

FORM INV-2 EMISSION POINT DESCRIPTION

1. Company/Facility Name		ACME HOSPITAL		2. Form INV-2 Page		1	of	1
3. Release Point Identifier		EP-001						
4. Is this release point used as an emergency bypass stack?				No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>			
If YES, for which release point(s)? List release point identifiers:								
5. Release Point Type								
Downward-facing Vent	<input type="checkbox"/>				Indoor Vented	<input type="checkbox"/>		
Fugitive (specify)	<input type="checkbox"/>				Vertical	<input checked="" type="checkbox"/>		
Goose Neck	<input type="checkbox"/>				Vertical with Rain Cap	<input type="checkbox"/>		
Horizontal	<input type="checkbox"/>							
6. Release Point Description		DUAL FUEL GENERATOR STACK						
7. Operating Status		Operating <input checked="" type="checkbox"/>	Permanently Shutdown <input type="checkbox"/>		Temporarily Shutdown <input type="checkbox"/>			
8. Operating Status Date (Please enter the date the shutdown occurred. The status date should be blank if the status above was entered as operating.)								
9. Stack Height Above Ground		30	feet					
10. Stack Shape and Dimensions: (interior dimensions at exit point)								
Circular Diameter:		<input checked="" type="checkbox"/>	1.25	feet				
Rectangular Dimensions:		<input type="checkbox"/>		feet	x		feet	
Composition Of Exhaust Stream								
Exhaust Stream Characteristics		Release Point Composition of Exhaust Stream			Units of Measure			
11. Temperature		500			Degree Fahrenheit			
12. Flow Rate		4,000			<input type="checkbox"/> ACFM <input checked="" type="checkbox"/> SCFM			
13. Bypass Stacks								
Bypass Stack – Release Point Identifier								
Bypass Stack Description								
Bypass Stack – Release Point Identifier								
Bypass Stack Description								
14. List of Emission Unit Identifiers Venting Through This Release Point Identifier								
Emission Unit Identifier	Emission Unit Identifier	Emission Unit Identifier	Emission Unit Identifier					
EU-001								

FORM INV-4 PROCESS DESCRIPTION - ACTUAL EMISSIONS

1. Company/Facility Name		ACME HOSPITAL			2. Form INV-4 Page		1	of	2
3. Release Point Identifier		EP-001							
4. Release Point Description		DUAL FUEL GENERA							
5. Emission Year		2017							
6. Emission Unit Identifier		EU-001							
7. SCC Number		20200401							
8. Description of Process		DIESEL COMBUSTIO							
Annual Throughput									
9. Annual Throughput		2,100							
10. <u>Throughput Unit of Measure</u>		MMBTU							
11. Throughput Type (Input, Output, or Existing)		I							
12. <u>Throughput Material</u>		DIESEL FUEL							
Actual Operating Rate/Schedule									
13. Average Hours/Day		2.5							
14. Average Days/Week		4							
15. Average Weeks/Year		20							
16. Actual Hours For Year		200							
Seasonal Operations									
17. January, February & December (%)		10							
18. March, April & May (%)		30							
19. June, July & August (%)		40							
20. September, October & November (%)		20							
Associated Control Devices									
21. Control Device Identifier									
22. Control Device Description									
23. Control Device Identifier									
24. Control Device Description									
ACTUAL EMISSIONS									
25. Air Pollutant	26. Emission Factor	27. Emission Factor Units of Measure	28. Source of Emission Factor	29. Ash or Sulfur %	30. Combined Control Efficiency	31. Transfer Efficiency	32. Actual Estimated Emissions (Tons)		
PM-2.5	0.05	LBS/MMBTU	WEBFIRE				0.05		
PM-10	0.14	LBS/MMBTU	DNR MEMO				0.15		
SO ₂	1.01	LBS/MMBTU	AP-42	0.5			0.53		
NOX	3.2	LBS/MMBTU	AP-42				3.36		
VOC	0.0819	LBS/MMBTU	AP-42				0.09		
CO	0.85	LBS/MMBTU	AP-42				0.89		
Lead									
Ammonia									

ACTUAL EMISSIONS – Individual HAPs and additional regulated air pollutants – list each individual pollutant name in Column 25							
Benzene	0.000776	LBS/MMBTU	AP-42				0.00
Formaldehyde	0.0000789	LBS/MMBTU	AP-42				0.00
Toluene	0.000281	LBS/MMBTU	AP-42				0.00

*Calculation Methods: CEMS – Engineering Judgment – Manufacturer’s Specification – Material Balance – Other (Specify) – State or Local Speciation Profile – Site Specific – Stack Test – Trade Group – US EPA - Vendor

FORM INV-4 PROCESS DESCRIPTION - ACTUAL EMISSIONS

1. Company/Facility Name		ACME HOSPITAL			2. Form INV-4 Page		2	of	2
3. Release Point Identifier		EP-001							
4. Release Point Description		DUAL FUEL GENERA							
5. Emission Year		2017							
6. Emission Unit Identifier		EU-001							
7. SCC Number		20200402							
8. Description of Process		DUAL FUEL COMBUS							
Annual Throughput									
9. Annual Throughput		2,100							
10. <u>Throughput Unit of Measure</u>		MMBTU							
11. Throughput Type (Input, Output, or Existing)		I							
12. <u>Throughput Material</u>		DUAL FUEL							
Actual Operating Rate/Schedule									
13. Average Hours/Day		2.5							
14. Average Days/Week		4							
15. Average Weeks/Year		20							
16. Actual Hours For Year		200							
Seasonal Operations									
17. January, February & December (%)		10							
18. March, April & May (%)		30							
19. June, July & August (%)		40							
20. September, October & November (%)		20							
Associated Control Devices									
21. Control Device Identifier									
22. Control Device Description									
23. Control Device Identifier									
24. Control Device Description									
ACTUAL EMISSIONS									
25. Air Pollutant	26. Emission Factor	27. Emission Factor Units of Measure	28. Source of Emission Factor	29. Ash or Sulfur %	30. Combined Control Efficiency	31. Transfer Efficiency	32. Actual Estimated Emissions (Tons)		
PM-2.5	0.0556	LBS/MMBTU	WEBFIRE				0.06		
PM-10	0.0573	LBS/MMBTU	WEBFIRE				0.06		
SO ₂	0.05	LBS/MMBTU	AP-42	0.5			0.03		
NOX	2.7	LBS/MMBTU	AP-42				2.84		
VOC	0.2	LBS/MMBTU	AP-42				0.21		
CO	1.16	LBS/MMBTU	AP-42				1.22		
Lead									
Ammonia									

