) Emission Point No.	<b>EP7</b>	3)	Emission Unit No.	<b>EU7</b>			
4) Calculations are provided in support of information reported on Form INV -				<b>3</b> <input checked="" type="checkbox"/>	<b>4</b> <input type="checkbox"/>	for the Emission Point and Emission Unit listed above.	

5) Emissions Calculations	
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Process: Internal Diesel Combustion > 600 BHP SCC No. 20200401

Fuel: Diesel Fuel

Maximum rate: 75 gallons/hr x 0.140 MMBtu/gallon = 10.5 MMBtu/hr

Permit Limits: Diesel fuel or dual fuel usage only, maximum Sulfur content of fuel may not exceed 0.5%, 500 hours of operation per 12 months, 2.50 lbs/hr PM<sub>10</sub>, 5.50 lbs/hr SO<sub>2</sub>, and 50 lbs/hr NO<sub>x</sub>.

\*Applicable pollutants: PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> (these emission factors are higher for internal diesel combustion when compared to dual fuel combustion)

\*Pollutants attributed to the dual fuel combustion process: PM<sub>2.5</sub>, VOC, CO, Benzene, Formaldehyde, and Toluene (these emission factors are higher for dual fuel combustion when compared to internal diesel combustion)

\*Pollutants exempt from reporting for this process: Acetaldehyde and Acrolein (these emission factors, when combined with the 500 hours of operation per 12 months permit limit, lead to emissions of less than .01 tons/yr)

PM<sub>10</sub>:

75 gal/hr x 0.140 MMBtu/gal x .14 lbs/MMBtu = 1.47 lbs/hr (hourly-uncontrolled emissions)

The permit limit allows for 2.50 lbs/hr of PM<sub>10</sub> (hourly-controlled emissions)

2.50 lbs/hr x 500 hrs/yr x 1 ton/2,000lbs = .63 tons/yr (potential annual emissions)

SO<sub>2</sub>:

75 gal/hr x 0.140 MMBtu/gal x 1.01 lbs/MMBtu x 0.5 (Sulfur content) = 5.30 lbs/hr (hourly-uncontrolled emissions)

The permit limit allows for 5.50 lbs/hr of SO<sub>2</sub> (hourly-controlled emissions)

5.50 lbs/hr x 500 hrs/yr x 1 ton/2,000lbs = 1.38 tons/yr (potential annual emissions)

NO<sub>x</sub>:

75 gal/hr x 0.140 MMBtu/gal x 3.2 lbs/MMBtu = 33.60 lbs/hr (hourly-uncontrolled emissions)

The permit limit allows for 50.00 lbs/hr of NO<sub>x</sub> (hourly-controlled emissions)

50.00 lbs/hr x 500 hrs/yr x 1 ton/2,000lbs = 12.50 tons/yr (potential annual emissions)

**Form INV-5 CALCULATIONS**

Duplicate this form for each Form it will accompany in the Questionnaire

1) Company/Facility Name	ACME HOSPITAL			1a) Form INV-5 Page	5	of	7
2) Emission Point No.	EP7	3)	Emission Unit No.	EU7			
4) Calculations are provided in support of information reported on Form INV -		3	<input checked="" type="checkbox"/>	4	<input type="checkbox"/>	for the Emission Point and Emission Unit listed above.	

5) Emissions Calculations

Process: Dual Fuel Combustion > 600 BHP SCC No. 20200402

Fuel: Dual Fuel (95% Natural Gas and 5% Diesel Fuel)

Maximum rate:  $(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal}) = 10.5 \text{ MMBtu}/\text{hr}$

Permit Limits: Diesel fuel or dual fuel usage only, maximum Sulfur content of fuel may not exceed 0.5%, 500 hours of operation per 12 months, 2.50 lbs/hr PM<sub>10</sub>, 5.50 lbs/hr SO<sub>2</sub>, and 50 lbs/hr NO<sub>x</sub>.

