

County of Forsyth



PUBLIC NOTICE OF INTENT TO ISSUE A TITLE V AIR QUALITY PERMIT

FORSYTH COUNTY
OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION
WINSTON-SALEM, NORTH CAROLINA

February 23, 2024

Notice is hereby given by the Forsyth County Office of Environmental Assistance and Protection (EAP) of an opportunity for the public to review and comment on a draft Title V air quality permit for:

**Ingredion Incorporated, Winston-Salem Plant
Winston-Salem, NC
Permit #00732-TV-18**

This facility has applied for a significant modification of its Title V Air Quality operation permit and has requested a limitation to avoid to avoid the applicability of Prevention of Significant Deterioration permitting. The facility is replacing the combustion of coal with natural gas in the Keeler boiler. The draft permit meets the Title V requirements as specified in FCAQTC Section 3Q-0500.

EPA will process this draft permit as a proposed permit and perform its 45-day review provided by Sec. 3Q-0522 *Review by EPA and Affected States* concurrently with the public notice period. If public comments are received that result in a change to the permit, EPA's 45-day review period will cease to be performed concurrently with the public notice period. The status regarding EPA's 45-day review of this project and the deadline for citizen's petitions can be found at the following website address:

<https://www.epa.gov/caa-permitting/north-carolina-proposed-title-v-permits>

The EAP will issue a final Air Quality Permit, in accordance with the conditions of the draft/proposed Air Quality Permit, unless there are public comments which result in a different decision or significant change in the permit.

A copy of the draft permit and statement of basis is available at the EAP's website:

http://www.forsyth.cc/EAP/public_notices.aspx

Additional information regarding the draft permit may be obtained from the Office of Environmental Assistance and Protection, Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, NC 27101-4120; telephone (336) 703-2440. The public may submit written comments on these proceedings to the address above or by e-mail to lloydpb@forsyth.cc on or before March 24, 2024, the close of the public comment period.

Peter B. Lloyd, Ph.D., P.E., Manager
Compliance Assistance & Permitting Division

OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION

**FORSYTH COUNTY GOVERNMENT CENTER
201 NORTH CHESTNUT STREET
WINSTON-SALEM, NC 27101-4120**

**PERMIT TO CONSTRUCT/OPERATE
AIR QUALITY CONTROL
CLASS: Title V (TV)**

PERMIT NUMBER	EFFECTIVE DATE	EXPIRATION DATE	RENEWAL DUE
00732-TV-18	DATE, 2024	September 13, 2028	December 17, 2027

Facility Name: Ingredion Incorporated, Winston-Salem Plant
Mailing Address: 4501 Overdale Road
City, State, ZIP Code: Winston-Salem, NC 27107-6145

Facility Location: 4501 Overdale Road
City: Winston-Salem

In accordance with the provisions set forth in the Forsyth County Air Quality Technical Code and Chapter 3 of the Forsyth County Code, "Air Quality Control", the facility identified above is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations contained within this permit.

The permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete air quality permit application to the Forsyth County Office of Environmental Assistance and Protection and received an Air Quality Permit, except as provided in this permit or in accordance with applicable provisions of the Forsyth County Air Quality Technical Code.

This permit supersedes all previous permits issued to the permittee by the Forsyth County Office of Environmental Assistance and Protection.

Peter B. Lloyd, Ph.D., P.E., Manager
Compliance Assistance & Permitting Division

DATE:

Ingredion Incorporated, Winston-Salem Plant Air Quality Permit # 00732-TV-18

DATE, 2024

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PART I AIR QUALITY OPERATING PERMIT

SECTION 1: FACILITY-WIDE PERMITTED EQUIPMENT AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
ES-11A	CORN RECEIVING			
	Corn Unloading	W115891	Carter Day Fabric Filter	EP-C
	Corn Storage Silo #1	W115894	Carter Day Fabric Filter	EP-A
	Corn Storage Silo #2	W115895	Carter Day Fabric Filter	EP-B
	Corn Storage Silo #3	W115803	Rolfes Fabric Filter	EP-S
ES-11B	CORN CLEANING			
	Corn Transport	W115896	Carter Day Fabric Filter	EP-D
	Corn Cleaner	W115824	Air-Cure, Inc. Fabric Filter	EP-E
	Corn Cleaning Silo #1	W115825	Donaldson Torit Fabric Filter	EP-F
	Corn Cleaning Silo #2	W115832	Rolfes Fabric Filter	EP-T
ES-14	STEEPING			
	Steeps SA1-SA8	None	None	SA1-8
	Steeps SB1-SB8	None	None	SB1-8
	Incubation Tank #1	None	None	EP-SI1
	Incubation Tank #2	None	None	EP-SI2
	Incubation Tank #3	None	None	EP-SI3

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
ES-15	WET MILLING			
	Gluten Filter Vacuum Pumps	None	None	EP-AA
	Germ Separation	W628893	Advanced Industries Technology Wet Cyclonic Scrubber	EP-R
	Fiber Dewatering	None	None	EP-AL
	Gluten Dewatering	None	None	AF, AG, and AH
	Ventilation Fans	None	None	AK and AL
ES-21	GLUTEN DRYING AND COOLING			
	Gluten Dryer with a Fisher-Klosterman, Inc. High Efficiency Process Transfer Cyclone W215891 and a Donaldson Torit product recovery dust collector (W218808) (Gluten Cooler)	W215893	Fisher-Klosterman, Inc. High Efficiency Transfer Cyclone (Gluten Dryer)	Routed to EP-R
		W628893	Advanced Industries Technology Wet Cyclonic Scrubber	EP-R
ES-22	STEEPWATER EVAPORATION			
	#1 Steepwater Evaporator	None	Keeler, Deltak, or SCS Boiler (odor control)	Routed to EP-Y or 62F
	#1 Steepwater Evaporative Condenser	None	Keeler, Deltak, or SCS Boiler (odor control)	
	#2 Steepwater Evaporator	None	Keeler, Deltak, or SCS Boiler (odor control)	
	#2 Steepwater	None	Keeler, Deltak, or SCS	

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
	Evaporative Condenser		Boiler (odor control)	
ES-23	FEED DRYING AND COOLING			
	#1 Feed Dryer	W235893	Carborundum Co. High Efficiency Cyclone	Routed to EP-Y or 62F
		W628891	No. 1 Feed Scrubber	
		W628851	DC Scrubber	
		W235893	Carborundum Co. High Efficiency Cyclone	EP-AP
	#2 Feed Dryer	W235892	Carborundum Co. High Efficiency Cyclone	Routed to EP-Y or 62F
		W628891	No. 1 Feed Scrubber	
		W628851	DC Scrubber	
		W235892	Carborundum Co. High Efficiency Cyclone	EP-AQ
	#3 Feed Dryer	W235813	Fisher-Klosterman, Inc. High Efficiency Transfer Cyclone	Routed to EP-Y or 62F
		W628892	No. 2 Feed Scrubber	
		W628851	DC Scrubber	
		W235813	Fisher-Klosterman, Inc. High Efficiency Transfer Cyclone	EP-AR
		W628892	No. 2 Feed Scrubber	
	#1 Feed Cooler with two Carborundum Co. High Efficiency Process Transfer Cyclones W235811 and W235812 in parallel	W628893	Advanced Industries Technology Wet Cyclonic Scrubber	Routed to EP-R