ACTUAL EMISSIONS – Individual HAPs and additional regulated air pollutants – list each individual pollutant name in Column 25							
Benzene	0.00445	LBS/MMBTU	AP-42				0.00
Formaldehyde	0.0054	LBS/MMBTU	AP-42				0.01
Toluene	0.00523	LBS/MMBTU	AP-42				0.01

*Calculation Methods: CEMS – Engineering Judgment – Manufacturer’s Specification – Material Balance – Other (Specify) – State or Local Speciation Profile – Site Specific – Stack Test – Trade Group – US EPA - Vendor

FORM INV-5 CALCULATIONS

1. Company/Facility Name	ACME HOSPITAL	2. Form INV-5 Page	1	of	2
3. Release Point Identifier	EP-001				
4. Emission Unit Identifier	EU-001				
5. SCC Number:	20200401				
Calculations are provided in support of information reported on Form INV – 4 for the SCC Number listed above.					
6. Emissions Calculations					
PROCESS: DIESEL COMBUSTION > 600 BHP					
FUEL: DIESEL FUEL					
ACTUAL THROUGHPUT: (15,000 GALLONS * 0.14 MMBTU/GALLON = 2,100 MMBTU					
POLLUTANT	EMISSION FACTORS FROM AP-42 (SCC NUMBER 20200401)				
PM-2.5	0.05 LBS PER MMBTU BURNED				
PM-10	0.14 LBS PER MMBTU BURNED				
SO2	1.01S (S = 0.5) LBS PER MMBTU BURNED				
NOX	3.2 LBS PER MMBTU BURNED				
VOC	0.0819 LBS PER MMBTU BURNED				
CO	0.85 LBS PER MMBTU BURNED				
BENZENE	0.000776 LBS PER MMBTU BURNED				
FORMALDEHYDE	0.0000789 LBS PER MMBTU BURNED				
TOLUENE	0.000281 LBS PER MMBTU BURNED				
CALCULATIONS					
ACTUAL PM-2.5 TONS					
(2,100 MMBTU) * (0.05 LBS/MMBTU) * (1 TON/2,000 LBS) = 0.05 TONS					
ACTUAL PM10 TONS = 0.15 TONS					
ACTUAL SO2 TONS = 0.53 TONS					
ACTUAL NOX TONS = 3.36 TONS					
ACTUAL VOC TONS = 0.09 TONS					
ACTUAL CO TONS = 0.89 TONS					
ACTUAL BENZENE TONS = 0.00 TONS					
ACTUAL FORMALDEHYDE TONS = 0.00 TONS					
ACTUAL TOLUENE TONS = 0.00 TONS					

FORM INV-5 CALCULATIONS

1. Company/Facility Name	ACME HOSPITAL	2. Form INV-5 Page	2	of	2
3. Release Point Identifier	EP-001				
4. Emission Unit Identifier	EU-001				
5. SCC Number:	20200402				

Calculations are provided in support of information reported on Form INV – 4 for the SCC Number listed above.

6. Emissions Calculations

PROCESS: DUAL FUEL COMBUSTION > 600 BHP

FUEL: DUAL FUEL

ACTUAL THROUGHPUT: (1,900,000 CUBIC FEET * 0.00105 MMBTU/CUBIC FEET) + (750 GALLONS * 0.140 MMBTU/GALLON) = 2,100 MMBTU

POLLUTANT	EMISSION FACTORS FROM AP-42 (SCC NUMBER 20200401)
PM-2.5	0.0556 LBS PER MMBTU BURNED
PM-10	0.0573 LBS PER MMBTU BURNED
SO2	0.05(S) (S=0.5) LBS PER MMBTU BURNED
NOX	2.7 LBS PER MMBTU BURNED
VOC	0.2 LBS PER MMBTU BURNED
CO	1.16 LBS PER MMBTU BURNED
BENZENE	0.00445 LBS PER MMBTU BURNED
FORMALDEHYDE	0.0054 LBS PER MMBTU BURNED
TOLUENE	0.00523 LBS PER MMBTU BURNED

CALCULATIONS

ACTUAL PM-2.5 TONS

$(2,100 \text{ MMBTU}) * (0.0556 \text{ LBS/MMBTU}) * (1 \text{ TON}/2,000 \text{ LBS}) = 0.06 \text{ TONS}$

ACTUAL PM10 TONS = 0.06 TONS

ACTUAL SO2 TONS = 0.05 TONS

ACTUAL NOX TONS = 2.84 TONS

ACTUAL VOC TONS = 0.21 TONS

ACTUAL CO TONS = 1.22 TONS

ACTUAL BENZENE TONS = 0.00 TONS

ACTUAL FORMALDEHYDE TONS = 0.01 TONS

ACTUAL TOLUENE TONS = 0.01 TONS