ADEQ
OPERATING
AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation #26:

Permit #: 1936-AOP-R1

IS ISSUED TO:

Duke Energy Hot Spring, LLC
696 Black Branch Road
Malvern, AR 72104
Hot Spring County
CSN: 30-0229

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

December 29, 2000 and December 28, 2005

AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

_____

Keith A. Michaels Date Modified

SECTION I: FACILITY INFORMATION

PERMITTEE:	Duke Energy Hot Spring, LLC
CSN:	30-0229
PERMIT NUMBER:	1936-AOP-R1
FACILITY ADDRESS:	696 Black Branch Rd. Malvern, AR 72104
COUNTY:	Hot Spring
CONTACT POSITION:	Bill Collins
TELEPHONE NUMBER:	(713) 627-5400
REVIEWING ENGINEER:	Bryan Leamons
UTM North-South (Y):	3795.0
UTM East-West (X):	512.2
Zone:	15

SECTION II: INTRODUCTION

Hot Spring Energy Facility, owned and operated by Duke Energy Hot Spring, LLC, is a 1240-MW gas turbine/ steam turbine combined-cycle electric power plant in Hot Spring County. The facility is located on a 100-acre plot approximately one mile off of Highway 67 due west of Malvern, Arkansas. This permitting action incorporates the following three items approved as a minor-modification:

C Relocation of various stacks due to plant layout shift during construction and updates to applicable dispersion modeling contained in the PSD Air Quality Analysis;
C Increase in the maximum annual operating rates of the Auxiliary Boilers (SN-05 and SN-06) and an update to the PSD Air Quality Analysis;
C Clarification of Specific Condition 12 to state the allowable averaging period for VOC.

Also, a modification is incorporated into this permitting action that establishes specific language regarding startup and shutdown of the Combustion Turbine/ Heat recovery Steam Generators/ Duct Burners (SN-01 through SN-04). See Specific Condition 39.

Regulations

This facility is subject to the following state and federal regulations:

- *Arkansas Air Pollution Control Code* (Regulation 18);
- *Regulations of the Arkansas Plan of Implementation for Air Pollution Control* (Regulation 19);
- *Regulations of the Arkansas Operating Permit Program* (Regulation 26);
- New Source Performance Standards (NSPS):
  40 CFR Part 60, Subpart GG, *Standards of Performance for Stationary Gas Turbines*;
  40 CFR Part 60, Subpart Da, *Standards of Performance for Electric Utility Steam Generating Units*;
  40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial - Commercial - Institutional Steam Generating Units*;
- Federal Acid Rain Program - 40 CFR Part 75, *Continuous Emission Monitoring*.

This facility is considered a major source with respect to Title V and Prevention of Significant Deterioration (PSD) Permitting. The facility is classified as one of the 28 PSD named source categories.

Summary of Emission Points

SN-01 through SN-04

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Hot Spring Energy Facility operates four GE Model 7FA Combustion Turbines (CTs). From each of the four CTs, hot combustion exhaust gasses flow across duct burners for additional heat and on to Heat Recovery Steam Generators (HRSGs) that collect the heat to produce high, intermediate, and low-pressure steam. The CTs and the duct burners will employ low-NO_x combustion technology and Selective Catalytic Reduction (SCR) as controls for NO_x (nitrogen oxides). Natural gas is the only permitted fuel at these units.

SN-05 and SN-06

Additional steam is produced by two auxiliary boilers. This steam is used for startup/ shutdown purposes and will not increase power output for the facility. The boilers have a maximum heat input capacity of 44.1 MM Btu/hr each. Low NO_x combustion control technology is installed on the boiler units. Natural gas is the only permitted fuel for the boilers.

SN-07 through SN-30

Two mechanical draft cooling towers make up SN-07 through SN-30. (Each cell is considered a separate source in this case.) Cooling Tower 1 encompasses SN-07 through SN-18 and Cooling Tower 2 makes up SN-19 through SN-30. Particulate Matter (PM/PM_{10}) is the only pollutant from these sources. A drift eliminator is employed for particulate control.

SN-32 and SN-33

Hot Spring Energy Facility operates two 600 kW diesel-powered emergency generators. Emergency diesel generators do not operate more than 500 hours per year each.

Insignificant sources

Insignificant sources at the facility include, but are not limited to, the following:

- 1 - 400 bhp diesel fire water pump
- 1 - Oil/ Water Separator for wastewater purposes
- Diesel Storage Tanks
- Sulfuric Acid Storage Tank

All fuel burning insignificant activities are operated only in emergency situations except for routine testing purposes. See Section VII of this permit, *Insignificant Activities,* for complete information regarding these emission points.

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Prevention of Significant Deterioration

The Air Quality Analysis and Additional Impacts Analysis were reviewed and updated during this permitting action due to slight relocation of stacks and changes at the Auxiliary Boilers (SN-05 and SN-06).

Air Quality Analysis

As part of the PSD permitting procedure a new source must perform an air quality analysis to assess impact to local NAAQS and to evaluate the increment consumption. The first step in this review is to evaluate the impact of pollutants that will increase by PSD significant levels. In this case, the pollutants evaluated are PM_{10}, NO_2, SO_2, and CO. SCREEN3 dispersion modeling was used in the case of each pollutant. For NO_x (annually averaged) and PM_{10} (24-hour and annually averaged) ISCST3 modeling procedures were used because the SCREEN3 results exceeded or nearly exceeded PSD modeling significant impacts. The dispersion modeling shows that these pollutants do not exceed significant impact levels; therefore, multi-source refined modeling is not necessary to satisfy PSD requirements. The following table summarizes the results of dispersion modeling:

Pollutant		PSD Modeling Significant Impact	Impact from HS Energy
PM10	annual	1	0.525
	24-hour	5	4.64
NO_2	annual	1	0.746
SO_2	annual	1	0.826
	24-hour	5	4.26
	3-hour	25	9.59
CO	8-hour	500	91.0
	1-hour	2000	130

Ozone formation near the facility could result from the emissions of NO_x and VOCs. Scheffe Screening Tables are often used in this case as an initial step to estimating levels of ozone formation. In this case, the rural based ozone impact predicted by Scheffe tables is less than 0.02 ppm averaged annually. The local background ozone level in this area in nearby Montgomery County is 0.092 ppm; therefore, it can be assumed that the facility will have no noticeable impact.

Additional Impact Analysis

An additional impacts analysis is completed based on existing air quality, the quantity of emissions, and the sensitivity of local soils, vegetation, and visibility in the facility's area of impact. The additional impact analysis consists of three parts: (1) growth, (2) soils and vegetation impacts, and (3) visibility impairment.

Growth
The growth analysis is intended to quantify the amount of new growth that is likely to occur in support of the facility and to estimate emissions resulting from the associated growth. Associated growth includes residential and commercial/industrial growth resulting from the new facility. Residential growth depends on the number of new employees and the availability of housing in the area, while associated commercial and industrial growth consists of new sources providing services to the new employees and the facility. The number of new permanent jobs created by the project is expected to be approximately 25 after construction. To the extent possible, these jobs will be filled from the local labor pool. Accordingly, negligible new growth is anticipated as a result of the new facility.

Soils and Vegetation Analysis
The soils and vegetation analysis is based on an inventory of soils and vegetation types with commercial or recreational value found in the impact area. The impact area is defined as the maximum distance from the facility at which ambient impacts from the source exceed the PSD modeling significance level. Because the impacts associated with the operation of the proposed facility are below all applicable PSD modeling significance levels, no impact area exists that is associated with the project. Impacts to soils and vegetation resulting from operation of the proposed facility are thus expected to be negligible.

Visibility Impairment Analysis
A visibility impairment analysis is required to assess visibility impacts in Class I areas located within 100 kilometers of the proposed facility. There are no Class I areas within 100 kilometers of the proposed facility. No visibility analysis was thus conducted. Furthermore, visibility impacts are expected to be negligible because impacts of all modeled pollutants are below the MSL and, by definition, insignificant.

HAPs and Ammonia
An analysis was conducted to determine if emission rates of non-criteria pollutants associated with the facility would trigger dispersion modeling requirements for any specific non-criteria pollutants. The analysis was conducted according to the Non-Criteria Pollutant Control Strategy. Contaminants with emission rates less than the Presumptively Acceptable Emission

Rate (PAER) are exempt from dispersion modeling. Emission rates and PAERs for non-criteria pollutants associated with the facility are presented in the following table:

HAP (or Ammonia)	Emission Rate (lb/hr)	TLV (mg/m^3)	PAER* (lb/hr)	Modeling Required**
Ammonia	269.2	17.4	1.91	Y
VHAPS				
1,3-butadiene	0.01	4.4	0.484	N
acetaldehyde	0.32	45	4.95	N
acrolein	0.05	0.23	0.025	Y
ethylbenzene	0.25	434	47.74	N
formaldehyde	2.24	1.5	0.165	Y
hexane	0.32	176	19.36	N
propylene oxide	0.23	48	5.28	N
toluene	0.55	188	20.68	N
xylene	0.50	434	47.74	N
POM***	0.02	52.4	5.76	N
metals or metallic compounds				
arsenic	4.68E-04	0.01	0.0011	N
cadmium	2.58E-03	0.01	0.0011	N
chromium	3.28E-03	0.01	0.0011	N
mercury	6.09E-04	0.01	0.0011	N

* PAER is the TLV of the HAP X 0.11
** If the proposed lb/hr is less than the PAER, then no further modeling is required.
*** Naphthalene used as representative POM

This analysis shows that most non-criteria pollutants passed the first level of modeling (except acrolein, ammonia and formaldehyde). These two species are modeled with ISCST3 dispersion methods to show compliance with the Presumptively Acceptable Impact Level (PAIL). PAIL is the maximum ambient 24-hour average concentration, for Hazardous Air Pollutants (HAPs), less than or equal to 1/100th of the Threshold Limit Value (TLV) or an acceptable concentration that has been established by the Department for each substance emitted. The ambient concentration resulting from the proposed emission rate of a substance is determined by using atmospheric dispersion models to obtain the maximum ambient, ground level concentration expressed as a 24-hour average.