\*Applicable pollutants: PM<sub>2.5</sub>, VOC, CO, Benzene, Formaldehyde, and Toluene (these emission factors are higher for dual fuel combustion when compared to internal diesel combustion)

\*Pollutants attributed to the internal diesel combustion process: PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> (these emission factors are higher for internal diesel combustion when compared to dual fuel combustion)

\*Pollutants exempt from reporting for this process: Xylene, Naphthalene, and Styrene (these emission factors, when combined with the 500 hours of operation per 12 months permit limit, lead to emissions of less than .01 tons/yr)

Calculations

PM<sub>2.5</sub>:

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times .0556 \text{ lbs}/\text{MMBtu} = .58 \text{ lbs}/\text{hr}$  (hourly-uncontrolled emissions)

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times .0556 \text{ lbs}/\text{MMBtu} \times 500 \text{ hrs}/\text{yr} \times 1 \text{ ton}/2,000 \text{ lbs} = .15 \text{ tons}/\text{yr}$  (potential annual emissions)

VOC:

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times 0.2 \text{ lbs}/\text{MMBtu} = 2.10 \text{ lbs}/\text{hr}$  (hourly-uncontrolled emissions)  $\times 500 \text{ hrs}/\text{yr} \times 1 \text{ ton}/2,000 \text{ lbs} = 0.53 \text{ tons}/\text{yr}$  (potential annual emissions)

CO:

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times 1.16 \text{ lbs}/\text{MMBtu} = 12.18 \text{ lbs}/\text{hr}$  (hourly-uncontrolled emissions)  $\times 500 \text{ hrs}/\text{yr} \times 1 \text{ ton}/2,000 \text{ lbs} = 3.05 \text{ tons}/\text{yr}$  (potential annual emissions)

Benzene:

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times .00445 \text{ lbs}/\text{MMBtu} = .05 \text{ lbs}/\text{hr}$  (hourly-uncontrolled emissions)  $\times 500 \text{ hrs}/\text{yr} \times 1 \text{ ton}/2,000 \text{ lbs} = .01 \text{ tons}/\text{yr}$  (potential annual emissions)

Formaldehyde:

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times .0054 \text{ lbs}/\text{MMBtu} = .06 \text{ lbs}/\text{hr}$  (hourly-uncontrolled emissions)  $\times 500 \text{ hrs}/\text{yr} \times 1 \text{ ton}/2,000 \text{ lbs} = .01 \text{ tons}/\text{yr}$  (potential annual emissions)

Toluene:

$[(9,500 \text{ ft}^3/\text{hr} \times .00105 \text{ MMBtu}/\text{ft}^3) + (3.75 \text{ gal}/\text{hr} \times 0.140 \text{ MMBtu}/\text{gal})] \times .00523 \text{ lbs}/\text{MMBtu} = .05 \text{ lbs}/\text{hr}$  (hourly-uncontrolled emissions)  $\times 500 \text{ hrs}/\text{yr} \times 1 \text{ ton}/2,000 \text{ lbs} = .01 \text{ tons}/\text{yr}$  (potential annual emissions)

**Form INV-5 CALCULATIONS**

Duplicate this form for each Form it will accompany in the Questionnaire

1) Company/Facility Name	<b>ACME HOSPITAL</b>			1a) Form INV-5 Page	<b>6</b>	of	<b>7</b>
2) Emission Point No.	<b>EP7</b>	3)	Emission Unit No.	<b>EU7</b>			
4) Calculations are provided in support of information reported on Form INV -		<b>3</b> <input type="checkbox"/>	<b>4</b> <input checked="" type="checkbox"/>	for the Emission Point and Emission Unit listed above.			
5) Emissions Calculations							

Process: Internal Diesel Combustion > 600 BHP SCC No. 20200401

Fuel: Diesel Fuel

Actual Throughput: 15,000 gallons x 0.140 MMBtu/gallon = 2,100 MMBtu

\*Applicable pollutants: PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO, Benzene, Formaldehyde, and Toluene (these pollutants have potential emissions of greater than .01 tons/yr for this generator)

\*Pollutants exempt from reporting for this process: Xylene, Naphthalene, Acetaldehyde and Acrolein (these emission factors, when combined with the 500 hours of operation per 12 months permit limit, lead to emissions of less than .01 tons/yr)

PM<sub>2.5</sub>:

15,000 gal x 0.140 MMBtu/gal x .05 lbs/MMBtu x 1ton/2,000 lbs = .05 tons

PM<sub>10</sub>:

15,000 gal x 0.140 MMBtu/gal x .14 lbs/MMBtu x 1ton/2,000 lbs = .15 tons

SO<sub>2</sub>:

15,000 gal x 0.140 MMBtu/gal x 1.01 lbs/MMBtu x 0.5 (Sulfur content) x 1ton/2,000 lbs = .53 tons

NO<sub>x</sub>:

15,000 gal x 0.140 MMBtu/gal x 3.2 lbs/MMBtu x 1ton/2,000 lbs = 3.36 tons

VOC:

15,000 gal x 0.140 MMBtu/gal x .0819 lbs/MMBtu x 1ton/2,000 lbs = .09 tons

CO:

15,000 gal x 0.140 MMBtu/gal x .85 lbs/MMBtu x 1ton/2,000 lbs = .89 tons

Benzene:

15,000 gal x 0.140 MMBtu/gal x .000776 lbs/MMBtu x 1ton/2,000 lbs = .00 tons

Formaldehyde:

15,000 gal x 0.140 MMBtu/gal x .0000789 lbs/MMBtu x 1ton/2,000 lbs = .00 tons

Toluene:

15,000 gal x 0.140 MMBtu/gal x .000281 lbs/MMBtu x 1ton/2,000 lbs = .00 tons

**Form INV-5 CALCULATIONS**

Duplicate this form for each Form it will accompany in the Questionnaire

1) Company/Facility Name	ACME HOSPITAL			1a) Form INV-5 Page	7	of	7
2) Emission Point No.	EP7	3)	Emission Unit No.	EU7			
4) Calculations are provided in support of information reported on Form INV -		3 <input type="checkbox"/>	4 <input checked="" type="checkbox"/>	for the Emission Point and Emission Unit listed above.			

5) Emissions Calculations

Process: Dual Fuel Combustion > 600 BHP SCC No. 20200402

Fuel: Dual Fuel (95% Natural Gas and 5% Diesel Fuel)

Actual Throughput:  $(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal}) = 2,100 \text{ MMBtu}$

\*Applicable pollutants: PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, VOC, CO, Benzene, Formaldehyde, and Toluene (these pollutants have potential emissions of greater than .01 tons/yr for this generator)

\*Pollutants exempt from reporting for this process: Xylene, Naphthalene, and Styrene (these emission factors, when combined with the 500 hours of operation per 12 months permit limit, lead to emissions of less than .01 tons/yr)

Calculations

PM<sub>2.5</sub>:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times .0556 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = .06 \text{ tons}$$

PM<sub>10</sub>:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times .0573 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = .06 \text{ tons}$$

SO<sub>2</sub>:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times .05 \text{ lbs/MMBtu} \times 0.5 \text{ (Sulfur content)} \times 1 \text{ ton}/2,000 \text{ lbs} = .05 \text{ tons}$$

NO<sub>x</sub>:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times 2.7 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = 2.84 \text{ tons}$$

VOC:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times 0.2 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = 0.21 \text{ tons}$$

CO:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times 1.16 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = 1.22 \text{ tons}$$

Benzene:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times .00445 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = .00 \text{ tons}$$

Formaldehyde:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times .0054 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = .01 \text{ tons}$$

Toluene:

$$[(1,900,000 \text{ ft}^3 \times .00105 \text{ MMBtu/ft}^3) + (750 \text{ gal} \times 0.140 \text{ MMBtu/gal})] \times .00523 \text{ lbs/MMBtu} \times 1 \text{ ton}/2,000 \text{ lbs} = .01 \text{ tons}$$

**Form INV-3 EMISSION UNIT DESCRIPTION – POTENTIAL EMISSIONS**

Duplicate this form for EACH Emission UNIT

1) Company/Facility Name		ACME HOSPITAL			1a) Form INV-3 Page		4	of		5
2) Emission Point Number		EP7								
EMISSION UNIT (PROCESS) IDENTIFICATION & DESCRIPTION										
3) Emission Unit Number		EU7								
4) SCC Number		20200401								
5) Description of Process		INTERNAL DIESEL COMBUSTION								
6) Date of Construction		6-15-94		7) Date of Installation		6-30-94		8) Date of Modification		
9) Raw Material – OR Fuels Used List worst case for EACH pollutant		DIESEL FUEL								
10) Federally Enforceable Limit		Diesel/dual fuel use only, 0.5% maximum Sulfur content, 500 hrs/yr								
11) Permit or Rule Establishing Limit		85-A-000								
12) Maximum Hourly Design Rate		10.5			MMBTU				Per Hour	
13) AIR POLLUTION CONTROL EQUIPMENT (CE)										
Control Equipment Number										
Control Equipment Description										
Control Equipment Number										
Control Equipment Description										
POTENTIAL EMISSIONS										
14 Air Pollutant	15 Emission Factor	16 Emission Factor Units	17 Source of Emission Factor	18 Ash or Sulfur %	19 Potential Hourly Uncontrolled Emissions (Lbs/Hr)	20 Combined Control Efficiency	21 Transfer Efficiency	22 Potential Hourly Controlled Emissions (Lbs/Hr)	23 Potential Annual Emissions (Tons/Yr)	
PM-2.5										
PM-10	.14	LB/MMBTU	DNR MEMO		1.47			2.50	0.63	
SO <sub>2</sub>	1.01	LB/MMBTU	AP-42	0.5	5.30			5.50	1.38	
NOx	3.2	LB/MMBTU	AP-42		33.60			50.00	12.50	
VOC										
CO										
Lead										
Ammonia										
POTENTIAL EMISSIONS – Individual HAPs and additional regulated air pollutants – list each individual pollutant name in Column 14										

