Arizona Public Service Company
FOUR CORNERS STEAM ELECTRIC STATION
P.O. Box 355 • FRUITLAND, NEW MEXICO 87416

February 13, 2018

CERTIFIED MAIL

Air Division, Permits Office (Air-3)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105-3901

Navajo Nation EPA
Operating Permit Program
Route 112 N. Blg 2837
Fort Defiance, AZ 86504

RE: Administrative Amendment to PSD NN 14-01 and Tribal NSR Permit T-0002-NN, and Notification under 40 CFR 60.7(a)(4)

Arizona Public Service Company (APS) Four Corners is submitting to the Environmental Protection Agency Region IX (EPA) an Administrative Amendment pursuant to 40 CFR §49.159(f)(1)(v) for PSD Permit #NN 14-01 and Tribal NSR Permit T-0002-NN. APS is requesting to add an Alternative Operating Scenario (AOS) to the permit. The AOS will be triggered when the capacity factor of the Auxiliary Boiler exceeds 192,720 MMBtu per 12 month period (10%) and cease when the capacity factor falls back below 10%. Attached is EPA Form No. 5900-248 explaining the proposed physical change and the emission increase associated with the AOS.

APS is also submitting a notification, pursuant to 40 CFR §60.7(a)(4), of a physical or operational change to an existing facility which may increase the emission rate of any air pollution to which a standard applies. The attached permit application provides the information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change.

If you have any questions regarding this submittal, please contact Mark Hajduk by phone at (602) 250-3394.

Sincerely,

Thomas H. Livingston
Fossil Plant Manager & Responsible Official

Enclosures (3)
- Certification of Truth, Accuracy, and Completeness form
- EPA Form No 5900-248

cc: Addresses

Dr. Donald Benn, Executive Director
Navajo Nation Environmental Protection Agency
P.O. Box 339
Window Rock, AZ 86515-0339

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71

APPLICATION FORM CTAC - CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS BY RESPONSIBLE OFFICIAL

INSTRUCTIONS: One copy of this form must be completed, signed, and sent with each submission of documents (i.e., application forms, including any updates to applications), and for every document required by a part 71 permit (e.g., annual compliance certification, 6-month monitoring reports, progress reports, and notices required by the terms of a part 71 permit).

Responsible Official. Identify the responsible official and provide contact information.

Name: (Last) Livingston (First) Thomas (Middle) H.

Title Site Manager

Street or Post Office Box P.O. Box 355

City Fruitland State NM ZIP 87416 - 0355

Telephone (505) 598 - 8200 Ext. _____ Facsimile (505) 598 - 8742

Certification of Truth, Accuracy and Completeness. The Responsible Official must sign this statement.

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) Thomas H Livingston

Name (printed or typed) Thomas H. Livingston Date: 02 / 13 / 18

OMB Control No. 2060-0003
Approval expires 04/30/2017

United States Environmental Protection Agency
Pacific Southwest – Region 9
Federal Minor New Source Review Program in Indian Country

Application for New Construction

Please check all that apply to show how you are using this form:

- ☐ Proposed Construction of a New Source
- ☐ Proposed Construction of New Equipment at an Existing Source
- ☐ Proposed Modification of an Existing Source
- ☑ Other – Please Explain: Administrative Permit Revision

Please submit information to:

U.S. EPA at:

Air Division, Permits Office (Air-3)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105

For more information:
http://www.epa.gov/caa-permitting/tribal-nsr-permits-region-9, call (415) 972-3974, or email R9AirPermits@epa.gov.

Tribe:

The Tribal Environmental Contact for the specific reservation:

Navajo Nation EPA
Operating Permit Program
Route 112 N. Blg 2837
Fort Defiance, AZ 86504

A. General Source Information

1. Company Name **Arizona Public Service Company**		**2. Source Name** **Four Corners Steam Electric Station**	
3. Type of Operation **Electric Generating Unit**		**4. Portable Source? ☐ Yes X No** **5. Temporary Source? ☐ Yes X No**	
6. NAICS Code **2211122**		**7. SIC Code** **4911**	
8. Physical Address (home base for portable sources) **End of San Juan County Road 6675, Fruitland, NM 87416-0355**			
9. Reservation* **Navajo Nation Indian Reservation**	**10. County*** **San Juan County**	**11a. Latitude*** **N36°41'15.36"**	**11b. Longitude*** **W108°28'43.68"**
12a. Quarter-Quarter Section*	**12b. Section***	**12c. Township***	**12d. Range***