HAP (or Ammonia)	Emission Rate (lb/hr)	TLV (mg/m^3)	PAIL (Fg/m^3)	ISCST3 Result	Pass
ammonia	269.2	17.3	173	1.330	Y

HAP (or Ammonia)	Emission Rate (lb/hr)	TLV (mg/m^3)	PAIL (Fg/m^3)	ISCST3 Result	Pass
acrolein	0.05	45	450	0.00071	Y
formaldehyde	2.24	1.5	15	0.032	Y

Emissions Summary

The following table is a summary of emissions from the facility. Specific conditions and emissions for each source can be found starting on the page cross referenced in the table.

This table, in itself, is not an enforceable condition of the permit.

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
Total Allowable Emissions		PM	125.2	525.7	N/A
		PM_{10}	117.2	491.1	
		SO_2	57.2	215.9	
		VOC	81.6	330.5	
		CO	112.9	1949.1	
		NO_x	188.6	561.5	
		NH_3	269.2	590.5	
		lead	0.01	0.01	
		<u>HAPs</u>:			
		1,3-butadiene	0.01	0.02	
		acetaldehyde	0.32	1.25	
		acrolein	0.05	0.20	
		ethylbenzene	0.25	1.00	
		formaldehyde	2.24	9.00	
		hexane	0.32	1.32	
		propylene oxide	0.23	0.91	
		toluene	0.55	2.19	
		xylene	0.50	1.99	
		POM	0.02	0.07	
		arsenic	0.01	0.01	
		cadmium	0.01	0.02	
		chromium	0.01	0.02	
		mercury	0.01	0.01	
01	Unit 1			<u>Total tpy for SN-01 through 04</u>	19

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Source No.	Description	Pollutant	Emission Rates			Cross Reference Page
			lb/hr	tpy		
		PM	27.8	PM	482.0	
		PM_{10}	27.8	PM_{10}	482.0	
		SO_2	13.3	SO_2	213.6	
		VOC	19.0	VOC	325.9	
		CO	115.6	CO	1913.2	
		NO_x	32.0	NO_x	522.4	
		NH_3	67.3	NH_3	590.5	
		lead	0.01	lead	0.01	
		HAPs:		Total HAPs tpy (SN 01-04):		
		1,3-butadiene	0.01	1,3-butadiene	0.02	
		acetaldehyde	0.08	acetaldehyde	1.25	
		acrolein	0.02	acrolein	0.20	
		ethylbenzene	0.07	ethylbenzene	1.00	
		formaldehyde	0.56	formaldehyde	8.96	
		hexane	0.08	hexane	1.28	
		propylene oxide	0.06	propylene oxide	0.91	
		toluene	0.14	toluene	2.20	
		xylene	0.13	xylene	2.00	
		POM*	0.02	POM	0.08	
		arsenic	0.01	arsenic	0.01	
		cadmium	0.01	cadmium	0.02	
		chromium	0.01	chromium	0.02	
		mercury	0.01	mercury	0.01	
02	Unit 2	PM	27.8			19
		PM_{10}	27.8			
		SO_2	13.3			
		VOC	19.0			
		CO	115.6			
		NO_x	32.0			
		NH_3	67.3			
		lead	0.01			
		HAPs:				
		1,3-butadiene	0.01			
		acetaldehyde	0.08			
		acrolein	0.02			
		ethylbenzene	0.07			
		formaldehyde	0.56			
		hexane	0.08			

EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		propylene oxide	0.06		
		toluene	0.14		
		xylene	0.13		
		POM	0.02		
		arsenic	0.01		
		cadmium	0.01		
		chromium	0.01		
		mercury	0.01		
03	Unit 3	PM	27.8		19
		PM_{10}	27.8		
		SO_2	13.3		
		VOC	19.0		
		CO	115.6		
		NO_x	32.0		
		NH_3	67.3		
		lead	0.01		
		<u>HAPs</u>:			
		1,3-butadiene	0.01		
		acetaldehyde	0.08		
		acrolein	0.02		
		ethylbenzene	0.07		
		formaldehyde	0.56		
		hexane	0.08		
		propylene oxide	0.06		
		toluene	0.14		
		xylene	0.13		
		POM	0.02		
		arsenic	0.01		
		cadmium	0.01		
		chromium	0.01		
		mercury	0.01		
04	Unit 4	PM	27.8		19
		PM_{10}	27.8		
		SO_2	13.3		
		VOC	19.0		
		CO	115.6		
		NO_x	32.0		
		NH_3	67.3		
		lead	0.01		

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		HAPs:			
		1,3-butadiene	0.01		
		acetaldehyde	0.08		
		acrolein	0.02		
		ethylbenzene	0.07		
		formaldehyde	0.56		
		hexane	0.08		
		propylene oxide	0.06		
		toluene	0.14		
		xylene	0.13		
		POM	0.02		
		arsenic	0.01		
		cadmium	0.01		
		chromium	0.01		
		mercury	0.01		
05	Boiler 1			Total tpy for SN-05 and 06	34
		PM	0.5	PM 2.2	
		PM_{10}	0.5	PM_{10} 2.2	
		SO_2	0.3	SO_2 1.4	
		VOC	0.8	VOC 3.6	
		CO	6.7	CO 33.2	
		NO_x	5.3	NO_x 26.6	
		lead	0.1	lead 0.01	
		HAPs:		Total HAPs tpy (SN 05-06):	
		formaldehyde	0.01	formaldehyde 0.01	
		hexane	0.01	hexane 0.01	
		toluene	0.01	toluene 0.01	
		POM	0.01	POM 0.01	
		arsenic	0.01	arsenic 0.01	
		cadmium	0.01	cadmium 0.01	
		chromium	0.01	chromium 0.01	
		mercury	0.01	mercury 0.01	
06	Boiler 2	PM	0.5		34
		PM_{10}	0.5		
		SO_2	0.3		
		VOC	0.8		
		CO	6.7		
		NO_x	5.3		

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EMISSION SUMMARY					
Source No.	Description	Pollutant	Emission Rates		Cross Reference Page
			lb/hr	tpy	
		lead	0.1		
		HAPs:			
		formaldehyde	0.01		
		hexane	0.01		
		toluene	0.01		
		POM	0.01		
		arsenic	0.01		
		cadmium	0.01		
		chromium	0.01		
		mercury	0.01		
07 through 18	Cooling Tower 1	PM PM_{10}	4.7 0.7	total tpy for SN-07 through SN-30: PM 40.6 PM_{10} 6.0	37
19 through 30	Cooling Tower 2	PM PM_{10}	4.7 0.7		37
32	600-kW Generator 1	PM PM_{10} SO_2 VOC CO NO_x	1.8 1.8 1.7 2.0 5.4 25.0	Total tpy for SN-33 and 34 PM 0.9 PM_{10} 0.9 SO_2 0.9 VOC 1.0 CO 2.7 NO_x 12.5	39
33	600-kW Generator 2	PM PM_{10} SO_2 VOC CO NO_x	1.8 1.8 1.7 2.0 5.4 25.0		39

*POM = polycyclic organic matter

SECTION III: PERMIT HISTORY

Permit #1936-AOP-R0 is the initial permit for this facility. It allowed the facility to construct and operate four natural gas-fired combustion turbines, with duct burners, and two auxiliary boilers. Other supporting equipment was also permitted. This supporting equipment includes cooling towers, emergency use generators, and insignificant activities such as a wastewater treatment oil-water separator and a fire-water pump engine.

The facility was subject to PSD review as part of the initial Title V permitting process. This review required the application of Best Available Control Technology (BACT) and an air quality analysis of facility emissions sources to ensure compliance with NAAQS and to assess increment consumption.

The facility is a fossil-fuel fired steam-generating electric utility with heat input greater than 250 MM Btu/hr. These facilities are specifically listed on the PSD 28-list of named source categories and is therefore considered a major source because it emits one or more regulated pollutants in quantities greater than 100 tpy.

The following table compares PSD Significant Emission Rates to the initially permitted facility emissions. The facility underwent full review for each of these pollutants.

Pollutant	PSD Significant Emission Increase (tpy)	Emissions Increase (tpy)
PM_{10}	15	490.0
SO_2	40	215.3
Ozone	40 tpy of VOC	328.6 tpy of VOC
CO	100	1929.3
NO_2	40 tpy of NO_x	545.6 tpy of NO_x

Summary of BACT Determination

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The following table summarized each BACT determination and limits made for this facility: Detailed BACT analyses may be found in the 1936-AOP-R0.