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
	#2 Feed Cooler with a Fisher-Klosterman, Inc. High Efficiency Process Transfer Cyclone W235815	W628893	Advanced Industries Technology Wet Cyclonic Scrubber	Routed to EP-R
ES-24	GERM DRYING AND COOLING			
	#1 Germ Dryer	W245892 W245893	Two Mueller High Efficiency Cyclones in parallel then routed to DC Scrubber	Routed to EP-Y or 62F
	#2 Germ Dryer	W245895 W245898	Two Fisher-Klosterman, Inc. High Efficiency Cyclones in parallel then routed to Feed Dryers as inlet air	
ES-25	MILL PRODUCTS LOADING			
	MPL Dust Collector	W255897	Carter Day Fabric Filter	EP-X
	Gluten Silo	W258891	Carter Day Fabric Filter	EP-O
	#1 Feed Silo	W258896	Carter Day Fabric Filter	EP-P
	Inline Feed Silo	W258895	Carter Day Fabric Filter	EP-U
	#2 Feed Silo	W258897	Alanco Environmental Fabric Filter	EP-Q
	#1 Germ Silo	W248893	Carter Day Fabric Filter	EP-H
	Inline Germ Silo	W258894	Carter Day Fabric Filter	EP-V
	Railcar Transport Blower	W258898	Material System Eng. Fabric Filter	EP-AO

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
ES-31	STARCH DRYING			
	Starch Dryer fired with Natural Gas (21.5 MMBtu/hr maximum heat input) with two Mueller High Efficiency Process Transfer Cyclones W315891 and W315892 in parallel	W318894	Ducon Wet multi-vane Scrubber	EP-I
		W318896	Ducon Wet multi-vane Scrubber	EP-J
ES-32	STARCH STORAGE AND LOADING			
	Starch Silo	W328891	Carter Day Fabric Filter	EP-K
	Starch Loading Dust System	W325892	Carter Day Fabric Filter	EP-L
ES-62C	BOILERS			
	Keeler Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-based solid fired with Wood/ Natural Gas/ Corn cleanings/ Corn germ/ Dry and Wet feed/ Corn derived gluten meal (290 MMBtu/hr maximum heat input when fired with wood and 150 MMBtu/hr when fired with natural gas) and a PCC Air Heater fired with Natural Gas (11.5 MMBtu/hr maximum heat input)	62SFB1 62SFB2	Zurn Industries Multicyclone PPC Model 24R-1230-2711 Electrostatic Precipitator	EP-Y

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
ES-62F	Steam and Control Systems, Inc. (SCS) Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-based solid fired with Wood/ Natural Gas/ Corn cleanings/ Corn germ/ Dry and Wet feed/ Corn derived gluten meal (324.5 MMBtu/hr maximum heat input when fired with wood and natural gas combination and 245.0 MMBtu/hr when fired only with natural gas) and a PCC Air Heater fired with Natural Gas (11.5 MMBtu/hr maximum heat input)	62F1 62F2	Zurn Air Systems Multicyclone PPC Industries Model 34R-1330-37125 Electrostatic Precipitator	EP-62F
ES-62G	One Temporary Boiler fired with natural gas with a maximum heat input of less than 100 MMBtu/hr and a boiler efficiency rating of 80% or higher	None	None	EP-62G
ES-62D	ASH HANDLING			
	Ash Handling System	62D-PC 62D-SC 62D-FF 62D-WS	National Conveyors Company, Inc. Primary Cyclone, Secondary Cyclone, Fabric Filter, and Wet Scrubber	EP-Z

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
ES-81	SULFUR BURNER SYSTEM			
	Sulfur Burner	W818806	A.H. Lundberg Wet Scrubber	EP-AI
ES-83	CARBON STORAGE			
	Carbon Silo	W838891	Donaldson Torit Fabric Filter	EP-N
ES-85	FILTER AID STORAGE			
	Filter Aid Silo	W858893	Donaldson Torit Fabric Filter	EP-G
ES-WHS	WOOD HANDLING SYSTEM			
	Wood Handling System	None	None	Fugitive

SECTION 2 FACILITY GENERAL ADMINISTRATIVE CONDITIONS

2.1 General Provisions [Sections 3-0100, 3-0200 and Sec. 3Q-0508(i)(16)]

- A. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in Subchapters 3D and 3Q of the Forsyth County Air Quality Technical Code (FCAQTC).
- B. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Sections 3-0100 and 3-0200 of the FCAQTC, including assessment of civil and/or criminal penalties. This permit is valid only for the specific processes and operations applied for and indicated in the air quality permit application. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and enforcement action by the Office of Environmental Assistance and Protection (Office).
- C. This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.
- D. This permit does not relieve the permittee from liability for harm or injury to human

health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore. This permit does not allow the permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from the Director, or to cause pollution in contravention of state laws or rules.

- E. Terms and conditions contained herein shall be enforceable by this Office, the U.S. EPA and citizens of the United States as defined in the federal Clean Air Act, except those identified as **Locally Enforceable Only** requirements which are enforceable by this Office.
- F. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained or modified without the appropriate and valid permits issued by this Office, unless the source is exempted by rule. This Office may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the applicable requirements.
- G. In addition to the authority found in Sec. 3D-0501 and 3Q-0508(i)(16), any deviation from the monitoring provisions of this permit may result in a request by this Office to submit data on rates of emissions in order to demonstrate compliance with any applicable regulation.

2.2 Permit Availability [Sec. 3Q-0507(k), 0508(i)(16), 0508(i)(9) and 0110]

The permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of this Office or the U.S. EPA upon request.

2.3 Submissions [Sec. 3Q-0507(c), 0508(i)(16) and 0104]

- A. All documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required to be sent to this Office by this permit shall be submitted to the Forsyth County Office of Environmental Assistance and Protection, Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, NC 27101-4120.
- B. All documents, reports, test data, monitoring data, notifications, and any other information required to be sent to **U.S. EPA Region 4, Air Enforcement Branch** shall be submitted through EPA's Compliance and Emissions Data Reporting Interface, CEDRI, or submitted to U.S. EPA Region 4, Air Enforcement Branch, 61 Forsyth Street, S.W., Atlanta, GA 30303.
- C. All documents, reports, test data, monitoring data, notifications, and any other information required to be sent to U.S. EPA Region 4, Air Permits Section shall be submitted through EPA's Compliance and Emissions Data Reporting Interface, CEDRI, or submitted to U.S. EPA Region 4, Air Permits Section, 61 Forsyth Street,

S.W., Atlanta, GA 30303.

2.4 **Severability Clause** [Sec. 3Q-0508(i)(2)]

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any specific circumstance, is challenged, the application of the provision in question to other circumstances, as well as the remainder of this permit's provisions, shall not be affected.

2.5 **Duty to Comply** [Sec. 3Q-0508(i)(3)]

The permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2.6 **Need to Halt or Reduce Activity Not a Defense** [Sec. 3Q-0508(i)(4)]

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.

2.7 **Permit Shield** [Sec. 3Q-0512(a)]

- A. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
- B. A permit shield shall not alter or affect:
 - 1. the power of the Forsyth County Board of Commissioners, Director, or Governor under NCGS 143-215.3(a)(12) or the U.S. EPA under Section 303 of the federal Clean Air Act;
 - 2. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
 - 3. the applicable requirements under Title IV of the Clean Air Act; or
 - 4. the ability of the Director or the U.S. EPA under Section 114 of the federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
- C. A permit shield shall not apply to any change made at a facility that does not require a permit or to any permit revision made under Sec. 3Q-0523.
- D. A permit shield shall not extend to minor permit modifications made under Sec. 3Q-0515.

2.8 **Circumvention** [Sec. 3D-0502 and 3Q-0508(i)(16)]

No person shall circumvent any permitted air pollution control device, or allow the emissions of regulated air pollutants without the applicable air pollution control device operating properly. Unless otherwise specified by this permit, no permitted emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

2.9 **Good Air Pollution Control Practice** [Sec. 3D-0502 and 3Q-0508(i)(16)]

At all times, the equipment listed in *Section 1* shall be operated and maintained in a manner consistent with the design and emissions control as applied for in the application.