* Provide all locations of operation for portable sources

B. Contact Information

1. Owner Name **Arizona Public Service Company**	Title
Mailing Address P.O. Box 53999 Mail Station 9303 Phoenix, AZ 85072-3999	
Email Address	
Telephone Number	Facsimile Number
2. Owner Name **Salt River Project**	Title
Mailing Address P.O. Box 52025 Mail Station POB 001, Tempe, AZ 85072	
Email Address	
Telephone Number 602-236-4310	Facsimile Number
3. Owner Name **Tucson Electric Power Company**	Title
Mailing Address P.O. Box 711	
Email Address	
Telephone Number 520-745-3285	Facsimile Number
4. Owner Name **Public Service of New Mexico**	Title
Mailing Address 2401 Aztec Rd., NE, Albuquerque, NM 87107	
Email Address	
Telephone Number 505-241-4732	Facsimile Number
5. Owner Name **4C Acquisition LLC**	Title
Mailing Address One Arizona Center, 400 East Van Buren Street, Suite 350, Phoenix, AZ 85004	
Email Address	

Telephone Number	Facsimile Number
2. Operator Name (if different from owner) Arizona Public Service Company	Title
Mailing Address P.O. Box 53999, Phoenix, AZ 85072	
Email Address	
Telephone Number (505)598-8405	Facsimile Number
3. Source Contact Thomas H. Livingston	Title Plant Manager
Mailing Address P.O. Box 355, Mail Station 4900, Fruitland, NM 87416	
Email Address Thomas.Livingston@aps.com	
Telephone Number (505)598-8200	Facsimile Number (505)598-8742
4. Compliance Contact Pam Norris	Title Four Corners Environmental Section Leader
Mailing Address P.O. Box 355, Mail Station 4900, Fruitland, NM 87416	
Email Address Pamela.Norris@aps.com	
Telephone Number (505)598-3781	Facsimile Number

C. PREVIOUS PERMIT ACTIONS (Provide information in this format for each permit that has been issued to this source. Provide as an attachment if additional space is necessary)

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **NN-ROP-05-07**
Date of the Permit Action **Issuance date – 08/01/2008** **Expiration date – 08/01/2013**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **Minor Permit Modification to NN-ROP-05-07 – Addition of Auxiliary Boiler**
Date of the Permit Action **Issuance date: 09/07/2012**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **NN-ROP-05-07 – Title V permit renewal application**
Date of the Permit Action **Submittal Date – 01/18/2013**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **PSD Permit #NN14-01 and Tribal NSR Permit T-0002-NN**
Date of the Permit Action **Issuance Date – 12/18/2014**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **NN-ROP-05-07 – Au. Boiler limited Use Definition Modification**
Date of the Permit Action **Submittal Date: 08/11/2014**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **NN-ROP-05-07 – MATS Extension Permit Modification**
Date of the Permit Action **Submittal Date – 03/13/2015**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **NN-ROP-05-07 – Title V permit modification – Consent Decree Paragraph 151**
Date of the Permit Action **Submittal Date – 02/11/2016**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **PSD Permit #NN14-01 and Tribal NSR Permit T-0002-NN**
Date of the Permit Action **Submittal Date: 01/27/2017**

Facility Name on the Permit **Four Corners Steam Electric Station**
Permit Number **Administrative Amendment to PSD Permit #NN14-01 and Tribal NSR Permit T-0002-NN**
Date of the Permit Action **Submittal Date: 08/29/2017**

Include all of the following information as attachments to this form

☑Narrative description of the proposed production processes. This description should follow the flow of the process flow diagram to be submitted with this application.

☑Process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

☑A list and descriptions of all proposed emission units and air pollution-generating activities.

☑ Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

☑Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

☑ Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

☑ A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

☑**Criteria Pollutant Emissions -** Estimates of Current Actual Emissions, Current Allowable Emissions, Post-Change Uncontrolled Emissions, and Post-Change Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

☑ **Air Quality Review**

☑ **ESA (Endangered Species Act)**

☑ **NHPA (National Historic Preservation Act)**

☑ **FORM SYNMIN** – Not Applicable

E. TABLE OF ESTIMATED EMISSIONS

The table below provides estimates of the total emissions in tons/year for all pollutants associated with the Aux. Boiler as specified in the original permit application.

