

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1960-AR-7 AFIN: 60-00308

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Baptist Health (Baptist Health Medical Center-Little Rock)
9601 Baptist Health Drive
Little Rock, Arkansas 72205

3. PERMIT WRITER:

Christopher Riley

4. NAICS DESCRIPTION AND CODE:

NAICS Description: General Medical and Surgical Hospitals
NAICS Code: 622110

5. ALL SUBMITTALS:

Date of Application	Type of Application (New, Renewal, Modification, Deminimis/Minor Mod, or Administrative Amendment)	Short Description of Any Changes That Would Be Considered New or Modified Emissions
3/29/2019	Deminimis	Increasing operating hours for non-emergency engines

6. REVIEWER'S NOTES:

Baptist Health Medical Center (BHMC) operates a General Medical and Surgical Hospital in Little Rock, Arkansas. This application was submitted as a de minimis change to Permit No. 1960-AR-6:

- Increase permitted operating hours for each non-emergency generator (SN #7-10, and 16) from 500 hours per rolling 12 months to 580 hours per rolling 12 months.

The permitted emissions increases are 0.1 tpy each of PM and PM₁₀, 0.3 tpy VOC, 1.4 tpy CO, and 10.3 tpy NO_x.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility was last inspected December 12, 2016, which revealed no violations.

8. PSD APPLICABILITY:

a) Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b) Is the facility categorized as a major source for PSD? N

- *Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list*

If yes, explain why this permit modification is not PSD.

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
12, 13, and 14	SO ₂	NSPS 40 CFR Part 60 Subpart Dc
07-10, 16	HAPs	NESHAP 40 CFR Part 60 Subpart ZZZZ
07-10, 16	PM, CO, NO _x , HC	NSPS 40 CFR Part 60 Subpart IIII

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. AMBIENT AIR EVALUATIONS:

a) Reserved

b) Non-Criteria Pollutants:

The non-criteria pollutants listed below were evaluated. Based on Department procedures for review of non-criteria pollutants, emissions of all other non-criteria pollutants are below thresholds of concern.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value

(mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Benzene	1.59	0.174	6.80 E-2	Y
Fluoranthene	0.2	0.022	3.55 E-4	Y

c) H₂S Modeling:

A.C.A. §8-3-103 requires hydrogen sulfide emissions to meet specific ambient standards. Many sources are exempt from this regulation, refer to the Arkansas Code for details.

Is the facility exempt from the H₂S Standards

N/A

If exempt, explain: _____

Pollutant	Threshold value	Modeled Concentration (ppb)	Pass?
H ₂ S	20 parts per million (5-minute average*)		
	80 parts per billion (8-hour average) residential area		
	100 parts per billion (8-hour average) nonresidential area		

*To determine the 5-minute average use the following equation

$$C_p = C_m (t_m/t_p)^{0.2} \text{ where}$$

C_p = 5-minute average concentration

C_m = 1-hour average concentration

t_m = 60 minutes

t_p = 5 minutes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
03, 04, 12, 13, 14	AP-42 1.4	<u>lb/MMscf</u> PM ₁₀ = 7.6 SO ₂ =0.6 NO _x = 100 CO=84 VOC= 5.5 <u>Lb/10⁶ scf</u> Benzene= 2.1 E-3 Fluoranthene= 3.0 E-6	None	N/A	<u>Natural Gas</u> SN-03&- 4=3MMBtu SN-12-14= 24.2 MMBtu 400 MMscf/yr
03, 04, 12, 13, 14	AP-42 1.3	<u>Lb/10³ gal</u> PM= 3.3 PM ₁₀ = 1.3 SO ₂ = 42.6 NO _x = 20 CO= 5.0 VOC= 0.556 <u>Lb/10³ gal</u> Benzene= 2.14 E-4 Fluoranthene= 4.84 E-6	None	N/A	<u>Fuel Oil</u> SN-03&04=3.19 MMBtu SN-12-14= 20.5 MMBtu SN-03&04=22.8 gal/hr SN-12-14= 146.5 gal/hr 175,000 gallons/yr
05	AP-42 Table 13.4- 1	(28,500 gpm) x (60 min/hr) x (1.7 lb/1000 gal) x (0.003) = 8.7 lb/hr	None	N/A	
06	AP-42 Table 13.4- 1	(1,100 gpm) x (60 min/hr) x (1.7 lb/1000 gal) x (0.003) = 0.34 lb/hr	None	N/A	
07, 08, 09, 10, 16	AP-42 3.4- 1 MFG Data AP-42 3.4- 3 AP-42 3.4-	<u>Lb/MMBtu</u> SO ₂ = 1.52 E-5 <u>Lb/hr</u> PM/PM ₁₀ = 0.52 NO _x = 64.02 CO= 2.30 VOC= 0.156 <u>Lb/MMBtu</u> Benzene= 7.76 E-4 Fluoranthene= 4.03 E-6	None	N/A	Displacement= 4.3 liters per cylinder Diesel Fuel