Pollutant	CT/HRSG	Cooling Tower	Auxiliary Boiler	Diesel fired Generators
NO_x	Dry low-NO_x and SCR (3.5 ppmvd @ 15% O_2 24 hour average)	NA	Good operating practice (0.12 lb/MM Btu)	Good operating practice (14 gram/bhp-hr)
CO	Good operating practice (21 ppmvd @ 15% O_2 24 hour average)	NA	Good operating practice (0.15 lb/MM Btu)	Good operating practice (3 gram/bhp-hr)
VOC	Good operating practice (9.4 ppmvw)	NA	Good operating practice (0.016 lb/MM Btu)	Good operating practice (1.1 gram/bhp-hr)
PM_{10}	Good operating practice (27.8 lb/hr per turbine duct burner combination)	Drift eliminator (0.7 lb/hr for each 12-cell tower)	Good operating practice (0.01 lb/MM Btu)	Good operating practice (1.77 lb/hr)
SO_2	fuel S limit (#2 grains S/100 dscf)	NA	fuel S limit (#2 grains/100 dscf)	fuel S limit (0.05% S by weight)

Each BACT determination and corresponding emission rates/ level is consistent with that of similar units found in the RBLC and is consistent with other similar permitted sources in Arkansas.

SECTION IV: EMISSION UNIT INFORMATION

SN-01 through 04
Units 1 through 4: CT/ HRSG/ Duct Burner Exhausts

Hot Spring Energy Facility operates four GE 7FA 170 MW low-NO_x combustion turbines. With duct burner firing, each CT/HRSG/duct burner has a total heat input capacity of 2,507 MM Btu/hr always using natural gas, and always operating with SCR. The duct burner consumes approximately 500 MM Btu/hr of the total heat input capacity at each unit.

Specific Conditions

Particulate Matter and Opacity

1. Pursuant to §19.501 and §19.901 et seq. of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) effective February 15, 1999 and 40 CFR Part 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance with this condition will be demonstrated by the initial testing requirements of Specific Condition 5.

   The hourly emission rates set forth in the following table were based on a worst-case scenario.

Pollutant	lb/hr	Averaging Period
PM	27.8	Per EPA Reference Method 5
PM_{10}	27.8	Per EPA Reference Method 5

2. Pursuant to §19.501, §19.901, 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust.

   Initial compliance with the annual emission rates set forth in the following table shall be demonstrated by the initial performance test of the CT/HRSG/duct burner stacks for PM/PM_{10}.
   Continuing compliance with the annual emission rates shall be demonstrated by permitting these sources at maximum annual rates. Maximum annual emission rates are based on an average ambient temperature and continuous annual duct-burner firing.

Pollutant	tons per consecutive 12 months
PM	120.5
PM_{10}	120.5

3. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each CT/HRSG/duct burner exhaust. Compliance with the emission levels set forth in the following table shall be demonstrated by the performance testing requirements of Specific Condition 5.

Pollutant	BACT Determination		
PM	good combustion practices and clean fuels	27.8 lb/hr	3-hr avg.
PM_{10}	good combustion practices and clean fuels	27.8 lb/hr	3-hr avg.

4. Pursuant to §18.501 and A.C.A., the permittee shall not cause to be discharged to the atmosphere from SN-01 through SN-04 stack gases which exhibit greater than 5% opacity averaged over a six minute period. Compliance with this opacity limit shall be demonstrated by the use of natural gas as the only permitted fuel.

5. Pursuant to §19.702, §19.901, and 40 CFR 52 Subpart E, the permittee shall perform an initial stack test of two of the four CT/HRSG/duct burner exhausts to demonstrate compliance with the limits specified in Specific Conditions 1 and 3. Testing shall be performed in accordance with Plantwide Condition 3 and EPA Reference Method 5 as found in 40 CFR Part 60 Appendix A. Testing shall be performed in combined cycle mode at greater than or equal to 90% of the maximum operating load. The permittee shall perform, at minimum, an initial stack test on two of the four CT/HRSG/duct burner exhaust stacks.

Sulfur Dioxide

6. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance with this condition will be demonstrated by the monitoring requirements of Specific Condition 9.

   The hourly emission rates set forth in the following table were based on a worst-case scenario.

Pollutant	lb/hr	Averaging Period
SO_2	13.3	Per Appendix A

7. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance shall be based on compliance with Specific Condition 9.

Pollutant	tons per consecutive twelve months
SO_2	53.4

8. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each CT/HRSG/duct burner exhaust. Compliance with the emission levels set forth in the following table shall be demonstrated by the requirements of Specific Condition 9.

Pollutant	BACT Determination	
SO_2	low sulfur fuels	#2 grains S/100 dscf

9. Pursuant to §19.703 and §19.901 et seq. of Regulation 19, NSPS Subpart GG, 40 CFR Part 75 Subpart B, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the monitoring requirements relative to SO_2 emissions from the CT/HRSG/duct burner exhausts shall be as follows:

   A. The permittee shall monitor the natural gas fuel sulfur content using the custom fuel monitoring schedule outlined in Appendix A of this permit in order to satisfy fuel bound sulfur monitoring requirements of NSPS Subpart GG.

B. The permittee shall conduct SO_2 emissions monitoring procedures in accordance with, Appendix D of 40 CFR Part 75. These procedures shall include monitoring the fuel sulfur content of the fuel rounded to the nearest 0.1 grains per 100 SCF. As an alternative, procedures may include measuring pipeline natural gas fuel flow rate using an in-line fuel flow meter, determining the gross calorific value of the pipeline natural gas at least once per month, and using the default emission rate of 0.0006 pounds of SO_2 per million Btu of heat input.

C. The permittee shall maintain records which demonstrate compliance with 9(A) & (B). Records shall be submitted in accordance with General Provision 7.

Volatile Organic Compounds

10. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance shall be demonstrated by initial performance tests required by Specific Condition 13.

The hourly emission rates set forth in the following table were based on a worst-case scenario.

Pollutant	lb/hr	Averaging Period
VOC	19.0	3-hour

11. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust.

Initial compliance with the annual emission rates set forth in the following table shall be demonstrated by the initial performance test on two of the four CT/HRSG/duct burner stacks for VOC. Continuing compliance with the annual emission rates shall be demonstrated by permitting these sources at maximum annual rates. Maximum annual emission rates are based on an average ambient temperature and continuous annual duct-burner firing.

Pollutant	tons per consecutive twelve months
VOC	81.5

12. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each CT/HRSG/duct burner exhaust. Compliance with the emission levels set forth in the following table shall be demonstrated by the performance test of two of the four combustion turbine/heat recovery steam generating unit stacks for VOC.

Pollutant	BACT Determination		Averaging Period
VOC	good combustion practices and clean fuels	9.4 ppmvw	3-hour

13. Pursuant to §19.702, §19.901, and 40 CFR 52 Subpart E, the permittee shall perform an initial stack test of two of the four CT/HRSG/duct burner exhausts to demonstrate compliance with the limits specified in Specific Conditions 10 and 12. Testing shall be performed in accordance with Plantwide Condition 3 and EPA Reference Method 25A as found in 40 CFR Part 60 Appendix A. Testing shall be performed in combined cycle mode at greater than or equal to 90% of the maximum operating load. The permittee shall perform, at minimum, an initial stack test on two of the four CT/HRSG/duct burner exhaust stacks.

Carbon Monoxide

14. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Initial compliance shall be demonstrated by initial performance tests required by Specific Condition 17. Ongoing compliance shall be demonstrated by the CO CEMS required by Specific Condition 18.

Pollutant	lb/hr	Averaging Period
CO	115.6	24-hour

15. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance shall be demonstrated by compliance with Specific Condition 14.

Pollutant	tons per consecutive twelve months
CO	478.3

16. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each CT/HRSG/duct burner exhaust. Initial compliance with the emission levels set forth in the following table shall be demonstrated by the performance test of two of the four combustion turbine/heat recovery steam generating unit stacks for CO as required by Specific Condition 17. Ongoing compliance shall be demonstrated by operation of CEMS as required by Specific Condition 18.

Pollutant	BACT Determination	
CO	good combustion practices and clean fuels	21 ppmvd @ 15%O_2 24 hour average

17. Pursuant to §19.702, §19.901, and 40 CFR 52 Subpart E, the permittee shall perform an initial stack test of two of the four CT/HRSG/duct burner exhausts to demonstrate compliance with the limits specified in Specific Conditions 14 and 16. Testing shall be performed in accordance with Plantwide Condition 3 and EPA Reference Method 10 as found in 40 CFR Part 60 Appendix A. Testing shall be performed in combined cycle mode at greater than or equal to 90% of the maximum operating load. The permittee shall perform, at minimum, an initial stack test on two of the four CT/HRSG/duct burner exhaust stacks.

18. Pursuant to §19.703, §19.901, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall install, maintain, and operate a CO CEMS on each CT/HRSG/duct burner exhaust stack. The CEMS shall comply with the Air Divisions "Continuous Emissions Monitoring Systems Conditions." A copy is provided in Appendix B. The CEMS data may be used by the Department for enforcement purposes. The CEMS shall be used to demonstrate compliance with the CO mass emission limits specified in Specific Conditions 14, 15, and 16.

Nitrogen Oxides

19. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Initial compliance shall be demonstrated by initial performance tests required by Specific Condition 22. Ongoing compliance shall be demonstrated by the NO_x CEMS required by Specific Condition 23.

Pollutant	lb/hr	Averaging Period

Pollutant	lb/hr	Averaging Period
NO_x	32.0	24-hour

20. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance shall be demonstrated by compliance with Specific Condition 19.