2.10 **Reporting Requirements for Excess Emissions and Permit Deviations**

“Excess Emissions” - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections 3D-0500, 0900, 1200 or 1400; or by a permit condition; or that exceeds a **Locally Enforceable Only** emission limit established in a permit issued under Section 3Q-0700. (*Note: This definition applies where the NSPS does not further define excess emissions for an affected NSPS emissions source.*)

“Deviation” - means any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions.

A. Sources subject to Sec. 3D-0524, 1110 or 1111

Excess Emissions and Permit Deviations

1. If the source specific NSPS (Sec. 3D-0524) or NESHAP (Sec. 3D-1110 or 1111) defines “excess emissions”, these shall be reported as prescribed in Sec. 3D-0524, 1110 or 1111.
2. If the source specific NSPS (3D-0524) or NESHAP (Sec. 3D-1110 or 1111) does NOT define “excess emissions”, the permittee shall report excess emissions as deviations from permit requirements as prescribed in paragraph 3, below.
3. In addition to any specific NSPS or NESHAP reporting requirements the permittee shall upon becoming aware:
 - a. report to this Office any deviations from permit requirements by the next business day, unless an alternative reporting schedule is specifically provided in the permit, and
 - b. report in writing to this Office all deviations from permit requirements or any excess emissions within two business days, unless an alternative reporting schedule is specifically provided in the permit. The written report shall include the probable cause of such deviations and any corrective actions or preventative actions taken. Reports of all deviations from permit requirements shall be certified by a responsible official.

B. Sources NOT subject to Sec. 3D-0524, 1110 or 1111

1. Excess Emissions Greater than Four Hours in Duration [3D .0535(f)]

The permittee shall report excess emissions greater than four hours in duration as prescribed in Sec. 3D-0535(f) including, but not limited to the following:

- a. Notify this Office of any such occurrence by 9:00 a.m. Eastern time of this Office's next business day of becoming aware of the occurrence as described in Sec. 3D-0535(f)(1);
- b. Notify this Office immediately when corrective measures have been accomplished; and
- c. Submit, if requested, to this Office within 15 days after the request, a written report as described in Sec. 3D-0535(f)(3).

2. Excess Emissions Less than Four Hours in Duration and Deviations [Sec. 3Q-0508(f)]

The permittee shall report excess emissions less than four hours in duration and deviations from permit requirements as follows:

- a. Report to this Office any excess emissions less than four hours in duration and any deviations from permit requirements quarterly, unless an alternative reporting schedule is specifically provided in the permit; and
- b. Report in writing to this Office any excess emission less than four hours in duration or any deviations from permit requirements quarterly, unless an alternative reporting schedule is specifically provided in the permit. The written report shall include the probable cause of such excess emissions and deviations and any corrective actions or preventative actions taken. All reports of excess emissions and deviations from permit requirements shall be certified by a responsible official.

C. Other Requirements under Sec. 3D-0535 (Sec. 3D-0535(c) and (g)) **Locally Enforceable Only**

The permittee shall comply with all other requirements contained in Sec. 3D-0535(c) for excess emissions that do not occur during startup or shutdown and Sec. 3D-0535(g) for excess emissions that occur during startup or shutdown.

2.11 **Emergency Provisions** <40 CFR 70.6(g)>

The permittee shall be subject to the following provision with regard to emergencies:

- A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly

designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

- B. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in paragraph C below are met.
- C. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
 - 1. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
 - 2. the permitted facility was at the time being properly operated;
 - 3. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the standards, or other requirements in the permit; and
 - 4. the permittee submitted notice of the emergency to this Office within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, and steps taken to mitigate emissions, and corrective actions taken.
- D. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
- E. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

2.12 **Permit Fees** [Sec. 3Q-0206(b),-0508(i)(10) and-0519(a)(4)]

If, within 30 days after being billed, the permittee fails to pay an annual permit fee required under Subchapter 3Q .0200 of the FCAQTC, the Director may initiate action to terminate this permit under Sec. 3Q-0519 of the FCAQTC.

2.13 **Annual Emission Inventory Requirements** [Sec. 3Q-0207]

The permittee shall report to the Director by June 30th of each year the actual emissions of each air pollutant listed in Sec. 3Q-0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form(s) as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

2.14 **Compliance Certification** <40 CFR 70.6(c)> [Sec. 3Q-0508(n) and 0508(i)(16)]

By March 1st unless another date is established by the Director, the permittee shall submit to this Office and the U.S. EPA Air Enforcement Branch a compliance certification by a responsible official with all terms and conditions in the permit, including emissions limitations, standards, or work practices. The compliance certification shall comply with

additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the federal Clean Air Act. The compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports as applicable):

- A. the identification of each term or condition of the permit that is the basis of the certification;
- B. the status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the methods or means designated in 40 CFR 70.6(c)(5)(iii)(B). The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 occurred;
- C. whether compliance was continuous or intermittent;
- D. the identification of the method(s) or other means used by the owner and operator for determining the compliance status with each term and condition during the certification period; these methods shall include the methods and means required under 40 CFR Part 70.6(a)(3); and
- E. such other facts as the Director may require to determine the compliance status of the source.

2.15 Retention of Records [Sec. 3Q-0508(f)]

The permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit.

2.16 NESHAP - Recordkeeping Requirement for Applicability Determinations <40 CFR 63.10(b)(3)> [Sec. 3D-1111]

If the permittee determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants is not subject to a relevant standard or other requirement established under 40 CFR Part 63, the permittee shall keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source. This record shall include all of the information required under 40 CFR 63.10(b)(3).

2.17 Duty to Provide Information [Sec. 3Q-0508(i)(9)]

- A. The permittee shall furnish to this Office, in a timely manner, any reasonable 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.

- B. The permittee shall furnish this Office copies of records required to be kept by the permit when such copies are requested by the Director.

2.18 Duty to Supplement or Correct Application [Sec. 3Q-0507(f)]

The permittee, upon becoming aware that any relevant facts were omitted from the application or that incorrect information was submitted with the application, shall promptly submit such supplementary facts or corrected information to this Office. The permittee shall also provide additional information necessary to address any requirements that become applicable to the source after the date a complete application was submitted but prior to release of the draft permit.

2.19 Certification by Responsible Official [Sec. 3Q-0520]

A responsible official (as defined in 40 CFR 70.2) shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statement and information in the document are true, accurate, and complete.

2.20 Inspection and Entry [Sec. 3Q-0508(l)]

- A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives of this Office to perform the following:
1. enter upon the permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
 2. have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;
 3. inspect, at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
 4. sample or monitor substances or parameters, at reasonable times and using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements.

Nothing in this condition shall limit the ability of the U.S. EPA to inspect or enter the premises of the permittee under Section 114 or other provisions of the Clean Air Act.

- B. No person shall obstruct, hamper or interfere with any such authorized representative

while in the process of carrying out his official duties.

2.21 Averaging Times <40 CFR 70.6(a)(3)> [Sec. 3Q-0508(f)]

Unless otherwise specified in *Section 3* of this permit for a specific emission standard or limitation, the applicable averaging period for determining compliance with an emission standard or limitation during compliance testing shall be based on the applicable U.S. EPA reference test method.

2.22 Compliance Testing [Sec. 3D-2602(e)]

When requested by this Office for determining compliance with emission control standards, the permittee shall provide sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test procedure; scaffolding and safe access to the sample and data collection locations; and light, electricity, and other utilities required for sample and data collection.