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. WebFIRE.. TANKS.. EPA-L&E .. Worksheet .. Other – Specify

**Form INV-3 EMISSION UNIT DESCRIPTION – POTENTIAL EMISSIONS**

Duplicate this form for EACH Emission UNIT

1) Company/Facility Name		ACME HOSPITAL			1a) Form INV-3 Page		5	of		5
2) Emission Point Number		EP7								
EMISSION UNIT (PROCESS) IDENTIFICATION & DESCRIPTION										
3) Emission Unit Number		EU7								
4) SCC Number		20200402								
5) Description of Process		DUAL FUEL COMBUSTION								
6) Date of Construction		6-15-94		7) Date of Installation		6-30-94		8) Date of Modification		
9) Raw Material – OR Fuels Used List worst case for EACH pollutant			DUAL FUEL (95% NATURAL GAS, 5% DIESEL FUEL)							
10) Federally Enforceable Limit			Diesel/dual fuel use only, 0.5% maximum Sulfur content, 500 hrs/yr							
11) Permit or Rule Establishing Limit			85-A-000							
12) Maximum Hourly Design Rate			10.5		MMBTU				Per Hour	
13) AIR POLLUTION CONTROL EQUIPMENT (CE)										
Control Equipment Number										
Control Equipment Description										
Control Equipment Number										
Control Equipment Description										
POTENTIAL EMISSIONS										
14 Air Pollutant	15 Emission Factor	16 Emission Factor Units	17 Source of Emission Factor	18 Ash or Sulfur %	19 Potential Hourly Uncontrolled Emissions (Lbs/Hr)	20 Combined Control Efficiency	21 Transfer Efficiency	22 Potential Hourly Controlled Emissions (Lbs/Hr)	23 Potential Annual Emissions (Tons/Yr)	
PM-2.5	.0556	LB/MMBTU	FIRE 6.25		.58				.15	
PM-10										
SO <sub>2</sub>										
NOx										
VOC	0.2	LB/MMBTU	AP-42		2.10				.53	
CO	1.16	LB/MMBTU	AP-42		12.18				3.05	
Lead										
Ammonia										
POTENTIAL EMISSIONS – Individual HAPs and additional regulated air pollutants – list each individual pollutant name in Column 14										
Benzene	.00445	LB/MMBTU	AP-42		.05				.01	
Formaldehyde	.0054	LB/MMBTU	AP-42		.06				.01	
Toluene	.00523	LB/MMBTU	AP-42		.05				.01	

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. WebFIRE.. TANKS.. EPA-L&E .. Worksheet .. Other – Specify

**Form INV-4 EMISSION UNIT DESCRIPTION – ACTUAL EMISSIONS**

Duplicate this form for EACH Emission UNIT

1) Company/Facility Name	<b>ACME HOSPITAL</b>			1a) Form INV-4 Page	<b>4</b>	of	<b>5</b>
2) Emission Year	<b>2011</b>	3) Emission Point Number	<b>EP7</b>				

**EMISSION UNIT – ACTUAL OPERATIONS AND EMISSIONS**

4) Emission Unit Number	<b>EU7</b>	5) SCC Number	<b>20200401</b>				
6) Description of Process	<b>INTERNAL DIESEL COMBUSTION</b>						

**ACTUAL THROUGHPUT**

7) Raw Material	<b>DIESEL FUEL</b>						
8) Actual Throughput – Yearly Total	<b>2,100</b>	9) Units Raw Material	<b>MMBTU</b>				

**Actual Operating Rate/Schedule**

	10) Percent of Total Operating Time	11) Hours/Day	12) Days/Week	13) Weeks/Quarter
JAN – MAR	<b>10</b>	<b>1</b>	<b>4</b>	<b>5</b>
APR – JUN	<b>40</b>	<b>4</b>	<b>4</b>	<b>5</b>
JUL – SEP	<b>40</b>	<b>4</b>	<b>4</b>	<b>5</b>
OCT - DEC	<b>10</b>	<b>1</b>	<b>4</b>	<b>5</b>

**14) AIR POLLUTION CONTROL EQUIPMENT (CE)**

Control Equipment Number	
Control Equipment Description	
Control Equipment Number	
Control Equipment Description	