Pollutant	tons per consecutive twelve months
NO_x	130.6

21. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each CT/HRSG/duct burner exhaust. Initial compliance with the emission levels set forth in the following table shall be demonstrated by the performance test of two of the four combustion turbine/heat recovery steam generating unit stacks for NO_x. Ongoing compliance shall be demonstrated by the operation of NOx CEMS required by Specific Condition 23.

Pollutant	BACT Determination	
NO_x	low-NO_x combustion/ SCR	3.5 ppmvd @ 15%O_2

22. Pursuant to §19.702, §19.901, and 40 CFR 52 Subpart E, the permittee shall perform an initial stack test of two of the four CT/HRSG/duct burner exhausts to demonstrate compliance with the limits specified in Specific Conditions 19 and 21. Testing shall be performed in accordance with Plantwide Condition 3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A. Testing shall be performed in combined cycle mode at greater than or equal to 90% of the maximum operating load. The permittee shall perform, at minimum, an initial stack test on two of the four CT/HRSG/duct burner exhaust stacks.

23. Pursuant to §19.703, §19.901, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall install, maintain, and operate a NO_x CEMS on each CT/HRSG/duct burner exhaust stack. The CEMS shall comply with the Air Divisions "Continuous Emissions Monitoring Systems Conditions." A copy is provided in Appendix B. The CEMS data may be used by the Department for enforcement purposes. The CEMS shall be used to demonstrate compliance with Specific Conditions 19, 20, and 21.

Lead

24. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance shall be demonstrated by the use of natural gas.

The hourly emission rates in the following table are based on the worst case scenario.

Pollutant	lb/hr	Averaging Period
Pb	0.002	24-hour

25. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each CT/HRSG/duct burner exhaust. Compliance is demonstrated through the use of natural gas.

Pollutant	tons per consecutive twelve months
Pb	0.009

Non-criteria Pollutants

26. Pursuant to §18.801 of Regulation 18 and A.C.A., the permittee shall not exceed lb/hr emission rates listed in the following table for each CT/ HRSG/ duct burner exhaust. Initial compliance shall be determined by testing requirements of Specific Condition 29. Ongoing compliance with emission rates shall be demonstrated by the exclusive use of pipeline quality natural gas. The emission rates are based on typical AP-42 emission factors. Any rates exceeding these limits shall be corrected by a modification application submitted to the Department within 90 days following submission of stack test results. The corrected emission rates must be compliant with the Department's *Non-criteria Pollutant Control Strategy*.

Pollutant	lb/hr	Averaging Period
NH_3	33.7/ 67.3	daily/ 3 hour
HAPs		
1,3-butadiene	0.01	
acetaldehyde	0.08	
acrolein	0.02	

Pollutant	lb/hr	Averaging Period
ethylbenzene	0.07	
formaldehyde	0.56	
hexane	0.08	
propylene oxide	0.06	
toluene	0.14	
xylene	0.13	
POM	0.02	
arsenic	0.01	
cadmium	0.01	
chromium	0.01	
mercury	0.01	

27. Pursuant to §18.801 of Regulation 18 and A.C.A., the permittee shall not exceed ton per year emission rates listed in the following table for each CT/ HRSG/ duct burner exhaust. Compliance shall be determined by compliance with Specific Condition 26 and the exclusive use of pipeline quality natural gas. The emission rates are based on typical AP-42 emission factors. Any rates exceeding these limits shall be corrected by a modification application submitted to the Department within 90 days following submission of stack test results.

Pollutant	tons per consecutive twelve months
NH_3	147.6
HAPs	
1,3-butadiene	0.01
acetaldehyde	0.32
acrolein	0.05
ethylbenzene	0.25
formaldehyde	2.24
hexane	0.32
propylene oxide	0.23
toluene	0.55
xylene	0.50
POM	0.02
arsenic	0.01
cadmium	0.01
chromium	0.01
mercury	0.01

28. Pursuant to §18.1002 and A.C.A. within five years of issuance of this permit, the permittee shall conduct a performance test for ammonia (NH_3) at SN-01 through SN-04 to assure compliance with Specific Condition 26 ammonia emission rates. The permittee

shall use Department approved methodology. Testing on the CT/HRSG/duct burners shall be performed in combined cycle at greater than or equal to 90% maximum load.

29. Pursuant to §18.1002 and A.C.A., the permittee shall conduct an initial performance test on one of the CT/HRSG/duct burner units using Method 18 for all detectable HAPs concentrations. Testing will be used to help establish appropriate worst-case HAP emission rates for Specific Condition 26. The test shall be performed while operating in combined cycle at greater than 90% of capacity. The permittee shall also demonstrate that the facility is not a major source for HAPs (i.e. 10 tpy single HAP or 25 tpy total HAPs facility wide). The permittee has the option to test the CT again in simple cycle mode at greater than 90% load in order to demonstrate that the facility (the four CTs and the boilers) is not a major source for HAPs and is therefore not subject to requirements of the Clean Air Act §112(g). Testing shall be performed in accordance with Plantwide Condition 3.

Throughput Limits

30. Pursuant to §18.1004, §19.705, §19.901, A.C.A., and 40 CFR 70.6, each CT/HRSG/duct burner unit may only fire pipeline quality natural gas.

New Source Performance Standards

31. Each combustion turbine/heat recovery steam generating unit is subject to and shall comply with applicable provisions of 40 CFR Part 60 Subpart A - *General Provisions* and 40 CFR Part 60 Subpart GG - *Standards of Performance for Stationary Gas Turbines* (Included in Appendix C). Applicable provisions of Subpart GG include, but are not limited to, the following:

    A. Pursuant to 40 CFR §60.332(a)(1), the permittee shall not exceed a NO_X emission level of 75 ppmvd at 15% oxygen on a dry basis. Compliance shall be demonstrated by compliance with Specific Condition 21.

    B. Pursuant to 40 CFR §60.333(b) the permittee shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. Compliance with this condition shall be demonstrated by compliance with Specific Condition 9(A).

    C. Pursuant to 40 CFR §60.334(c)(2), the permittee shall report any monitoring period during which the sulfur content of the fuel being fired in the gas turbines exceeds 0.8 percent by weight.

D. Pursuant to 40 CFR §60.335 and §60.8, initial compliance testing for NO_X and SO_2 is required within 180 days after start-up. Compliance with the SO_2 requirements will be demonstrated by compliance with Specific Condition 9(A).

The NO_X performance testing shall be conducted in accordance with test methods in 40 CFR Part 60 Appendix A or alternative approved methods. The testing shall be conducted at four points in the normal operating range of the turbines including the minimum point in the range and at the full load. Compliance with these NO_x performance testing requirements may be waived pending EPA approval of the use of CEMS required by Specific Condition 23 to demonstrate compliance with the NO_x standard.

32. Pursuant to §19.304, and 40 CFR Part 60, Subpart Da, the Duct Burners in the CT/HRSG system (SN-01 through 04) are subject. The permittee shall comply with all applicable provisions of 40 CFR Part 60, Subpart A - General Provisions and Subpart Da - *Standards of Performance for Electric Utility Steam Generating Units*. A copy of Subpart Da is provided in Appendix D. Applicable provisions of Subpart Da include, but are not limited to the following:

A. Pursuant to §60.42(a)(a), no gases shall be discharged into the atmosphere which contain particulate matter in excess of 0.03 lb/million Btu heat input.

B. Pursuant to §60.42(a)(b), no gases shall be discharged into the atmosphere which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour or not more than 27 percent opacity.

C. Pursuant to §60.43(a)(b) and (g), no gases shall be discharged into the atmosphere which contain sulfur dioxide in excess of 0.20 lb/million Btu heat input based on a 30-day rolling average. Compliance shall be demonstrated by requirements of Specific Condition 9(A) and (B).

D. Pursuant to §60.44(a)(d)(1), no gases shall be discharged into the atmosphere which contain nitrogen oxides in excess of 1.6 lb/megawatt-hour gross energy output based on a 30-day rolling average. The nitrogen oxides emission rate from the duct burner component of the combined cycle system shall be calculated by subtracting the nitrogen oxides emission rate measured for the unfired duct burner case from the nitrogen oxides emission rate measured for the fired duct burner case.

E. Pursuant to §60.46(a)(c), the particulate matter and nitrogen oxide emission standards apply at all times except during periods of startup, shutdown, or malfunction. The sulfur dioxide emission standards apply at all times except during periods of startup and shutdown.

F. Pursuant to §60.46(a)(e), compliance with the sulfur dioxide and nitrogen oxide emission limitations is based on the average emission rate for 30 successive boiler operating days. A separate performance test is completed at the end of each boiler operating day after the initial performance test, and a new 30-day average emission rate for both sulfur dioxide and nitrogen oxides are calculated to show compliance with the standards.

G. Pursuant to §60.46(a)(i), nitrogen oxide emissions shall be calculated by multiplying the average hourly NO_x concentration by the average hourly flow rate and divided by the average hourly gross heat rate or other method approved by the administrator. (See Appendix G.)

H. Pursuant to §60.47(a)(c), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system for NO_x, and record the output of the system. If CEMS are installed to meet the requirements of part 75 and are continuing to meet the requirements of part 75, that CEMS may be used to meet this condition, except that the permittee shall also meet the requirements of §60.49a.

I. Pursuant to §60.47(a)(d), the permittee shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the oxygen or carbon dioxide content of the flue gases at each location where sulfur dioxide or nitrogen oxides emissions are monitored.