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
	4				

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

14. MONITORING OR CEMS:

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
N/A				

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
03, 04, 12, 13, 14	Natural Gas	400 MMscf/yr	Monthly	N
03, 04, 12, 13, 14	Fuel oil #2/diesel Sulfur Content	175,000 gallon per year 0.3 wt.%	Daily	N
03, 04, 12, 13, 14	Diesel Fuel Usage	Can used only be used during periods of gas curtailment, gas supply interruption,	Monthly	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
		startups, or periodic testing (not to exceed 48 hours per year) on liquid fuel.		
03, 04, 12, 13, 14, 16	Fuel Oil #2/diesel Certification	N/A	N/A	N
07, 08, 09, 10,	Hours of Operation Sulfur Content	Total= 2,320 per year 15 ppm	Monthly	N
16	Hours of Operation	580 hours/consecutive 12 months	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
03-04, 12-14 (Natural Gas)	5%	§18.501	Inspector's Observation
03-04, 12-14 (Distillate Fuel)	20%	§19.503 and 40 CFR 60.43c (c)	Inspector's Observation
07-10, 16 (Distillate Fuel)	20%	§19.503 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311	Inspector's Observation

17. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

18. GROUP A INSIGNIFICANT ACTIVITIES:

[illegible]

Eye Center Diesel Storage Tank at Boilers (75 gal)	A-3			8.02 E-5				
Eye Center Diesel Storage Tank at Generator (25 gal)	A-3			7.15 E-5				
Diesel Powerhouse ASTs #1 (10,000 gal)	A-3			4.27 E-3				
Diesel Powerhouse ASTs #2 (10,000 gal)	A-3			4.27 E-3				
Diesel Generator Day Tank #1 (400 gal)	A-3			1.79 E-4				
Diesel Generator Day Tank #2 (400 gal)	A-3			1.79 E-4				
Diesel Generator Day Tank #3 (400 gal)	A-3			1.79 E-4				
Diesel Generator Day Tank #4 (400 gal)	A-3			1.79 E-4				
Lift Station Generator Tank (125 gal)	A-3			7.52 E-5				
Hydraulic Oil Tank – MRI Elevator (450 gal)	A-3			1.85 E-6				

(No. 6 Fuel)								
Hydraulic Oil Tank – Service Elevator (450 gal) (No. 6 Fuel)	A-3			1.85 E-6				
A-3 TOTAL	A-3			9.48 E-3				
Hospital-wide Lab Material Usage	A-5			2.73			0.69	0.69
Eye Care Center- CI Emergency Generator (350 kW) (Installed 1996)	A-13	0.6	0.3	0.3	0.8	3.6	0.17	0.08
Lift Station- CI Emergency Generator (50 kW) (Installed 2002)	A-13	0.01	0.06	0.01	0.05	0.22	<0.01	<0.01
Diesel Fuel Storage Tanks (15,000 gallon)	A-13			1.89E-3				
Jet Fuel Storage Tank (10,000 gallon)	A-13			1.63E-3				
A-13 TOTAL	A-13	0.61	0.36	0.32	0.85	3.82	0.21	<0.24

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19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1960-AR-6

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Minor Source

Revised 03-11-16

Facility Name: Baptist Health Medical
Center- Little Rock
Permit Number: 1960-AR-7
AFIN: 60-00308

			Old Permit	New Permit
\$/ton factor	23.93	Permit Predominant Air Contaminant	87.1	97.4
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	10.3	
Minimum Initial Fee \$	500			
		Permit Fee \$	<u>400</u>	
Check if Administrative Amendment ☐		Annual Chargeable Emissions (tpy)	<u>97.4</u>	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	42.4	42.5	0.1
PM ₁₀	42.2	42.3	0.1
PM _{2.5}	0	0	0
SO ₂	4.1	4.1	0
VOC	3.2	3.5	0.3
CO	25.4	26.8	1.4
NO _x	87.1	97.4	10.3
Benzene	0.04	0.04	0
Fluoranthene	0.03	0.03	0
Ethylene Oxide	0	0	0