**ACTUAL EMISSIONS**

15 Air Pollutant	16 Emission Factor	17 Emission Factor Units	18 Source of Emission Factor	19 Ash or Sulfur %	20 Combined Control Efficiency	21 Transfer Efficiency	22 Actual Emissions (Tons/Yr)
PM-2.5	<b>.05</b>	<b>LB/MMBTU</b>	<b>WebFIRE</b>				<b>.05</b>
PM-10	<b>.14</b>	<b>LB/MMBTU</b>	<b>DNR MEMO</b>				<b>.15</b>
SO <sub>2</sub>	<b>1.01</b>	<b>LB/MMBTU</b>	<b>AP-42</b>	<b>0.5</b>			<b>.53</b>
NOX	<b>3.2</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>3.36</b>
VOC	<b>.0819</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.09</b>
CO	<b>.85</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.89</b>
Lead							
Ammonia							

**ACTUAL EMISSIONS – Individual HAPs and additional regulated air pollutants – list each individual pollutant name in Column 15**

Benzene	<b>.000776</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.00</b>
Formaldehyde	<b>.0000789</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.00</b>
Toluene	<b>.000281</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.00</b>

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. WebFIRE.. TANKS.. EPA-L&E .. Worksheet .. Other – Specify

Duplicate this form as needed

TYPE ALL INFORMATION

(DNR Form 542-4002 December 24, 2007)

**Form INV-4 EMISSION UNIT DESCRIPTION – ACTUAL EMISSIONS**

Duplicate this form for EACH Emission UNIT

1) Company/Facility Name	<b>ACME HOSPITAL</b>		1a) Form INV-4 Page	<b>5</b>	of	<b>5</b>
2) Emission Year	<b>2011</b>	3) Emission Point Number	<b>EP7</b>			

**EMISSION UNIT – ACTUAL OPERATIONS AND EMISSIONS**

4) Emission Unit Number	<b>EU7</b>	5) SCC Number	<b>20200402</b>
6) Description of Process	<b>DUAL FUEL COMBUSTION</b>		

**ACTUAL THROUGHPUT**

7) Raw Material	<b>DUAL FUEL (95% NATURAL GAS, 5% DIESEL FUEL)</b>		
8) Actual Throughput – Yearly Total	<b>2,100</b>	9) Units Raw Material	<b>MMBTU</b>

**Actual Operating Rate/Schedule**

	10) Percent of Total Operating Time	11) Hours/Day	12) Days/Week	13) Weeks/Quarter
JAN – MAR	<b>10</b>	<b>1</b>	<b>4</b>	<b>5</b>
APR – JUN	<b>40</b>	<b>4</b>	<b>4</b>	<b>5</b>
JUL – SEP	<b>40</b>	<b>4</b>	<b>4</b>	<b>5</b>
OCT - DEC	<b>10</b>	<b>1</b>	<b>4</b>	<b>5</b>

14) <b>AIR POLLUTION CONTROL EQUIPMENT (CE)</b>	
Control Equipment Number	
Control Equipment Description	
Control Equipment Number	
Control Equipment Description	

**ACTUAL EMISSIONS**

15 Air Pollutant	16 Emission Factor	17 Emission Factor Units	18 Source of Emission Factor	19 Ash or Sulfur %	20 Combined Control Efficiency	21 Transfer Efficiency	22 Actual Emissions (Tons/Yr)
PM-2.5	<b>.0556</b>	<b>LB/MMBTU</b>	<b>WebFIRE</b>				<b>.06</b>
PM-10	<b>.0573</b>	<b>LB/MMBTU</b>	<b>WebFIRE</b>				<b>.06</b>
SO <sub>2</sub>	<b>.05</b>	<b>LB/MMBTU</b>	<b>AP-42</b>	<b>0.5</b>			<b>.03</b>
NOX	<b>2.7</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>2.84</b>
VOC	<b>0.2</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.21</b>
CO	<b>1.16</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>1.22</b>
Lead							
Ammonia							

**ACTUAL EMISSIONS – Individual HAPs and additional regulated air pollutants – list each individual pollutant name in Column 15**

Benzene	<b>.00445</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.00</b>
Formaldehyde	<b>.0054</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.01</b>
Toluene	<b>.00523</b>	<b>LB/MMBTU</b>	<b>AP-42</b>				<b>.01</b>

\*Sources of Emission Factors: CEM .. Stack Test .. Mass Balance .. AP-42 .. WebFIRE.. TANKS.. EPA-L&E .. Worksheet .. Other – Specify

Duplicate this form as needed

TYPE ALL INFORMATION

(DNR Form 542-4002 December 24, 2007)