2.23 General Emissions Testing and Reporting Requirements [Sec. 3D-2602 and Sec. 3Q-0508(i)(16)]

Testing shall be conducted in accordance with FCAQTC Sec. 3D-2600 except as may be otherwise required in FCAQTC Sections 3D-0524, 3D-0912, 3D-1110, 3D-1111, 3D-1415 or a permit condition specific to the emissions source. Requests to use an alternative test method or procedure must be made in writing at least 45 days prior to the test and approved by this Office. Alternatives to test methods or procedures specified for emissions sources subject to test requirements under 40 CFR 60, 40 CFR 61 or 40 CFR 63, may require approval by the U.S. EPA. When required to conduct emissions testing under the terms of the permit:

- A. The permittee shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved prior to air pollution testing. Emission testing protocols must be submitted at least 45 days before conducting the test for pre-approval prior to testing if requested by the permittee.
- B. The permittee shall notify this Office of the specific test dates at least 15 days prior to the scheduled test date in order to afford this Office the opportunity to have an observer on-site during the sampling program.
- C. During all sampling periods, the permittee shall operate the emission source(s) under operating conditions that best fulfill the purpose of the test and are approved by the Director or his delegate.
- D. The permittee shall submit one copy of the test report to this Office not later than 30 days after sample collection. The permittee may request an extension to submit the final test report if the extension request is a result of actions beyond the control of the permittee. The test report shall contain at a minimum the following information:

1. a certification of the test results by sampling team leader and facility representative;
 2. a summary of emissions results expressed in the same units as the emission limits given in the rule for which compliance is being determined and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s) as appropriate;
 3. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics as necessary;
 4. all field, analytical and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
 5. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and
 6. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.
- E. This Office will review emission test results with respect to the specified testing objectives as proposed by the permittee and approved by this Office.

2.24 **Termination, Modification, and Revocation of the Permit** [Sec. 3Q-0519]

The Director may terminate, modify, or revoke and reissue this permit if:

- A. the information contained in the application or presented in support thereof is determined to be incorrect;
- B. the conditions under which the permit or permit renewal was granted have changed;
- C. violations of conditions contained in the permit have occurred;
- D. the permit holder fails to pay fees required under Section 3Q .0200 within 30 days after being billed;
- E. the permittee refuses to allow the Director or his authorized representative upon presentation of credentials:
 1. to enter, at reasonable times and using reasonable safety practices, the permittee's premises in which a source of emissions is located or in which any records are required to be kept under terms and conditions of the permit;
 2. to have access, at reasonable times, to any copy or records required to be kept under terms and conditions of the permit;
 3. to inspect, at reasonable times and using reasonable safety practices, any source of emissions, control equipment, and any monitoring equipment or method

required in the permit; or

4. to sample, at reasonable times and using reasonable safety practices, any emission sources at the facility;
- F. the U.S. EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
- G. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of Chapter 3 of the Forsyth County Code.

2.25 Permit Reopenings, Modifications, Revocations and Reissuances, or Terminations
[Sec. 3Q-0508(i)(5)]

The Director may reopen, modify, revoke and reissue, or terminate this permit for reasons specified in Sec. 3Q-0517 or .0519. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition in this permit.

2.26 Permit Renewal [Sec. 3Q-0508(e) and 0513]

This permit is issued for a term not to exceed five years. Permits issued under Title IV of the Clean Air Act shall be issued for a fixed period of five years. This permit shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit expiration. If the permittee or applicant has complied with Sec. 3Q-0512(b)(1), this permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

2.27 Reopening for Cause [Sec. 3Q-0517 and 0508(g)]

This permit shall be reopened and revised in accordance with Sec. 3Q-0517 prior to its expiration date, for any of the following reasons:

- A. Additional applicable requirements become applicable to the facility with remaining permit term of three or more years.
- B. Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Clean Air Act. Excess emissions offset plans for this source shall become part of this permit upon approval by the U.S. EPA.
- C. The Director or the U.S. EPA finds that a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

- D. The Director or the U.S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

2.28 **Construction and Operation Permits** [Sections 3Q-0100 and-0300]

A construction and operating permit shall be obtained by the permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in following the procedures under Sec. 3Q-0500 (except for Sec. 3Q-0504) or a construction and operation permit following the procedures under Sec. 3Q-0504 and filing a complete application to modify the construction and operation permit to meet the requirements of Section 3Q-0500. If the procedures under Sec. 3Q-0504 are followed, the application to meet the requirements of Section 3Q-0500 shall be submitted:

- A. within 12 months of beginning operation if the modification does not contravene or conflict with a condition in the existing permit, or
- B. before beginning operation if the significant modification contravenes or conflicts with a condition in the existing permit.

2.29 **Permit Modifications** [Sec. 3Q-0514, 0515, 0516, 0517, 0523 and 0524]

- A. Permit modifications may be subject to the requirements of Sec. 3Q-0514, 0515, 0516 and 0524.
- B. Changes made pursuant to Sec. 3Q-0523(a), Section 502(b)(10) changes, and (b), Off-permit changes do not require a permit modification. The permittee shall notify the Director and U.S. EPA Region 4, Air Permits Section at least seven days before making a 502(b)(10) change.
- C. The permittee shall submit an application for reopening for cause in accordance with Sec. 3Q-0517 if notified by this Office.
- D. To the extent that emissions trading is allowed under FCAQTC Subchapter 3D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to Sec. 3Q-0523(c).

2.30 **Insignificant Activities** [Sec. 3Q-0503 and 0508(i)(15)]

Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The permittee shall have available at the facility at all times and made available to an authorized representative of this Office upon request, documentation, including calculations if necessary, to demonstrate that an emission source or activity is insignificant.

2.31 Standard Application Form and Required Information [Sec. 3Q-0505 and 0507]

The permittee shall submit applications and required information in accordance with the provision of Sec. 3Q-0505 and 0507.

2.32 Property Rights [Sec. 3Q-0508(i)(8)]

This permit does not convey any property rights of any sort, or any exclusive privileges.

2.33 Refrigerant Requirements (Stratospheric Ozone and Climate Protection) <40 CFR Part 70> [Sec. 3Q-0508(b)]

- A. If the permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR 82 Subpart A, Appendices A and B, the permittee shall service, repair, and maintain such equipment according to the work practices and personnel certification requirements, and the permittee shall use certified recycling and recovery equipment specified in 40 CFR 82 Subpart F.
- B. The permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR 82 Subpart F.
- C. The permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the U.S. EPA or its designee as required.

2.34 Prevention of Accidental Releases - Section 112(r) [Sec. 3Q-0508(h)]

If the permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the federal Clean Air Act, then the permittee is required to register this plan in accordance with 40 CFR Part 68.

2.35 Title IV Allowances [Sec. 3Q-0508(i)(1)]

The facility's emissions are prohibited from exceeding any allowances that the facility lawfully holds under Title IV of the Clean Air Act. This permit shall not limit the number of allowances held by the permittee, but the permittee may not use allowances as a defense to noncompliance with any other applicable requirement.

2.36 Air Pollution Alert, Warning or Emergency [Sec. 3D-0300]

Should the Director of this Office declare an Air Pollution Alert, Warning or Emergency, the permittee will be required to operate in accordance with the permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in Sec. 3D-0300.

2.37 Registration of Air Pollution Sources [Sec. 3D-0202]

The Director of this Office may require the permittee to register a source of air pollution. If the permittee is required to register a source of air pollution, this registration and required information shall be in accordance with Sec. 3D-0202(b).

2.38 Ambient Air Quality Standards [Sec. 3D-0501(e)]

In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in Sec. 3D-0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

2.39 Odor [Sec. 3D-0522] *Locally Enforceable Only*

The permittee shall not cause or permit the emission of odors beyond the facility's property lines which are harmful, irritating or which unreasonably interfere with the use and enjoyment of any person's properties or living conditions, or any public properties or facilities. Such odors are prohibited by Sec. 3D-0522. No violation shall be cited, provided that the best practical treatment, maintenance, and control of odor(s) currently available is used. This requirement does not apply to normal agricultural practices, nor to accidental emissions of odors which are not normally produced during routine operations and activities as determined by the Director.