J. Pursuant to 40 CFR Part 60, Subpart Da, initial compliance testing for PM/PM_{10}, opacity, and NO_x (at 100% boiler load) is required within 180 days after startup. Testing shall be conducted in accordance with the test methods in 40 CFR Part 60 Appendix A or alternative approved methods.

33. Pursuant to 40 CFR §60.7(a), the following notifications to the Department are required for SN-01 and SN-02: (a) date of construction commenced postmarked no later than 30 days after such date, (b) anticipated date of initial startup between 30-60 days prior to such date, (c) actual date of initial startup postmarked within 15 days after such date, and (d) CEMS, opacity, and emissions performance testing 30 days prior to testing.

Acid Rain Program

34. The affected units (SN-01 through SN-04) are subject to and shall comply with applicable provisions of the Acid Rain Program (40 CFR Parts 72, 73, and 75).

35. Pursuant to 40 CFR Part 75 (Appendix A)- Continuous Emission Monitoring Subpart G, the submission of the NO_X, SO_2, and O_2 or CO_2 monitoring plan is required at least 45 days prior to the CEMS certification testing. Notice of CEMS certification testing is required at least 45 days prior to the CEMS certification testing. A copy of 40 CFR Part 75 is included in Appendix F.

36. Pursuant to 40 CFR Part 75 - Continuous Emission Monitoring Subpart G, a monitoring plan is required to be submitted for NO_X, SO_2, and O_2 or CO_2 monitoring.

37. Pursuant to 40 CFR Part 75 Subpart A, the initial NO_X, and O_2 or CO_2 CEMS certification testing is to occur no later than 90 days after the unit commences commercial operation except the testing must occur prior to the date this unit is declared commercial in accordance with DOE Form EIA-860.

38. Pursuant to 40 CFR §75.10, the permittee shall ensure that the continuous emissions monitoring systems are in operation and monitoring all unit emissions at all times, except during periods of calibration, quality assurance, preventative maintenance or repair.

Startup and Shutdown Provisions

39. Pursuant to §19.601 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, for the purposes of this permit, "upset condition" reports as required by §19.601 of Regulation 19 shall not be required for periods of startup excess emissions from SN-01, SN-02, SN-03, and SN-04 unless such periods of excess startup emissions exceed a four hour period or are in violation after initial attainment of the Mode 6 operating condition (whichever is less). Reports shall not be required during a one hour period preceding shutdown. This shall only apply for "upset conditions" which directly result from the start-up and/or shut down of one or all of the combustion turbine units (SN-01 SN-02, SN-03 and SN-04). All other "upset conditions" must be reported as required by Regulation 19. Additionally, the following conditions must be met during start up and shut down periods.

    A. All CEM systems for SN-01, SN-02, SN-03, and SN-04 must be operating during start up and shut down. The emissions recorded during these periods shall count toward the annual ton per year permit limits.

B. The permittee shall maintain a log or equivalent electronic data storage which shall indicate the date, start time, and duration of each start up and shut down procedure. "Start up" shall be defined as the period of time beginning with the first fire within the combustion turbine firing chamber until the unit(s) are operating at steady state as defined by the combustion turbine manufacturer (i.e. Mode 6) or a maximum of four hours. "Shut down" shall be defined as the period of time up to one hour beginning with the initiation of the shut down procedure and ending when emissions are no longer detected from the source. This log or equivalent electronic data storage shall be made available to Department personnel upon request.

C. Opacity is not included. If any occurrences should ever occur, "upset condition" reporting is required.

D. Operating mode, specifically whether or not a particular unit is in Mode 6, shall be able to be identified at any time from the control area for that unit and shall be available for inspection by ADEQ representatives at any time.

E. Requirements of ADEQ CEMS Condition (II) (F) are not applicable to this permit. However, the facility shall still comply with the 40 CFR 60.7 requirements to maintain 95% CEMS uptime during non startup/ shutdown periods and 99% compliance demonstration during these periods along with the required reporting requirements.

SN-05 and SN-06: Auxiliary Boiler 1 and 2

Source Description

The facility operates two 44.1 MM Btu/hr, 1000 hp auxiliary boilers for additional steam production. The steam is used to maintain steam flow and operating temperatures during down periods and to help minimize startup time of the primary units. The boilers operate no more than 5,000 hours per year each, natural gas-fired only. They will not be used to augment the power generation of the CTs or provide additional steam for the steam turbines. The boilers employ low-NO_x combustion technology as control for NO_x with no add-on devices.

Specific Conditions

40. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each Auxiliary Boiler. Compliance with this condition will be demonstrated by compliance with Specific Condition 44 and 45.

Pollutant	lb/hr	tpy
PM	0.5	1.1
PM_{10}	0.5	1.1
SO_2	0.3	0.7
VOC	0.8	1.8
CO	6.7	16.6
NO_X	5.3	1.8

41. Pursuant to §18.801 and A.C.A., the permittee shall not exceed the emission rates set forth in the following table at each Auxiliary Boiler. Compliance with this condition will be demonstrated by compliance with Specific Condition 44 and 45. The HAP emissions listed for this source were based upon published emission factors at the time of permit issuance. Any change in these emission factors will not constitute a violation of the HAP emission rates listed below.

Pollutant	lb/hr	tpy
formaldehyde	0.01	0.01
hexane	0.01	0.01

Pollutant	lb/hr	tpy
toluene	0.01	0.01
POM	0.01	0.01
arsenic	0.01	0.01
cadmium	0.01	0.01
chromium	0.01	0.01
mercury	0.01	0.01

42. Pursuant to §18.501 and A.C.A., the permittee shall not cause to be discharged to the atmosphere from SN-05 through SN-06 stack gases which exhibit greater than 5% opacity averaged over a six minute period. Compliance with this opacity limit shall be demonstrated by the use of natural gas.

43. Pursuant to §19.304 and 40 CFR 60, Subpart Dc, the permittee shall comply with all applicable provisions of 40 CFR Part 60, Subpart A - General Provisions and Subpart Dc - *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*. A copy of Subpart Dc is provided in Appendix E. Applicable provisions of Subpart Dc include, but are not limited to, the following:

    A. Pursuant to §60.48(c)(a), the owner or operator shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup. This notification shall include:

        1. The design heat input capacity of the boiler and identification of fuels to be combusted in the affected facility.

        2. The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired.

    B. Pursuant to §60.48(c)(g) and (i), records of the amounts of fuel combusted each month must be kept for SN-05 and SN-06. These records shall be kept on site for two years following the date of such records.

44. Pursuant to §18.1004, §19.705, §19.901, A.C.A., and 40 CFR 70.6, the boilers (SN-05 and SN-06) may only fire pipeline quality natural gas.

45. Pursuant to §18.1004, §19.705, §19.901, 40 CFR 52 Subpart E, A.C.A., and 40 CFR §70.6, operation of the auxiliary boilers shall be limited to 5,000 hours each per twelve consecutive months.

46. Pursuant to §19.705 and 40 CFR Part 52, Subpart E, the permittee shall maintain monthly records to demonstrate compliance with limits set in Specific Condition 45. Records shall contain a twelve month rolling total and shall be kept in accordance with General Provision 7.

47. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each auxiliary boiler exhaust. Compliance with the emission levels set forth in the following table shall be demonstrated by the performance test of both boiler stacks for NO_x and compliance with Specific Condition 44. Compliance with the fuel sulfur limit shall be demonstrated by requirements of Specific Condition 9.

Pollutant	BACT Determination	
PM_{10}	Good Operating Practice	0.01 lb/MM Btu
CO	Good Operating Practice	0.15 lb/MM Btu
VOC	Good Operating Practice	0.016 lb/MM Btu
NO_x	Good Operating Practice Low-NO_x combustion/ SCR	0.12 lb/MM Btu
SO_2	fuel S limit	#2 gr/dscf

48. Pursuant to §19.702, §19.901, and 40 CFR 52 Subpart E, the permittee shall perform an initial stack test on both SN-05 and SN-06 to demonstrate compliance with the NO_x limit specified in Specific Condition 47. Testing shall be performed in accordance with Plantwide Condition 3 and EPA Reference Method 7E as found in 40 CFR Part 60 Appendix A at greater than or equal to 90% of the maximum operating load.

SN-07 through SN-30: Cooling Towers 1 and 2

As part of Hot Spring Energy Facility's CT inlet air chilling system, two 12-cell forced convection cooling towers are used. Tower 1 is designated by SN-07 through SN-18 and Tower 2 is SN-19 through 30. The towers use a drift eliminator capable of reducing drift to 0.005% drift of total recirculated water.

Specific Conditions

49. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each 12-cell tower. Compliance with this condition will be demonstrated by compliance with Specific Condition 53.

Pollutant	lb/hr	tpy
PM_{10}	0.7	3.0

50. Pursuant to §18.801 and A.C.A., the permittee shall not exceed the emission rates set forth in the following table at each 12-cell tower. Compliance with this condition will be demonstrated by Specific Condition 53.

Pollutant	lb/hr	tpy
PM	4.7	20.3

51. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determination at each 12-cell tower. Compliance with the emission levels set forth in the following table shall be demonstrated by Specific Condition 53.