Pollutant	Total Actual Emissions (tpy)	Total Allowable or Potential Emissions (TPY)	
PM	0.63	0.96	PM - Particulate Matter PM_{10} - Particulate Matter less than 10 microns in size $PM_{2.5}$ - Particulate Matter less than 2.5 microns in size SO_2 - Sulfur Oxides NOx - Nitrogen Oxides CO - Carbon Monoxide VOC - Volatile Organic Compound Pb - Lead and lead compounds Fluorides - Gaseous and particulates H_2SO_4 - Sulfuric Acid Mist H_2S - Hydrogen Sulfide TRS - Total Reduced Sulfur RSC - Reduced Sulfur Compounds
PM_{10}	0.63	0.96	
$PM_{2.5}$	0.63	0.96	
SO_x	0.04	0.06	
NO_x	2.29	3.51	
CO	2.32	3.56	
VOC	0.31	0.48	
Pb	NA	NA	
NH_3	NA	NA	
Fluorides	NA	NA	
H_2SO_4	NA	NA	
H_2S	NA	NA	
TRS	NA	NA	
RSC	NA	NA	

E(ii) – Proposed New Construction at an Existing Source or Modification of an Existing Source

Pollutant	Current Actual Emissions (tpy)	Current Allowable Emissions (tpy)	Post-Change Potential Emissions (tpy)	Post-Change Allowable Emissions (tpy)	Post-Change Emissions Increase
PM	0.63	0.96	2.20	2.20	1.23
PM_{10}	0.63	0.96	2.20	2.20	1.23
$PM_{2.5}$	0.63	0.96	2.20	2.20	1.23
SO_2	0.04	0.06	0.13	0.13	0.07
NO_x	2.29	3.51	8.00	8.00	4.50
CO	2.32	3.56	8.12	8.12	4.57
VOC	0.31	0.48	1.10	1.10	0.62
Pb	NA	NA	NA	NA	NA
Fluorides	NA	NA	NA	NA	NA
H_2SO_4	NA	NA	NA	NA	NA
H_2S	NA	NA	NA	NA	NA
TRS	NA	NA	NA	NA	NA
RSC	NA	NA	NA	NA	NA

PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns in size
$PM_{2.5}$ - Particulate Matter less than 2.5 microns in size
SO_2 - Sulfur Oxides
NOx - Nitrogen Oxides
CO - Carbon Monoxide
VOC - Volatile Organic Compound
Pb - Lead and lead compounds
Fluorides - Gaseous and particulates
H_2SO_4 - Sulfuric Acid Mist
H_2S - Hydrogen Sulfide
TRS - Total Reduced Sulfur
RSC - Reduced Sulfur Compounds

Narrative description of the proposed production processes.

Arizona Public Service Company (APS) installed an auxiliary boiler at the Four Corners Power Plant near Farmington, New Mexico. The Four Corners Steam Electric Station is a fossil fuel power generation station (NAICS 221112) that generates electricity on an as-needed basis. Four Corners is an existing coal-fired power generating station with two generation units. The auxiliary boiler is needed to supply auxiliary steam to units 4 and 5 during periods of unit startup. Previously auxiliary steam was supplied by a steam supply cross-connection with units 1, 2, and 3. However, with the shutdown of units 1, 2, and 3, auxiliary steam must now be provided from another source. Auxiliary steam is necessary during the startup of units 4 and 5 to operate the steam seals, steam coil air preheater, and main boiler feed pumps. Once the units reach stable temperatures and pressures, the units are capable of providing the necessary auxiliary steam for these services, but during startup, this steam must be delivered from an outside source.

APS is requesting the implementation of an Alternate Operation Scenario (AOS). Currently there is an operating limit on the auxiliary boiler of 192,720 MMBtu per 12 month period (10% capacity factor). As a result, the auxiliary boiler is categorized under the "limited use gaseous fuel subcategory" as defined in 40 CFR §63.7575 and the subcategory of a "limited use boiler" as stated in the revised rule, 40 CFR §63.7499(o) and 40 CFR §63.7575. Furthermore it satisfies the requirements for exemption from NOx emission limitations under 40 CFR §60 Subpart Db.