2.40 Fugitive Dust Control Requirement [Sec. 3D-0540]

The permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR 60, Appendix A), the owner or operator may be required to submit and implement a fugitive dust control plan as described in 3D .0540(f).

2.41 NESHAP - National Emission Standard for Asbestos <40 CFR Part 61, Subpart M> [Sec. 3D-1110]

The permittee shall comply with all applicable standards for demolition and renovation activities pursuant to the requirements of 40 CFR Part 61, Subpart M. The permittee shall not be required to obtain a modification of this permit in order to perform the referenced activities.

New Source Performance Standards (NSPS) General Provisions - Permit Conditions

2.42 NSPS - General provisions [40 CFR 60 Subpart A and Sec. 3D-0524]

The permittee shall comply with all applicable requirements specified in the general

provisions of the New Source Performance Standards (40 CFR 60 Subpart A) including but not limited to requirements concerning notifications, testing, monitoring, recordkeeping, modifications and reconstruction.

2.43 NSPS - Good air pollution control practice [40 CFR 60.11(d) and Sec. 3D-0524]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

2.44 NSPS - Circumvention [40 CFR 60.12 and Sec. 3D-0524]

Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard under 40 CFR 60. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

2.45 NSPS - Maintain records - startup/shutdown/malfunction [40 CFR 60.7(b) and Sec. 3D-0524]

The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

2.46 NSPS - Files available for inspection [40 CFR 60.7(f) and Sec. 3D-0524]

The permittee shall maintain a file of all measurements, including, if applicable: performance test measurements; adjustments and maintenance performed on these systems or devices; monitoring device calibration checks; and all other information required in 40 CFR 60. This file shall be kept in a permanent form suitable for inspection and shall be retained at least two years following the date of such measurements, maintenance, reports, and records.

2.47 NSPS - Performance testing facilities provided by permittee [40 CFR 60.8(e) and Sec. 3D-0524]

For any performance testing, the permittee shall provide, or cause to be provided, performance testing facilities as follows:

A. Sampling ports adequate for the applicable test methods. This includes:

1. constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and

2. providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- B. Safe sampling platform(s) with safe access.
 - C. Utilities for sampling and testing equipment.
 - D. Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply.

Compliance Assurance Monitoring for Major Stationary Sources (CAM) General Conditions - [40 CFR Part 64]

Following are conditions based on the requirements found in 40 CFR Part 64. These conditions only apply to sources subject to the CAM requirements.

2.48 CAM - Proper Maintenance <40 CFR 64.7(b)> [Sec. 3D-0614]

At all times, the permittee shall maintain the monitoring equipment, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

2.49 CAM - Continued Operation <40 CFR 64.7(c)> [Sec. 3D-0614]

Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

2.50 CAM - Response to Excursions or Exceedances <40 CFR 64.7(d)> [Sec. 3D-0614]

Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely

recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designed condition, or below the applicable emissions limitation or standard, as applicable.

Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. Based on the results of this determination, this Office may require the permittee to develop and implement a Quality Improvement Plan (QIP). The elements of a QIP are identified in 40 CFR 64.8(b).

2.51 CAM - Documentation of Need for Improved Monitoring <40 CFR 64.7(e)> [Sec. 3D-0614]

After approval of the CAM plan, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify this Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conduction monitoring and collecting data, or the monitoring of additional parameters.

National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) General Conditions - [Sec. 3D-1111]

Following are conditions found in the 40 CFR Part 63 NESHAP General Provisions. The following conditions only apply to sources subject to a relevant standard of a subpart of 40 CFR Part 63 except when otherwise specified in a particular subpart or in a relevant standard.

2.52 NESHAP - General Provisions <40 CFR 63 Subpart A> [Sec. 3D-1111]

The permittee shall comply with all applicable requirements specified in the general provisions of the National Emission Standards for Hazardous Air Pollutants for Source Categories (40 CFR 63 Subpart A) including but not limited to requirements concerning notifications, testing, monitoring, recordkeeping, modifications, construction, and reconstruction.

2.53 NESHAP - Circumvention <40 CFR 63.4(b)> [Sec. 3D-1111]

The permittee shall not build, erect, install, or use any article, machine, equipment or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to, the use of gaseous

diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere, the use of diluents to achieve compliance with a relevant standard for visible emissions, and the fragmentation of an operation such that the operation avoids regulation by a relevant standard.

2.54 NESHAP - Maintain Records <40 CFR 63.10(b)(2)> [Sec. 3D-1111]

For affected sources, the permittee shall maintain relevant records of:

- A. the occurrence and duration of each startup, shutdown when the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards;
- B. all maintenance performed on the air pollution control equipment;
- C. each period during which a CMS is malfunctioning or inoperative;
- D. all required measurement needed to demonstrate compliance with a relevant standard;
- E. all results of performance tests, CMS performance evaluations, and opacity and visible emission observations;
- F. all measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
- G. all CMS calibration checks;
- H. all adjustments and maintenance performed on CMS;
- I. any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements if the source has been granted a waiver under 40 CFR 63.10(f);
- J. all emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test if the source has been granted such permission under 40 CFR 63.8(f)(6); and
- K. all documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.9.

2.55 NESHAP - Files Available for Inspection <40 CFR 63.10(b)(1)> [Sec. 3D-1111]

The permittee shall maintain files of all information required by 40 CFR Part 63 recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site.

2.56 NESHAP - Performance Testing Facilities Provided by Permittee <40 CFR 63.7(d)> [Sec. 3D-1111]

For any performance testing for each new source and, at the request of the Director, for each existing source, the permittee shall provide performance testing facilities as follows:

- A. Sampling ports adequate for test methods applicable to the affected source. This includes:
 - 1. Constructing the air pollution control system such that volumetric flow rates and

pollutant emission rates can be accurately determined by applicable test methods and procedures; and

2. Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- B. Safe sampling platform(s).
 - C. Safe access to sampling platform(s).
 - D. Utilities for sampling and testing equipment.
 - E. Any other facilities that the Director deems necessary for safe and adequate testing of a source.
 - F. Unless otherwise specified in the applicable subpart, each performance test shall be conducted according to the requirements in 40 CFR 63.7.

SECTION 3 SPECIFIC LIMITATIONS AND CONDITIONS

The emission source(s) and associated air pollution control device(s) listed below are subject to the following specific terms, conditions, and limitations, including the monitoring recordkeeping, and reporting requirements to which those requirements apply:

3.1 Facility-Wide Emission Source Conditions

A. Air toxics [Sections 3D-1100 and 3Q-0700] - *Local Enforcement Only*

1. **Air toxics - general** - Specification of a listed toxic air pollutant (TAP) in this permit does not excuse the permittee from complying with the requirements of Sections 3D-1100 and 3Q-0700 of the FCAQTC with regard to any other listed TAP emitted from the regulated facility, nor does this permit exempt the permittee from compliance with any future air toxics regulations promulgated pursuant to the requirements of the Clean Air Act. **[Sections 3D-1100 and 3Q-0700]**

2. **De minimis limits** - Total facility-wide emissions of the following pollutants, except those from the boilers ES-62, ES-62C, and ES-62E, and ES-62F which were exempt from the TAP program at the time the evaluation was performed, shall not exceed their respective de minimis emissions limits as shown in Sec. 3Q-0711 unless a modeling demonstration is first approved by this Office which shows that the emissions of the subject TAPs from the facility will not adversely affect human health. This demonstration shall be in accordance with the requirements set forth in Sections 3D-1100 and 3Q-0700 of the FCAQTC. This demonstration must be made with an up-to-date version of a U.S. EPA approved computer model or, upon approval by this Office, calculated using the results of a previous modeling analysis showing compliance with the acceptable ambient levels for the pollutants listed below. **[Section 3Q-0700]**