Pollutant	BACT Determination	
PM_{10}	Good Operating Practice	0.7 lb/hr

52. Pursuant to §19.503 40 CFR 52 Subpart E, the permittee shall not cause to be discharged to the atmosphere from SN-07 through SN-30 exhausts which exhibit greater than 20% opacity. Compliance with this opacity limit shall be demonstrated by compliance with Specific Condition 53.
53. Pursuant to §18.1004, §19.705, 40 CFR 52, Subpart E, and A.C.A., the permittee shall not exceed in the circulated cooling water a total suspended particle level of 1280 ppmw.

54. Pursuant to §18.1004, §19.705, 40 CFR 52, Subpart E, and A.C.A., the permittee shall perform monthly testing or other monitoring approved by the Department that demonstrates compliance with Specific Condition 53. The permittee shall submit the test records to the Department in accordance with General Provision 7.

SN-32 and SN-33: Emergency Generators

The facility operates two 600 kW emergency generators. These generators operate no more than 500 hours per 12 consecutive months and use No. 2 fuel oil only.

Specific Conditions

55. Pursuant to §19.501, §19.901, and 40 CFR 52, Subpart E, the permittee shall not exceed the emission rates set forth in the following table at each Emergency Generator. Compliance with this condition will be demonstrated by Specific Condition 60.

Pollutant	lb/hr	tpy
PM_{10}	1.8	0.5
SO_2	1.7	0.5
VOC	2.0	0.5
CO	5.4	1.4
NO_X	25.0	6.3

56. Pursuant to §18.801 and A.C.A., the permittee shall not exceed the emission rates set forth in the following table at each Emergency Generator. Compliance with this condition will be demonstrated by Specific Condition 60.

Pollutant	lb/hr	tpy
PM	1.8	0.5

57. Pursuant to §19.503 40 CFR 52 Subpart E, the permittee shall not cause to be discharged to the atmosphere from SN-32 or SN-33 stack gases which exhibit greater than 20% opacity. Compliance with this opacity limit shall be demonstrated by the use of No. 2 diesel fuel only.

58. Pursuant to §19.901 and 40 CFR 52, Subpart E, the permittee shall comply with the following BACT determinations for each Emergency Generator exhaust.

Pollutant	BACT Determination	
PM_{10}	Good Operating Practice	1.77 lb/hr

Pollutant	BACT Determination	
SO_2	Low S fuel	#0.05% by weight
VOC	Good Operating Practice	1.1 gram/bhp-hr
CO	Good Operating Practice	3 gram/bhp-hr
NO_x	Good Operating Practice	14 gram/bhp-hr

59. Pursuant to §19.705 and 40 CFR 52, Subpart E, the permittee must demonstrate compliance with the diesel fuel bound sulfur BACT determination of Specific Condition 58 with certifications from the supplier that each shipment of diesel is #0.05% by weight or is red-dyed (low sulfur DOT grade diesel). Records must be submitted to the Department in accordance with General Provision 7.

60. Pursuant to §18.1004, §19.705, 40 CFR 52, Subpart E, and A.C.A., the permittee shall not operate in excess of 500 hours per 12 consecutive months at each Emergency Generator.

61. Pursuant to §18.1004, §19.705, 40 CFR 52, Subpart E, and A.C.A., the permittee shall maintain records to demonstrate compliance with Specific Condition 60. Records shall be submitted in accordance with General Provision 7.

SECTION V: COMPLIANCE PLAN AND SCHEDULE

Hot Spring Energy Facility is in compliance with the applicable regulations cited in the permit application. Hot Spring Energy Facility will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

SECTION VI: PLANTWIDE CONDITIONS

62. Pursuant to §19.704 of Regulation 19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the Director shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate.

63. Pursuant to §19.410(B) of Regulation 19, 40 CFR Part 52, Subpart E, the Director may cancel all or part of this permit if the construction or modification authorized herein is not begun within 18 months from the date of the permit issuance or if the work involved in the construction or modification is suspended for a total of 18 months or more.

64. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any equipment that is to be tested, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, shall be tested with the following time frames: (1) Equipment to be constructed or modified shall be tested within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source or (2) equipment already operating shall be tested according to the time frames set forth by the Department. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Compliance test results shall be submitted to the Department within thirty (30) days after the completed testing.

65. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall provide:

    a. Sampling ports adequate for applicable test methods
    b. Safe sampling platforms
    c. Safe access to sampling platforms
    d. Utilities for sampling and testing equipment

66. Pursuant to §19.303 of Regulation 19 and A.C.A. §8-4-203 as referenced by A.C. A. §8-4-304 and §8-4-311, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitations and maintained in good condition at all times.

67. Pursuant to Regulation 26 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit subsumes and incorporates all previously issued air permits for this facility.

Acid Rain (Title IV)

68. Pursuant to §26.701 of Regulation #26 and 40 CFR 70.6(a)(4), the permittee is prohibited from causing any emissions which exceed any allowances that the source lawfully holds under Title IV of the Act or the regulations promulgated thereunder. No permit revision is required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement of this permit or the Act. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act.

Title VI Provisions

69. The permittee shall comply with the standards for labeling of products using ozone depleting substances pursuant to 40 CFR Part 82, Subpart E:

    a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
    c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

70. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:

    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152.)
e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

71. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

72. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant.

73. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program.

SECTION VII: INSIGNIFICANT ACTIVITIES

Pursuant to §26.3(d) of Regulation 26, the following sources are insignificant activities. Insignificant and trivial activities will be allowable after approval and federal register notice publication of a final list as part of the operating air permit program. Any activity for which a state or federal applicable requirement applies is not insignificant even if this activity meets the criteria of §3(d) of Regulation 26 or is listed below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated May 31, 2000.

Description	Category
Fire water pump engine	A-12
Oil-water separator for wastewater treatment	A-13
300 gallon diesel tank	A-3
2 - 1,050 gallon diesel tanks	A-3
30,000 gallon sulfuric acid tank	A-13
40,000 gallon ammonia storage tank	A-13

Pursuant to §26.3(d) of Regulation 26, the following emission units, operations, or activities have been determined by the Department to be insignificant activities. Activities included in this list are allowable under this permit and need not be specifically identified.

1. Combustion emissions from propulsion of mobile sources and emissions from refueling these sources unless regulated by Title II and required to obtain a permit under Title V of the federal Clean Air Act, as amended. This does not include emissions from any transportable units, such as temporary compressors or boilers. This does not include emissions from loading racks or fueling operations covered under any applicable federal requirements.

2. Air conditioning and heating units used for comfort that do not have applicable requirements under Title VI of the Act.

3. Ventilating units used for human comfort that do not exhaust air pollutants into the ambient air from any manufacturing/industrial or commercial process.

4. Non-commercial food preparation or food preparation at restaurants, cafeterias, or caterers, etc.

5. Consumer use of office equipment and products, not including commercial printers or business primarily involved in photographic reproduction.

6. Janitorial services and consumer use of janitorial products.

7. Internal combustion engines used for landscaping purposes.

8. Laundry activities, except for dry-cleaning and steam boilers.

9. Bathroom/toilet emissions.

10. Emergency (backup) electrical generators at residential locations.

11. Tobacco smoking rooms and areas.

12. Blacksmith forges.

13. Maintenance of grounds or buildings, including: lawn care, weed control, pest control, and water washing activities.

14. Repair, up-keep, maintenance, or construction activities not related to the sources' primary business activity, and not otherwise triggering a permit modification. This may include, but is not limited to such activities as general repairs, cleaning, painting, welding, woodworking, plumbing, re-tarring roofs, installing insulation, paved/paving parking lots, miscellaneous solvent use, application of refractory, or insulation, brazing, soldering, the use of adhesives, grinding, and cutting.[1]

15. Surface-coating equipment during miscellaneous maintenance and construction activities. This activity specifically does not include any facility whose primary business activity is surface-coating or includes surface-coating or products.

[1] Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must get a permit.

16. Portable electrical generators that can be "moved by hand" from one location to another.[2]

17. Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning, or machining wood, metal, or plastic.

18. Brazing or soldering equipment related to manufacturing activities that do not result in emission of HAPs.[3]

19. Air compressors and pneumatically operated equipment, including hand tools.

20. Batteries and battery charging stations, except at battery manufacturing plants.

21. Storage tanks, vessels, and containers holding or storing liquid substances that do not contain any VOCs or HAPs.[4]

22. Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and no volatile aqueous salt solutions, provided appropriate lids and covers are used and appropriate odor control is achieved.

23. Equipment used to mix and package soaps, vegetable oil, grease, animal fat, and non-volatile aqueous salt solutions, provided appropriate lids and covers are used and appropriate odor control is achieved.

24. Drop hammers or presses for forging or metalworking.

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[2] "Moved by hand" means that it can be moved by one person without assistance of any motorized or non-motorized vehicle, conveyance, or device.

[3] Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities that emit HAP metals are more appropriate for treatment as insignificant activities based on size or production thresholds. Brazing, soldering, and welding equipment, and cutting torches related directly to plant maintenance and upkeep and repair or maintenance shop activities that emit HAP metals are treated as trivial and listed separately in this appendix.

[4] Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids are based on size and limits including storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.

25. Equipment used exclusively to slaughter animals, but not including other equipment at slaughter-houses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.

26. Vents from continuous emissions monitors and other analyzers.

27. Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.

28. Hand-held applicator equipment for hot melt adhesives with no VOCs in the adhesive.

29. Lasers used only on metals and other materials which do not emit HAPs in the process.

30. Consumer use of paper trimmers/binders.

31. Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.