The AOS will be triggered when the above operating limit is exceeded. The AOS will limit operation of the auxiliary boiler to 439,460 MMBtu per 12month period (approximately 23% capacity factor). Emissions associated with this change are below Tribal Minor New Source Review (NSR) thresholds (see Section E and Appendix A of this permit application). However during operation under the AOS, the boiler will not be categorized under the "limited use gaseous fuel subcategory", ceases to be defined as a "limited use boiler, and trigger NOx emission limitations. Therefore, when the auxiliary boiler operates under the AOS the following requirements will become applicable;

Operating and Emission Limits

1. An operating limit on the Auxiliary Boiler of 439,460 MMBtu per 12 month period.

2. An emission limit of 0.2 lb/MMBtu on a 30 Boiler Operating Day average (40 CFR §60 Subpart Db)
   This condition will be captured under the Minor Permit Revision to Title V Permit NN ROP 05-07. A Minor Permit Modification was submitted to NNEPA concurrently with this administrative amendment.

Monitoring and Work Practice Standards

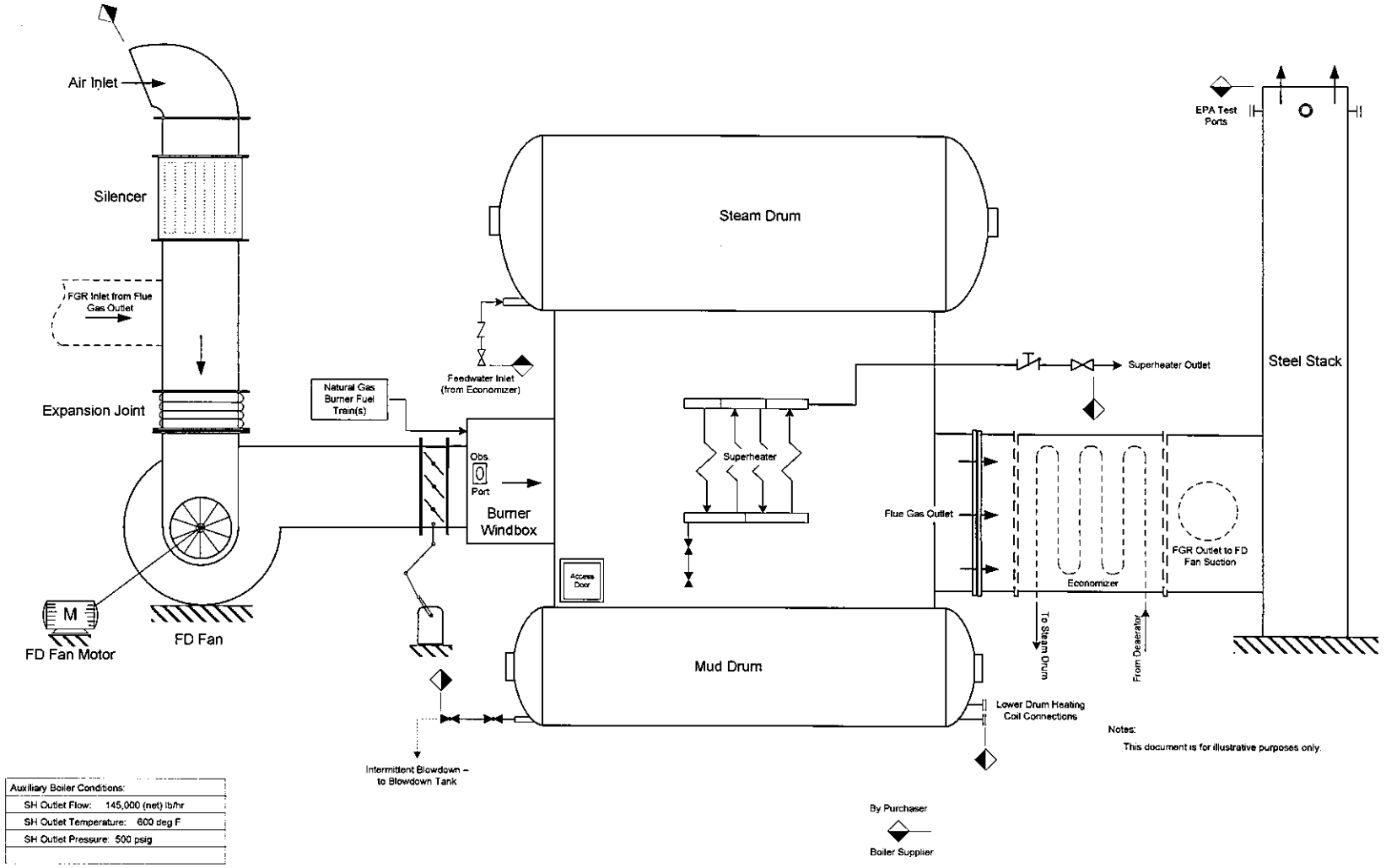
These conditions will be captured under the Minor Permit Revision to Title V Permit NN ROP 05-07. A Minor Permit Modification was submitted to NNEPA concurrently with this administrative amendment.