<u>Pollutant (CAS Number)</u>	<u>De minimis level</u>
benzene (71-43-2)	8.1 lb/year
benzo(a)pyrene (50-32-8)	2.2 lb/year
formaldehyde (50-00-0)	0.04 lb/hour
n-hexane (110-54-3)	23 lb/day
toluene (108-88-3)	14.4 lb/hour and 98 lb/day

3. **Air toxic pollutant recordkeeping** - The permittee shall maintain updated records of production rates, throughputs, material usage, and other process operational information as is necessary to determine compliance with the emission rates specified in permit condition **3.1(A)(2)**. At a minimum these records shall include data sufficient to calculate monthly averaged emission rates

(in pounds per hour of emission source operation) for TAPs with 1-hour or 24-hour emission limits and yearly emission rates (in pounds per calendar year) for TAPs with annual emission limits.

Copies of these records shall be retained by the permittee for a period of three years after the date on which the record was made.

If requested by an agent of this Office, the permittee shall readily supply copies of these records at the time of inspection. Likewise, the permittee shall submit copies of the records upon request by this Office. **[Sec. 3D-0605, Sec. 3D-1105, and Sec. 3Q-0308(a)(1)]**

B. Prevention of Significant Deterioration (PSD) [Sec. 3D-0530 and Sec. 3Q-0317]

1. **Maximum daily production rate** [Sec. 3D-0530 and Sec. 3Q-0317] - The permittee shall limit the grind rate of corn at the facility to a maximum of 80,000 bushels per day based on a three day average throughput. The total grind rate for any 365 day period shall not exceed 29,200,000 bushels of corn in order to avoid the applicability of Sec. 3D-0530 for sulfur dioxide emissions from the modification undertaken in August 2006 (#00732-TV-6).
2. **Recordkeeping requirement** [Sec. 3D-0530 and Sec. 3Q-0317(b)] - The permittee shall record and maintain a record of the grind rate in bushels of corn per day in a log (written or electronic form). These records shall also include a three day rolling average of the grind rate during actual operating days to ensure compliance with the maximum grind rate. These records shall be totaled for the previous 365 day period to obtain the total 365 day grind rate. These records are to be kept on site and shall be made available for inspection by Office personnel.
3. **Reporting** [Sec. 3D-0530 and Sec. 3Q-0317(b)] - The permittee shall submit the grind rate records as described in condition **3.1(B)(2)** to this Office by January 30th for the period July through December, and by July 30th for the period January through June. The permittee shall include a report of the daily grind rate during the alternate operating scenario (AOS) as separate from the average daily grind rate during normal operation. However, the average daily grind rate for the AOS shall be included in the totals for calculating the annual production rate for the six month reporting period.

C. Control of Visible Emissions [Sec. 3D-0521] - This regulation applies to all emission sources at this facility unless otherwise specified in the specific conditions.

1. **Standard for all emission sources unless otherwise specified** [Sec. 3D-0521(d)] - For sources manufactured after July 1, 1971, visible emissions shall not be more than 20% opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20% opacity if:
 - (a) No six-minute period exceeds 87% opacity;
 - (b) No more than one six-minute period exceeds 20% opacity in any hour; and
 - (c) No more than four six-minute periods exceed 20% opacity in any 24-hour period.

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - If emissions testing is required by this Office or the U.S. EPA, or the permittee submits emissions testing to the Division in support of a permit application, the permittee shall perform such testing in accordance with the appropriate U.S. EPA reference method(s) as approved by this Office. The permittee may request approval from this Office for an alternate test method or procedure in writing.
3. **Monitoring and recordkeeping requirements** [Sec. 3Q-0508(f)] - The permittee shall make a qualitative **monthly** observation of the stacks/vents ducting emissions from each source. The permittee shall keep a monthly log of this visible emission stack observation. The log shall contain the following:
 - (a) the date and time of visual observation;
 - (b) the person(s) who performed visual observation;
 - (c) the results of the visual observation (note color, duration, density (heavy or light), and include identifying stacks where visible emissions occurred);
 - (d) the operating conditions under which the visual observation was conducted; and
 - (e) any actions taken to reduce the visible emissions.
4. **Reporting** [Sec. 3Q-0508(f)(1)] - The permittee shall submit a summary report of the monitoring requirements specified in condition **3.1(C)(3)** to this Office by January 30th for the period July through December, and by July 30th for the period January through June. This report shall include the percentage of operational days in the reporting period for which a visible emission observation was made for EP-AO, EP-G, and EP-N.

- 3.2 **ES-11A Corn Receiving including Corn Unloading and Corn Storage Silos 1 through #3, controlled by Fabric Filters W115891, W115894, W115895, and W115803; and**
ES-11B Corn Cleaning including Corn Transport, Corn Cleaner, and Corn Cleaning Silos #1 and #2, controlled by Fabric filters W115896, W115824, W115825, and W115832; and
ES-25 Mill Products Loading including MPL Dust Collector, Gluten Silo, #1 Feed Silo, Inline Feed Silo, #2 Feed Silo, #1 Germ Silo, Inline Germ Silo, and Railcar Transport Blower controlled by Fabric Filters W255897, W258891, W258896, W258895, W258897, W248893, W258894 and W258898; and
ES-32 Starch Storage and Loading including Starch Silo and Starch Loading Dust System, controlled by Fabric Filters W328891, and W325892; and
ES-83 Carbon Storage, controlled by Fabric Filter W838891; and
ES-85 Filter Aid Storage, controlled by Fabric Filter W858893

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Particulate Matter	$E = (55.0 \times P^{0.11}) - 40$ when operating at process rates greater than 60,000 lb/hr; and $E = 4.10 \times P^{0.67}$ when operating at process rates equal to or less than 60,000 lb/hr where; E = allowable PM emission rate in lb/hr, and P = process weight in tons/hr	ES-11A, ES-11B, ES-25, ES-32, ES-83, and ES-85	Sec. 3D-0515
Visible Emissions	20 percent opacity		Sec. 3D-0521(d) - see condition 3.1(C) for requirements (see below for frequency of visible observations for Railcar Transport Blower of ES-25, ES-83, and ES-85)

A. Particulates from Miscellaneous Industrial Processes - Corn Receiving (ES-

11A), Corn Cleaning (ES-11B), Mill Products Loading (ES-25), Starch Storage And Loading (ES-32), Carbon Storage (ES-83), and Filter Aid Storage (ES-85) [Sec. 3D-0515]

1. Standard/Operation requirements [Sec. 3D-0515] -

- (a) **Emission limit for ES-11A** - Particulate matter emissions from each of the processes in ES-11A (Corn Unloading, Storage Silo #1, Storage Silo #2, and Storage Silo #3) shall not exceed the allowable emissions rate calculated by the applicable formula in the above table. Accordingly, the potential emission rate from each of these processes shall at no times exceed 73.1 lb/hr based on maximum production.
- (b) **Emission limit for ES-11B** - Particulate matter emissions from each of the processes in ES-11B (Corn Transport, Corn Cleaner, Corn Cleaning Silo #1, and Corn Cleaning Silo #2) shall not exceed the allowable emissions rate calculated by the applicable formula in the above table. Accordingly, the potential emission rate from each of these processes shall at no times exceed 57.5 lb/hr based on maximum production.
- (c) **Emission limit for ES-25** - Particulate matter emissions from the processes in ES-25 shall not exceed the allowable emissions rate calculated by the applicable formula in the above table. Accordingly, the potential emissions from these processes shall at no times exceed the following emissions rates based on maximum production:

<u>Emission Source Description</u>	<u>Maximum Allowable Emission Rate</u>
MPL Dust Collector	55.4 lb/hr
Gluten Silo	11.7 lb/hr
#1 Feed Silo	27.5 lb/hr
Inline Feed Silo	27.5 lb/hr
#2 Feed Silo	27.9 lb/hr
#1 Germ Silo	13.9 lb/hr
Inline Germ Silo	13.9 lb/hr
Railcar Transport Blower	25.2 lb/hr

- (d) **Emission limit for ES-32** - Particulate matter emissions from the processes in ES-32 shall not exceed the allowable emissions rate calculated by the applicable formula in the above table. Accordingly, the potential emissions from these processes shall at no times exceed the following emissions rates based on maximum production:

<u>Emission Source Description</u>	<u>Maximum Allowable Emission Rate</u>
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Starch Silo	22.3 lb/hr
Starch Loading Dust System	44.6 lb/hr

- (e) **Emission limit for ES-83** - Particulate matter emissions from the Carbon Silo shall not exceed the allowable emissions rate calculated by the applicable formula in the above table. Accordingly, the potential emission rate from this process shall at no times exceed 15.1 lb/hr based on maximum production.
- (f) **Emission limit for ES-85** - Particulate matter emissions from the Filter Aid Silo shall not exceed the allowable emissions rate calculated by the applicable formula in the above table. Accordingly, the potential emission rate from this process shall at no times exceed 8.56 lb/hr based on maximum production.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring requirement** [Sec. 3Q-0508(f)] - The permittee shall follow the monitoring requirements for visible emissions in condition **3.1(C)**. In addition to monitoring visible emissions, and to ensure that optimum control efficiency is maintained, the permittee shall perform inspections and preventative maintenance in a manner consistent with good practice for minimizing emissions. As a minimum, the qualitative visible observation for fabric filters W258898, W838891, and W858893 must include the following:
- (a) **For Railcar Transport Blower of ES-25, Carbon Silo (ES-83), and Filter Aid Silo (ES-85)** - The permittee shall perform a qualitative observation of the stack ducting emissions from these sources once per day each day that the source is operating.
Or,
- (b) **Alternative Monitoring for Railcar Transport Blower of ES-25, Carbon Silo (ES-83), and Filter Aid Silo (ES-85)** – As an alternative to performing a qualitative observation noted in permit condition **3.2(C)(3)(a)** above, the permittee may perform a monthly preventative maintenance inspection of the fabric filters. The preventative maintenance inspections shall include the following items:
- (i) check fabric filter differential pressures;
 - (ii) check blow-down pressures and cycles;
 - (iii) inspect structural integrity of fabric filters;
 - (iv) check fabric filter mechanical operating components to ensure proper operation;
 - (v) oil fabric filter mechanical components as needed;
 - (vi) inspect blower belts and filters and replace as needed; and
 - (vii) inspect fabric filter bags, if indicated, and replace as required.
4. **Recordkeeping requirement** [Sec. 3Q-0508(f)] - The results of all monitoring activities in permit condition **3.2(A)(3)(a)** shall be recorded in a log (written or electronic form). The log shall be maintained on site and shall contain the following records:

(a) **For Railcar Transport Blower of ES-25, Carbon Silo (ES-83), and Filter Aid Silo (ES-85) -**

- (i) the date and time of visual observation;
- (ii) the person(s) who performed visual observation;
- (iii) the results of the visual observation (note color, duration, density (heavy or light), and include identifying stacks where visible emissions occurred);
- (iv) any actions taken to reduce the visible emissions; and
- (v) the date and time a qualitative observation can't be obtained due to adverse weather conditions or darkness.

5. **Recordkeeping requirement for Alternative Monitoring** [Sec. 3Q-0508(f)] - The results of all monitoring activities in permit condition **3.2(A)(3)(b)** shall be recorded in a log (written or electronic form). The log shall be maintained on site and shall contain the following records:

(a) **Recordkeeping for Railcar Transport Blower of ES-25, Carbon Silo (ES-83), and Filter Aid Silo (ES-85) -**

- (i) the date and time of preventative monitoring inspection;
- (ii) the person(s) who performed inspections;
- (iii) the results of the preventative maintenance inspections;
- (iv) any corrective actions taken as a result of the preventative maintenance inspections.

6. **Reporting requirement** [Sec. 3Q-0508(f)(1)] - The permittee shall submit a summary report of the monitoring requirements specified in condition **3.2(A)(3)** to this Office by January 30th for the period July through December, and by July 30th for the period January through June. The report shall include the number of qualitative observations conducted during the reporting period for the Railcar Transport Blower of ES-25, Carbon Silo (ES-83), and Filter Aid Silo (ES-85) and the number of days each source was in operation during the reporting period. The report shall also include the dates the preventative maintenance inspections were performed and state whether the inspections were used as an alternative monitoring method in the reporting period in lieu of performing the qualitative observations for the stack visual emissions

- 3.3 **ES-15 Wet Milling including Gluten Filter Vacuum Pumps, Uncontrolled, and Germ Separation, controlled by Scrubber W628893; and ES-21 Gluten Drying and Cooling, controlled by Cyclone W215893 and Scrubber W628893; and ES-23 Feed Drying and Cooling, controlled by Cyclones W235893, W235892, and W235813, Scrubbers W628891, W628851, W628892, and W628893; and ES-81 Sulfur Burner, controlled by Scrubber W818806**

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Sulfur Dioxide	0.88 lb SO ₂ /hr on a 24 hr average from emission point AA (Gluten Filter Vacuum Pumps)	ES-15	40 CFR 51.166, Sec. 3D-0530, and Sec. 3Q-0317
Sulfur Dioxide	Combined total of 3.3 lb SO ₂ /hr on a 24 hr average from emission point R (Advanced Industries Technology Wet Scrubber) from all contributing sources		40 CFR 51.166, Sec. 3D-0530, and Sec. 3Q-0317
Sulfur Dioxide	0.1 lb SO ₂ /hr on a 24 hr average	ES-81	40 CFR 51.166, Sec. 3D-0530, and Sec. 3Q-0317
Particulate Matter	$E = 4.10 \times P^{0.67}$ where; E = allowable PM emission rate in lb/hr, and P = process weight in tons/hr	ES-21, and ES-23	Sec. 3D-0515
Visible Emissions	20 percent opacity	ES-15, ES-21, ES-23, and ES-81	Sec. 3D-0521(d) - see condition 3.1(C) for requirements

- A. **Prevention of Significant Deterioration (Sulfur Dioxide) - Wet Milling (ES-15), Sulfur Burner System (ES-81) [Sec. 3D-0530 and Sec. 3Q-0317]** - These emission sources have federally enforceable limits applied to them to avoid the provisions of Sec. 3D-0530. Should any of the following conditions be violated, this facility may become subject to this rule.