32. Salt baths using non-volatile salts that do not result in emissions of any air pollutant covered by this regulation.

33. Laser trimmers using dust collection to prevent fugitive emissions.

34. Bench-scale laboratory equipment used for physical or chemical analysis not including lab fume hoods or vents.

35. Routine calibration and maintenance of laboratory equipment or other analytical instruments.

36. Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.

37. Hydraulic and hydrostatic testing equipment.

38. Environmental chambers not using hazardous air pollutant gases.

39. Shock chambers, humidity chambers, and solar simulators.

40. Fugitive emissions related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.

41. Process water filtration systems and demineralizers.

42. Demineralized water tanks and demineralizer vents.

43. Boiler water treatment operations, not including cooling towers.

44. Emissions from storage or use of water treatment chemicals, except for hazardous air pollutants or pollutants listed under regulations promulgated pursuant to Section 112(r) of the Act, for use in cooling towers, drinking water systems, and boiler water/feed systems.

45. Oxygen scavenging (de-aeration) of water.

46. Ozone generators.

47. Fire suppression systems.

48. Emergency road flares.

49. Steam vents and safety relief valves.

50. Steam leaks.

51. Steam cleaning operations.

52. Steam and microwave sterilizers.

53. Site assessment work to characterize waste disposal or remediation sites.

54. Miscellaneous additions or upgrades of instrumentation.

55. Emissions from combustion controllers or combustion shutoff devices, but not combustion units itself.

56. Use of products for the purpose of maintaining motor vehicles operated by the facility, not including air cleaning units of such vehicles (i.e. antifreeze, fuel additives).

57. Stacks or vents to prevent escape of sanitary sewer gases through the plumbing traps.

58. Emissions from equipment lubricating systems (i.e. oil mist), not including storage tanks, unless otherwise exempt.

59. Residential wood heaters, cookstoves, or fireplaces.

60. Barbecue equipment or outdoor fireplaces used in connection with any residence or recreation.

61. Log wetting areas and log flumes.

62. Periodic use of pressurized air for cleanup.

63. Solid waste dumpsters.

64. Emissions of wet lime from lime mud tanks, lime mud washers, lime mud piles, lime mud filter and filtrate tanks, and lime mud slurry tanks.

65. Natural gas odoring activities unless the Department determines that emissions constitute air pollution.

66. Emissions from engine crankcase vents.

67. Storage tanks used for the temporary containment of materials resulting from an emergency reporting of an unanticipated release.

68. Equipment used exclusively to mill or grind coatings in roll grinding rebuilding, and molding compounds where all materials charged are in paste form.

69. Mixers, blenders, roll mills, or calenders for rubber or plastic for which no materials in powder form are added and in which no organic solvents, diluents, or thinners are used.

70. The storage, handling, and handling equipment for bark and wood residues not subject to fugitive dispersion offsite (this applies to the equipment only).

71. Maintenance dredging of pulp and paper mill surface impoundments and ditches containing cellulosic and cellulosic derived biosolids and inorganic materials such as lime, ash, or sand.

72. Tall oil soap storage, skimming, and loading.

73. Water heaters used strictly for domestic (non-process) purposes.

74. Facility roads and parking areas, unless necessary to control offsite fugitive emissions.

75. Agricultural operations, including onsite grain storage, not including IC engines or grain elevators.

76. The following natural gas and oil exploration production site equipment: separators, dehydration units, natural gas fired compressors, and pumping units. This does not include compressors located on natural gas transmission pipelines.

SECTION VIII: GENERAL PROVISIONS

1. Pursuant to 40 C.F.R. 70.6(b)(2), any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.

2. Pursuant to 40 C.F.R. 70.6(a)(2) and §26.7 of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), this permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later.

3. Pursuant to §26.4 of Regulation #26, it is the duty of the permittee to submit a complete application for permit renewal at least six (6) months prior to the date of permit expiration. Permit expiration terminates the permittee's right to operate unless a complete renewal application was submitted at least six (6) months prior to permit expiration, in which case the existing permit shall remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due.

4. Pursuant to 40 C.F.R. 70.6(a)(1)(ii) and §26.7 of Regulation #26, where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions are incorporated into the permit and shall be enforceable by the Director or Administrator.

5. Pursuant to 40 C.F.R. 70.6(a)(3)(ii)(A) and §26.7 of Regulation #26, records of monitoring information required by this permit shall include the following:

    a. The date, place as defined in this permit, and time of sampling or measurements;
    b. The date(s) analyses were performed;
    c. The company or entity that performed the analyses;
    d. The analytical techniques or methods used;

e. The results of such analyses; and
f. The operating conditions existing at the time of sampling or measurement.

6. Pursuant to 40 C.F.R. 70.6(a)(3)(ii)(B) and §26.7 of Regulation #26, records of all required monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

7. Pursuant to 40 C.F.R. 70.6(a)(3)(iii)(A) and §26.7 of Regulation #26, the permittee shall submit reports of all required monitoring every 6 months. If no other reporting period has been established, the reporting period shall end on the last day of the anniversary month of this permit. The report shall be due within 30 days of the end of the reporting period. Even though the reports are due every six months, each report shall contain a full year of data. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official as defined in §26.2 of Regulation #26 and must be sent to the address below.

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
Post Office Box 8913
Little Rock, AR 72219

8. Pursuant to 40 C.F.R. 70.6(a)(3)(iii)(B), §26.7 of Regulation #26, and §19.601 and 19.602 of Regulation #19, all deviations from permit requirements, including those attributable to upset conditions as defined in the permit shall be reported to the Department. An initial report shall be made to the Department by the next business day after the occurrence. The initial report may be made by telephone and shall include:

a. The facility name and location,
b. The process unit or emission source which is deviating from the permit limit,
c. The permit limit, including the identification of pollutants, from which deviation occurs,
d. The date and time the deviation started,
e. The duration of the deviation,
f. The average emissions during the deviation,
g. The probable cause of such deviations,

h. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
i. The name of the person submitting the report.

A full report shall be made in writing to the Department within five (5) business days of discovery of the occurrence and shall include, in addition to the information required by initial report, a schedule of actions to be taken to eliminate future occurrences and/or to minimize the amount by which the permits limits are exceeded and to reduce the length of time for which said limits are exceeded. If the permittee wishes, they may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence and such report will serve as both the initial report and full report.

9. Pursuant to 40 C.F.R. 70.6(a)(5) and §26.7 of Regulation #26, and A.C.A.§8-4-203, as referenced by §8-4-304 and §8-4-311, if any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable.

10. Pursuant to 40 C.F.R. 70.6(a)(6)(i) and §26.7 of Regulation #26, the permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation #26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. 7401, *et seq.* and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Any permit noncompliance with a state requirement constitutes a violation of the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq*.) and is also grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

11. Pursuant to 40 C.F.R. 70.6(a)(6)(ii) and §26.7 of Regulation #26, it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

12. Pursuant to 40 C.F.R. 70.6(a)(6)(iii) and §26.7 of Regulation #26, this permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

13. Pursuant to 40 C.F.R. 70.6(a)(6)(iv) and §26.7 of Regulation #26, this permit does not convey any property rights of any sort, or any exclusive privilege.

14. Pursuant to 40 C.F.R. 70.6(a)(6)(v) and §26.7 of Regulation #26, the permittee shall furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may be required to furnish such records directly to the Administrator along with a claim of confidentiality.

15. Pursuant to 40 C.F.R. 70.6(a)(7) and §26.7 of Regulation #26, the permittee shall pay all permit fees in accordance with the procedures established in Regulation #9.

16. Pursuant to 40 C.F.R. 70.6(a)(8) and §26.7 of Regulation #26, no permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for elsewhere in this permit.

17. Pursuant to 40 C.F.R. 70.6(a)(9)(i) and §26.7 of Regulation #26, if the permittee is allowed to operate under different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the scenario under which the facility or source is operating.

18. Pursuant to 40 C.F.R. 70.6(b) and §26.7 of Regulation #26, all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Act unless the Department has specifically designated as not being federally enforceable under the Act any terms and conditions included in the permit that are not required under the Act or under any of its applicable requirements.

19. Pursuant to 40 C.F.R. 70.6(c)(1) and §26.7 of Regulation #26, any document (including reports) required by this permit shall contain a certification by a responsible official as defined in §26.2 of Regulation #26.

20. Pursuant to 40 C.F.R. 70.6(c)(2) and §26.7 of Regulation #26, the permittee shall allow an authorized representative of the Department, upon presentation of credentials, to perform the following:

    a. Enter upon the permittee's premises where the permitted source is located or emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
    c. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
    d. As authorized by the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements.

21. Pursuant to 40 C.F.R. 70.6(c)(5) and §26.7 of Regulation #26, the permittee shall submit a compliance certification with terms and conditions contained in the permit, including emission limitations, standards, or work practices. This compliance certification shall be submitted annually and shall be submitted to the Administrator as well as to the Department. All compliance certifications required by this permit shall include the following:

    a. The identification of each term or condition of the permit that is the basis of the certification;
    b. The compliance status;
    c. Whether compliance was continuous or intermittent;
    d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
    e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and 504(b) of the Act.

22. Pursuant to §26.7 of Regulation #26, nothing in this permit shall alter or affect the following:

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.

23. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit authorizes only those pollutant emitting activities addressed herein.

APPENDIX A

Custom Fuel Monitoring Schedule

Fuel Monitoring Protocol for Stationary Turbines Subject to 40 CFR Part 60, Subpart GG

1. Monitoring of fuel nitrogen content shall not be required while natural gas is the only fuel fired in the gas turbine.