1. 40 CFR §60 Subpart Db
   - Monitor operating conditions and predict NOx emission rates
   - Submit a monitoring plan within 360 days of triggering the AOS
   - Keep records in accordance with 40 CFR 60.49b(g)
2. 40 CFR §63 Subpart DDDDD
   - Complete a one-time Energy Assessment within 60 days of triggering the AOS.

The AOS will ceases to be in effect when the 12 month rolling total falls below 192,720 MMBtu per 12 month period.

A process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

The process regarding the Aux. Boiler has not changed other than increasing the operating limit from 192,720 MMbtu per 12 month period to 439,460 MMbtu per 12 month period. Below is a diagram of the Auxiliary Boiler used for the original permit application;



List and describe all proposed units, emission units and air pollution-generating activities:

The emission unit impacted by this permit modification is the auxiliary boiler. The Emission Unit ID is AUX A-01. The auxiliary boiler is a natural gas fired D-type boiler with an integral superheater. The auxiliary boiler is manufactured by Babcock & Wilcox (B&W), model number FM120-97, with a maximum continuous gross rating of 168,000 lb/hr steam at a pressure of 500 psig and a temperature of 600°F. The steam generator is a membrane-tube construction and includes a lower mud-drum and upper steam drum. The lower (mud) drum is equipped with heating coils to maintain the boiler in warm standby condition. The boiler construction is completed with steel casing, insulation and refractory brick proximal to the burner opening to protect the boiler casing from high temperatures. The auxiliary boiler is equipped with box-type economizers with vertical-gas flow. The economizer is independently supported and interconnects the boiler flue gas outlet to the gas discharge to the stack.

The auxiliary boiler includes a single forced draft (FD) fan complete with inlet ductwork with silencer and outlet connection to the boiler windbox/burner register. The boiler burner assembly is housed in an integral windbox in the boiler casing and low NOx register. The boiler units are supplied with a factory assembled fuel-valve train including fuel stop, block and control valves. The burner includes an integral electric igniter and gas-pilot.

The boiler combustion system includes flue gas recirculation (FGR) used for controlling NOx emissions. The FGR system is supplied complete with the boiler equipment and includes interconnecting ductwork and control dampers between the boiler flue gas discharge and FD fan inlet. The boiler flue gas discharges into an exhaust stack anticipated to be at an elevation of 190 feet above grade.

The boiler is controlled via the existing Four Corners plant control system (DCS) along with the burner management system (BMS) supplied by B&W. Additional controls include fuel metering and O2 monitoring for combustion control. Included with the boiler design are feedwater and steam stop and non-return valves, as well as the required drum and superheater outlet safety valves. Blowdown, vent and drain valves are also included along with boiler instrument/trim for monitoring drum water level and feedwater supply.

The auxiliary boiler startup time to full load (maximum continuous rating) output of 168,000 lb/hr (gross) is less than sixty (60) minutes when the auxiliary boiler is warm. The auxiliary boiler startup time to full load (maximum continuous rating) output of 168,000 lb/hr (gross) is approximately five (5) hours when the auxiliary boiler is cold. The boiler feedwater inlet temperature will vary depending on Four Corners plant operation from ambient temperature to 228°F. Feedwater is supplied by dedicated electric-motor driven boiler feedwater pumps located proximal to the auxiliary boiler.

The fuel flow meter is a COEN restrictive in-line orifice-type with Rosemount delta pressure transmitter. The (fuel) heat input and gross steam flow for the packaged boiler is 219.73 MMBtu/hr with a gross rating of 168,000 lb/hr steam flow.

Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

The Aux. Boiler only burns Natural Gas. The Gas Quality FERC Tariff specifies the Total Sulfur content as 5 grains per one hundred standard cubic feet.

Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

The auxiliary boiler provides steam necessary during the startup of units 4 and 5 to operate the steam seals, steam coil air preheater, and main boiler feed pumps. The auxiliary boiler burns only natural gas and only operates in situations when both units 4 and 5 are not operating. This makes the operating schedule interrupted and not continuous. The auxiliary boiler is currently limited to operating no more than 192,720 MMbtu per 12 month period. During AOS the auxiliary boiler would be limited to operate no more than 439,460 MMBtu per 12 month period.

Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

The operating schedule is interrupted and not continuous contingent on how often both units 4 and 5 are not operating. The auxiliary boiler is currently limited to operating no more than 192,720 MMbtu per 12 month period. During AOS the auxiliary boiler would be limited to operate no more than 439,460 MMBtu per 12 month period.

A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

Compliance with the limits mentioned in the AOS are as follows;

1. An operating limit on the Auxiliary Boiler of 439,460 MMBtu per 12 month period.

The current mechanisms in place in the Minor Permit Modification to Title V Permit NN ROP 05-07 – Addendum #1 (Addendum#1) and in the PSD Permit NN 14-01/Tribal Minor NSR Permit T-0002-NN (Tribal Minor NSR Permit) for showing compliance with the 192,720 MMBtu per 12 month period operating limit will be used to show with the 439,460 MMBtu per 12 month period. These include Addendum #1 conditions II.I 1 through 8, and Tribal Minor NSR Permit Conditions #40 and #44.

2. An emission limit of 0.2 lb/MMBtu on a 30 Boiler Operating Day average (NSPS Subpart Db)

Since the AOS increases the operating limit on the Auxiliary Boiler from 192,720 MMBtu per 12 month period to 439,460 MMBtu per 12 month period, the capacity factor will be greater than 10%. This triggers additional 40 CFR 60 Subpart Db (Subpart Db) requirements and 40 CFR 63 Subpart DDDDD (Boiler MACT) requirements. The Auxiliary Boiler only burns natural gas and will need to meet the 0.2 lb/MMBtu emission limit in 40 CFR 60 Subpart Db. Subpart Db lays out the compliance options for showing compliance with the applicable NOx emission limit. While operating under the AOS, APS will monitor operating conditions to predict the NOx emission rate in accordance with 40 CFR 60.46b(e), 60.48b(b), 60.48b(g)(2), and 60.49b(c). Furthermore, upon initiating the AOS, APS will have 360 days to submit a monitoring plan explaining how APS will monitor NOx, pursuant to 40 CFR

60.49b(c). These requirements will be incorporated into the Minor Permit Revision to Title V Permit NN ROP 05-07. The Minor Permit Revision is being submitted Navajo Nation EPA concurrently with this administrative amendment.

Criteria Pollutant Emissions Estimates

The emissions estimate associated with AOS is present in Section E and Appendix A of this permit application.

Air Quality Review

Since the increase in emissions associated with this modification does not exceed PSD or Tribal Minor NSR Thresholds, an Air Quality Review is not required.

ESA

Since the increase in emissions associated with this modification does not exceed PSD or Tribal Minor NSR Thresholds, an ESA is not required.

NHPA

Since the increase in emissions associated with this modification does not exceed PSD or Tribal Minor NSR Thresholds, an NHPA is not required.

FORM SYNMIN

Not Applicable

Attachment A
(Emission Calculations)

Aux Boiler Paramters	
Number of boilers	1
Ops Hr/yr	876
Heat Input (mmbtu/hr)	219.73
Current Limit Heat Input	192,720
Total Heat Input	192,483

Emission Rates	ppm	lb/mmbtu	lb/hr	tpy / boiler	Tribal minor NSR	tpy - project
NOx	30.00	0.0364	8.00	3.51	10.00	3.51
CO	50.00	0.0370	8.12	3.56	10.00	3.56
PM		0.0100	2.20	0.96	10.00	0.96
VOC		0.0050	1.10	0.48	5.00	0.48
SO2		0.0006	0.13	0.06	10.00	0.06
CO2e		118.34	26002.85	11389.25	na	11389.25

GHG Emissions			lb/hr	typ	GWP	CO2e
CO2	118.34	lb/mmbtu	26002.85	11389.25	1	11389.2
Methane	0.00227	lb/mmbtu	0.50	0.218	21	4.6
Nitrous Oxide	0.00217	lb/mmbtu	0.48	0.209	310	64.7
CO2e			26,003.8	11390		11459

Aux Boiler Paramters	
Number of boilers	1
Ops Hr/yr	2000
Heat Input (mmbtu/hr)	219.73
Current Limit Heat Input	192,720
Total Heat Input	439,460