2. Analysis for fuel sulfur content of the natural gas shall be conducted using one of the approved ASTM reference methods for the measurement of sulfur in gaseous fuels, or an approved alternative method. The approved reference methods are: ASTM Dl072-80; ASTM D3031-81; ASTM D3246-81; and ASTM D4084-82 as referenced in 40 CFR 60.335(b)(2). The Gas Processors Association (GPA) test method entitled "Test for Hydrogen Sulfide and Carbon Dioxide in Natural Gas Using Length of Stain Tubes" (GPA Standard 2377-86) is an approved alternative method.

3. The fuel supply shall be initially sampled daily for a period of two weeks to establish that the sulfur content of the pipeline quality natural gas fuel supply is less than or equal to two grains per 100 dscf.

4. After the monitoring required in item 3 above, sulfur monitoring shall be conducted twice monthly for six months. If this monitoring shows little variability in the fuel sulfur content, and indicates consistent compliance with 40 CFR 60.333, then sulfur monitoring shall be conducted once per quarter for six quarters.

5. If after the monitoring required in item 4 above, or herein, the sulfur content of the fuel shows little variability and, calculated as sulfur dioxide, represents consistent compliance with the sulfur dioxide emission limits specified under 40 CFR 60.333, sample analysis shall be conducted twice per annum. This monitoring shall be conducted during the first and third quarters of each calendar year.

6. Should any sulfur analysis as required in items 4 or 5 above indicate noncompliance with40 CFR 60.333, the owner or operator shall notify the ADEQ of such excess emissions and the custom schedule shall be re-examined. Sulfur monitoring shall be conducted weekly during the interim period when this custom schedule is being re-examined.

7. If there is a change in fuel supply (supplier), the fuel shall be sampled daily for a period of two weeks to re-establish for the record that the fuel supply is low in sulfur content. If the fuel supply's low sulfur content is re-established, then the custom fuel monitoring schedule can be resumed.

8. Stationary gas turbines that use the same supply of pipeline quality natural gas to fuel multiple gas turbines may monitor the fuel sulfur content at a single common location.

9. Records of sample analysis and fuel supply pertinent to this custom schedule shall be retained for a period of three years, and be available for inspection by personnel of federal, state, and local air pollution control agencies.

10. Other monitoring schedules or variances in this schedule may be acceptable only if approved by the Administrator.

APPENDIX B

ADEQ CEMS Conditions

APPENDIX C

40 CFR, Part 60, Subpart GG

APPENDIX D

40 CFR Part 60, Subpart Da

APPENDIX E

40 CFR Part 60, Subpart Dc

APPENDIX F

40 CFR Part 75

APPENDIX G

Alternative Approval for Compliance with 40 CFR 60, Subpart Da

Mr. Emmett Poindexter
Manager, Environmental Services
Duke Energy
5400 Westheimer Court
Suite 4G-38
Houston, TX 77056

Dear Mr. Poindexter:

This letter responds to your June 19, 2000 request for approval of an alternative method of determining compliance with 40 CFR Part 60, Section 60.44a(d)(1) for the Arlington Valley Energy Project (AVEP) in Maricopa County, Arizona. Specifically, you proposed to use a continuous monitoring system (CMS) to monitor fuel input rate (+/-2 percent), measure Gross Calorific Value (GCV) of the natural gas burned, and using the F-Factor approach described in Method 19 together with data from a Part 75 certified NOx CMS and the gross electrical output of the combined unit, to demonstrate compliance with the output based standard of 40 CFR Part 60, Section 60.44a(d)(1). The details of such monitoring, record keeping and reporting will be detailed in an Emissions Monitoring Compliance Plan for the AVEP facility to be submitted and approved by the Administrator as required under 40 CFR Part 75. Pursuant to 40 CFR Part 60, Section 60.13(i), the U.S. Environmental Protection Agency (EPA) hereby approves your request. The following discussion provides our rationale for this approval.

Maricopa County determined that 40 CFR Part 60, Subpart GG will apply to AVEP's gas turbines and Subpart Da will apply to the duct burners in the Heat Recovery Steam Generator (HRSG) upon construction of this plant. You have indicated that your duct burner operates as part of a combined cycle power generation system and the duct burner cannot operate independently of the turbine. The combined effluent is exhausted through a common selective catalytic reduction (SCR) NOx control system and stack which makes it impractical to isolate the emissions emitted to the atmosphere from the duct burner from those of the host combustion turbine. The thermal energy produced from the duct burner also combines with thermal energy from the turbine to produce electricity in a common steam turbine/generator. In this case, an alternative method of determining compliance is appropriate.

You have indicated that there is a proposed federally enforceable NOx permit limit of 3 ppmvd @ 15 percent O_2 for the combined cycle system which is more stringent than the Subpart Da emission limit. Assuming that you will comply with the 3 ppmvd @ 15 percent O_2 limit, this

is equivalent to about 6 percent of the emission limitation of Subpart Da. This provides an ample margin of safety to compensate for the assumption that we have to make that the thermal efficiency of the turbine and duct burner are the same.

If you have questions about this letter, contact Terry Harrison at US EPA, Emission Measurement Center, MD-19, Research Triangle Park, NC, 27711 or E-Mail address harrison.terry@epa.gov

Sincerely,

J. David Mobley, Acting Director
Emissions, Monitoring & Analysis Division

cc: Director, Air Division (Region 9)
Steve Frey (Region 9)
Ms. Elena Gorelik, Maricopa County ESD
Mr. Max Shilstone, Duke Energy
Sara Head, ENSR

bcc: Sims Roy (MD 13)
Jim Eddinger (MD 13)
Chris Oh, OC, OECA, (MC 2223A)

OAQPS/EMAD/SMTG/RTHARRISON/lac/541-5233/08/25/00/MD-19
FILE #_____ DOC NAME:*F:\USER\THARRISON\TYPE\ENSRAVEP.WPD*

Addresses:

Mr. Emmett Poindexter
Manager, Environmental Services
Duke Energy
5400 Westheimer Court
Suite 4G-38
Houston, TX 77056

Duke Energy's Maricopa contact:
Mr. Max Shilstone
Duke Energy Maricopa
40 North Central Avenue
Phoenix, Arizona 85004-4429

Ms. Elena Gorelik
Permit Engineer
Maricopa County Environmental Services Department
1001 North Central Avenue
Phoenix, Arizona 85004

Ms. Sara Head
ENSR
1220 Avenida Acaso
Camarillo, CA 93012

APPENDIX H

Acid Rain Application

Request for PDS Invoice	
Invoice Number *(assigned when invoice printed)*	PDS-

AFIN r	30-00229			
Name *(for confirmation only)*	Duke Energy Hot Spring, LLC			
Invoice Type (pick one) r		Mod		
Permit Number r	1936-AOP-R1			
Media Code r	A			
Fee Code or Pmt Type r	T5			
Fee Description *(for confirmation only)*	Title V Mod			
Amount Due r *(whole dollar amount only)*	$1000			
Printed Comment *(600 characters maximum)*	Minimum mod fee - total chargeable tons increased 19.5 tons			

Note: The information below is for use by the requesting division if desired; it will not print on the invoice.	
Engineer	Bryan Leamons
Paid? (yes/no)	
Check number	
Comments	

r **Required data***(See "g:\Misc\PDS_FeeCodes.wpd" for descriptions and discussions of fee codes)*

Request submitted by:		Date:	

Public Notice

Pursuant to the Arkansas Operating Air Permit Program (Regulation #26) Section 602, the Air Division of the Arkansas Department of Environmental Quality gives the following notice:

Duke Energy Hot Spring, LLC, located at 696 Black Branch Road, Malvern, AR 72104 (CSN: 30-0229) has applied for modification to their existing Title V Operating Air Permit. Upon final approval by the Department, Duke Energy will be allowed increased annual operation of auxiliary boilers than previously permitted. Other changes include updates required by plant layout shift from the original plot plans, permit language that outlines startup and shutdown procedures, and other minor clarifications.

The application has been reviewed by the staff of the Department and has received the Department's tentative approval subject to the terms of this notice.

Citizens wishing to examine the permit application and staff findings and recommendations may do so by contacting Doug Szenher, Public Affairs Supervisor. Citizens desiring technical information concerning the application or permit should contact Bryan Leamons, Engineer. Both Doug Szenher and Bryan Leamons can be reached at the Department's central office, 8001 National Drive, Little Rock, Arkansas 72209, telephone: (501) 682-0744.

The draft permit and permit application are available for copying at the above address. A copy of the draft permit has also been placed at the Garland County Library, 1427 Malvern Avenue, Hot Springs, AR. This information may be reviewed during normal business hours.

Interested or affected persons may also submit written comments or request a hearing on the proposal, or the proposed modification, to the Department at the above address - Attention: Doug Szenher. In order to be considered, the comments must be submitted within thirty (30) days of publication of this notice. Although the Department is not proposing to conduct a public hearing, one will be scheduled if significant comments on the permit provisions are received. If a hearing is scheduled, adequate public notice will be given in the newspaper of largest circulation in the county in which the facility in question is, or will be, located.

The Director shall make a final decision to issue or deny this application or to impose special conditions in accordance with Section 2.1 of the Arkansas Pollution Control and Ecology Commission's Administrative Procedures (Regulation #8) and Regulation #26.

Dated this

Marcus C. Devine
Director