Emission Rates	ppm	lb/mmbtu	lb/hr	tpy / boiler	Tribal minor NSR	tpy - project
NOx	30.00	0.0364	8.00	8.00	10.00	8.00
CO	50.00	0.0370	8.12	8.12	10.00	8.12
PM		0.0100	2.20	2.20	10.00	2.20
VOC		0.0050	1.10	1.10	5.00	1.10
SO2		0.0006	0.13	0.13	10.00	0.13
CO2e		118.34	26002.85	26003	na	26003

GHG Emissions			lb/hr	typ	GWP	CO2e
CO2	118.34	lb/mmbtu	26003	26003	1	26003
Methane	0.00227	lb/mmbtu	0.50	0.499	21	10.5
Nitrous Oxide	0.00217	lb/mmbtu	0.48	0.477	310	147.8
CO2e			26,004	26004		26161

Increase in PTE

Emission Rates	Emissions Increase (TPY)	Tribal minor NSR
NOx	4.50	10.00
CO	4.57	10.00
PM	1.23	10.00
VOC	0.62	5.00
SO2	0.07	10.00
CO2e	14613.60	na

Unit	Auxiliary Boiler		
Emission Point	AUX A-01		
Fuel	Natural Gas		
Number of units	1		
Maximum Heat Input	219.73		mmBtu/Hr
Heat Content	1014		BTU/scf
Potential Operations	2000		Hrs.
2017 Heat Input	125687		mmbtu
2017 Fuel Usage	123132488	123	scf/mmscf

Pollutant	Emissions Factor	Units	Emission Factor Source	Emisisons (lbs/hr)	Emissions (tons/yr)	Total Actual Emissions (tons/yr)
NOx	0.036	lb/mmbtu	Vendor Guarantee	8.00	8.00	2.29
CO	0.037	lb/mmbtu	Vendor Guarantee	8.12	8.12	2.32
CO2e	118.77	lb/mmbtu	AP-42, Sect. 1.4-2	26097.33	26097.33	7463.90
PM-2.5	0.01	lb/mmbtu	Vendor Guarantee	2.20	2.20	0.63
PM-10	0.01	lb/mmbtu	Vendor Guarantee	2.20	2.20	0.63
VOC	0.005	lb/mmbtu	Vendor Guarantee	1.10	1.10	0.31
SO2	0.0006	lb/mmbtu	Vendor Guarantee	0.13	0.13	0.04
HAPS						
Arsenic	2.00E-04	lb/mmscf	AP-42, Sect. 1.4-4	0.0000	0.0000	1.23E-05
Benzene	2.10E-03	lb/mmscf	AP-42, Sect. 1.4-3	0.0005	0.0005	1.29E-04
Beryllium	1.20E-05	lb/mmscf	AP-42, Sect. 1.4-4	0.0000	0.0000	7.39E-07
Cadmium	1.10E-03	lb/mmscf	AP-42, Sect. 1.4-4	0.0002	0.0002	6.77E-05
Chromium	1.40E-03	lb/mmscf	AP-42, Sect. 1.4-4	0.0003	0.0003	8.62E-05
Cobalt	8.40E-05	lb/mmscf	AP-42, Sect. 1.4-4	0.0000	0.0000	5.17E-06
Dichlorobenzene	1.20E-03	lb/mmscf	AP-42, Sect. 1.4-3	0.0003	0.0003	7.39E-05
Formaldehyde	7.50E-02	lb/mmscf	AP-42, Sect. 1.4-3	0.0163	0.0163	4.62E-03
Manganese	3.80E-04	lb/mmscf	AP-42, Sect. 1.4-4	0.0001	0.0001	2.34E-05
Mercury	2.60E-04	lb/mmscf	AP-42, Sect. 1.4-4	0.0001	0.0001	1.60E-05
Molybdenum	1.10E-03	lb/mmscf	AP-42, Sect. 1.4-5	0.0002	0.0002	6.77E-05
Naphthalene	6.10E-04	lb/mmscf	AP-42, Sect. 1.4-3	0.0001	0.0001	3.76E-05
n-Hexane	1.80E+00	lb/mmscf	AP-42, Sect. 1.4-3	0.3901	0.3901	1.11E-01
Selenium	2.40E-05	lb/mmscf	AP-42, Sect. 1.4-4	0.0000	0.0000	1.48E-06
Toluene	3.40E-03	lb/mmscf	AP-42, Sect. 1.4-3	0.0007	0.0007	2.09E-04
2-Methylnaphthalene	2.40E-05	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.48E-06
3-Methylcholanthrene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Acenaphthene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Acenaphthylene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Anthracene	2.40E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.48E-07
Benzo(a)anthracene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Benzo(a)pyrene	1.20E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	7.39E-08
Benzo(b)fluoranthene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Benzo(g,h,i)perylene	1.20E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	7.39E-08
Benzo(k)fluoranthene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Chrysene	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Dibenzo(a,h)anthracen	1.20E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	7.39E-08
Dimethylbenz(a)anthr	1.60E-05	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	9.85E-07
Fluoranthene	3.00E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.85E-07
Fluorene	2.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.72E-07
Indeno(1,2,3-cd)pyren	1.80E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.11E-07
Nickel	2.10E-03	lb/mmscf	AP-42, Sect. 1.4-4	0.0005	0.0005	1.29E-04
Phenanthrene	1.70E-05	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	1.05E-06
Pyrene	5.00E-06	lb/mmscf	AP-42, Sect. 1.4-3	0.0000	0.0000	3.08E-07
Total HAPS				0.41	0.41	0.41

Technical Fill-In Data Required with Quotation

babcock & wilcox power generation group

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Auxiliary Boiler Technical Data		
Reference Document	Submittal Item	Tech Fill-In Data
Technical Submittals		
15514	**Auxiliary Boiler Equipment Data**	
15514	Model designation	FM120-97
15514	Type of unit	"D" Style
15514	Maximum heat input, MMBtu/h	219.73
15514	**Main Steam**	
15514	Superheater outlet flow rate (Gross), lb/h	168,000
15514	Superheater outlet flow rate (Net), lb/h	145,000
15514	Superheater outlet pressure, psig	500
15514	Superheater outlet temperature, °F	600
15514	**Emissions**	25% to 100%
15514	NOx, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	30 ppm
15514	CO, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	50 ppm
15514	VOC, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	0.005 lb/mmbtu
15514	PM/PM10/PM2.5, lb/MMBtu, lb/hr, tpy, grain/ACF	0.01 lb/mmbtu
15514	HCl, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	SO2, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	PB, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	NH3, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	Fluorides, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	H2SO4, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	H2S, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	CO2, lb/MMBtu, lb/hr, tpy, ppmvd @3% O2	NA
15514	Opacity, % (percentage)	20%
15514	**Exhaust Stack**	
15514	Diameter, ft (Bottom/Top)	96" / 76"
15514	Elevation, ft	-
15514	Exit gas velocity, fpm	3000
15514	Exit gas temperature, deg F	300
15514	**Fuel Gas Meter**	
15514	Fuel Gas Meter Manufacturer (Flow Element/Transmitter)	Daniel / Rosemount
15514	Fuel Gas Meter Model Number (Flow Element/Transmitter)	520 / 3051
15514	Fuel Gas Meter Type (i.e. in-line, orifice, etc.)	Orifice

Attachment B
(Draft Permit Language)

I. Proposed Modification to the Tribal Minor NSR Permit

37. Except as allowed in Condition 45, annual operation of the auxiliary boiler – EU AUX A-01 – shall not exceed 192,720 MMBtu per 12-month period.

40. The Permittee shall monitor on a monthly basis the fuel use of EU AUX A-01 in MMBtu.

44. The Permittee shall maintain records on a monthly basis of the hours of operation of EU AUX A-01. Monthly hours of operation shall be determined using a totalizing hour meter.

45. Alternative Operating Scenario

    a. At least seven calendar days prior to exceeding the normal annual operation limit in Condition 37, the Permittee shall notify EPA and the Navajo Nation EPA of its intent to operate the auxiliary boiler – EU AUX A-01 – under an alternative operating scenario.

    b. Upon submission of the notification in Condition 45.a., annual operation of the auxiliary boiler – EU AUX A-01 – shall not exceed 439,460 MMBtu per 12-month period.

    c. During operation under the alternative operating scenario, the Permittee shall continue to comply with the monitoring and record keeping requirements in Conditions 40 and 44.

    d. Upon the time that 12-month rolling total annual operation of the auxiliary boiler becomes less than 192,720 MMBtu, the Permittee shall maintain compliance with the limit in Condition 37 and, within thirty days, notify EPA and Navajo Nation EPA of cessation of operation under the Alternative Operating Scenario.

46. The Permittee shall maintain records of all notifications submitted in accordance with Condition 45.