1. **Emission requirements** [Sec. 3D-0530 and Sec. 3Q-0317] -
 - (a) **Emission limit for emission point AA (ES-15)** - Emissions of sulfur dioxide from the Gluten Filter Vacuum Pumps shall not exceed 0.88 pounds per hour based on a 24-hour average. This rate represents 75 percent sulfur dioxide reduction at 80,000 bushel/day production rate. In order to demonstrate compliance with this emission rate, the permittee shall control the pH levels of the Gluten Filter Vacuum Pump water to achieve a 75 percent reduction by maintaining the pH levels at or above 5.0.
 - (b) **Emission limit for emission point R (ES-15, 21, and 23)** - Combined total emissions of sulfur dioxide from the Scrubber W628893 shall not exceed 3.3 pounds per hour based on a 24-hour average for all contributing sources. This rate represents 75 percent sulfur dioxide reduction at 80,000 bushel/day production rate. In order to demonstrate compliance with this emission rate, the permittee shall control the pH levels of the Scrubber W628893 water to achieve a 75 percent reduction by maintaining the pH levels at or above 5.0.
 - (c) **Emission limit for ES-81** - Emissions of sulfur dioxide shall not exceed 0.1 pounds per hour based on a 24-hour average. In order to demonstrate compliance with this emission rate, the permittee shall control the pH levels of the Scrubber W818806 water by maintaining the pH levels at or above 5.5.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(n)(2) and (b)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring requirement** [Sec. 3D-0530, Sec. 3Q-0317, and Sec. 3Q-0508(f)] - The permittee shall continuously monitor the pH values of the Gluten Filter Vacuum Pumps seal water, the Scrubber W628893 water, and the Scrubber W818806 water with a probe which shall be connected to a controller to regulate the caustic addition to the water and a 24-hour average shall be calculated. The permittee shall manually check the pH of the Gluten Filter Vacuum Pumps seal water, the Scrubber W628893 water, and the Scrubber W818806 water on a daily basis for comparison to the continuous monitor readings. The continuous pH monitors shall be recalibrated if the difference between the manual pH readings and the continuous pH readings is greater than 0.30, if the lowest reading is less than 0.30 pH above the required compliance pH value. As a minimum, the continuous pH monitors shall be recalibrated on a monthly basis.

The manual checks of the pH must be performed for at least 90 percent of the operating days at the facility during the six-month reporting period and the recalibration of the continuous pH monitors when the difference between the manual pH readings and the continuous pH readings is greater than 0.30, if the lowest reading is less than 0.30 pH above the required compliance pH value, must be performed for at least 90 percent of the operating days at the facility during the six-month reporting period to ensure compliance with this requirement.
4. **Recordkeeping requirement** [Sec. 3D-0530, Sec. 3Q-0317, and Sec. 3Q-0508(f)] - The daily pH of the Gluten Filter Vacuum Pumps seal water, the Scrubber W628893, and

the Scrubber W818806 water obtained during manual pH readings and the average daily pH shall be recorded in a log to be kept on site along with the continuous monitor pH reading at the time of the manual check. The log shall also contain records of all calibration and maintenance dates of the pH monitoring equipment.

5. **Reporting requirement** [Sec. 3D-0530, Sec. 3Q-0317(b), and Sec. 3Q-0508(f)(1)] - The permittee shall submit a summary report of the monitoring requirements specified in condition **3.3(A)(3)** to this Office by January 30th for the period July through December, and by July 30th for the period January through June. This report shall include the percentage of operational days in the reporting period for which manual pH readings were recorded and the percentage of days in the reporting period for which a recalibration of the continuous pH monitors was performed as required in condition **3.3(A)(3)**.

B. Particulates from Miscellaneous Industrial Processes - Gluten Drying and Cooling (ES-21), and Feed Drying and Cooling (ES-23) [Sec. 3D-0515]

1. **Standard/Operation requirements** [Sec. 3D-0515] -
 - (a) **Emission limit for ES-21** - Particulate matter emissions from the Gluten Dryer and Cooler shall not exceed the allowable emissions rate calculated by the formula in the above table. Accordingly, the potential emissions from these processes shall at no times exceed 11.6 lb/hr based on maximum production.
 - (b) **Emission limit for ES-23** - Particulate matter emissions from the processes in ES-23 shall not exceed the allowable emissions rate calculated by the formula in the above table. Accordingly, the potential emissions from these processes shall at no times exceed the following emissions rates based on maximum production:

<u>Emission Source Description</u>	<u>Maximum Allowable Emission Rate</u>
#1 Feed Cooler	13.7 lb/hr
#2 Feed Cooler	13.7 lb/hr

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring and recordkeeping requirements** [Sec. 3Q-0508(f)] - The permittee shall follow the monitoring and recordkeeping requirements for visible emissions in condition **3.1(C)(3)**.
4. **Reporting requirement** [Sec. 3Q-0508(f)(1)] - The permittee shall follow the reporting requirements for visible emissions in condition **3.1(C)(4)**.

3.4 ES-31 Starch Drying, controlled by Scrubbers W318894 and W318896

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Particulate Matter	$E = 4.10 \times P^{0.67}$ where; E = allowable PM emission rate in lb/hr, and P = process weight in tons/hr	ES-31	Sec. 3D-0515
Sulfur Dioxide*	2.3 lb SO ₂ /MMBtu	ES-31	Sec. 3D-0516
Visible Emissions	20 percent opacity	ES-31	Sec. 3D-0521(d) - see condition 3.1(C) for requirements

*Sec. 3D-0516 - *Sulfur Dioxide Emissions from Combustion Sources* applies to the natural gas dryers associated with this emission unit. Use of only natural gas assures compliance with this standard. No monitoring, recordkeeping, or reporting is required to assure compliance. However, the permittee shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed for condition **2.13** entitled, *Annual Emission Inventory Requirements*.

A. Particulates from Miscellaneous Industrial Processes - Starch Drying (ES-31) [Sec. 3D-0515]

1. **Standard/Operation requirements** [Sec. 3D-0515] -
 - (a) **Emission limit for ES-31** - Particulate matter emissions from ES-31 (Scrubbers W318894 and W318896) shall not exceed the allowable emissions rate calculated by the formula in the above table. Accordingly, the potential emission rate from each scrubber shall at no time exceed 11.2 lb/hr based on maximum production for the emission source.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Compliance Assurance Monitoring and recordkeeping requirements** [Sec. 3D-0614 and Sec. 3Q-0508(f)] - In order to demonstrate compliance with the CAM plan for the wet scrubbers, the following monitoring and recordkeeping requirements apply:
 - (a) The permittee shall follow the monitoring and recordkeeping requirements for visible emissions in condition **3.1(C)(3)**. An excursion is defined as the presence of a visible emission, except for the presence of water vapor, from either stack. If a visible emission is noted, the applicant shall conduct an investigation into the cause and take the appropriate corrective action to mitigate the emissions.
 - (b) The permittee shall continuously monitor for the presence or absence of scrubber

- flow water to Scrubbers W318894 and W318896 during operation of ES-31. The presence of water to the scrubbers will provide assurance that the PM emissions are being controlled and maintained below the allowable limit. An excursion is defined as when the system is in operation and there is no water flow to or from the scrubber for a continuous six minute period during any operational day. In addition, validation of the operation of the flow sensing device shall be conducted monthly.
- (c) The permittee shall conduct an annual internal inspection of Scrubbers W318894 and W318896 to ensure proper operation. An excursion is identified as any inspection which reveals the internal components of the scrubbers have been affected in a way that the scrubbers no longer operate as designed. An excursion will require the applicant to conduct an investigation into the cause and take appropriate corrective action to repair the internal components.

The results of all monitoring activities shall be recorded in a log (written or electronic form). The log shall be maintained on site and shall be made available to Office personnel.

4. **Reporting requirement** <40 CFR 64.9> [Sec. 3D-0614 and Sec. 3Q-0508(f)(1)] – The permittee shall submit the following report:
- (a) A summary report of the compliance assurance monitoring required in permit condition **3.4(A)(3)** including, as a minimum:
- (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with calibration checks, if applicable); and
 - (iii) A description of the actions taken to implement a QIP (if required by this Office) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

This report shall be received by this Office by January 30th for the period July through December and by July 30th for the period January through June.

3.5 **ES-62C Keeler Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-based solid, controlled by Multicyclone 62SFB1 and ESP 62SFB2**

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	Applicable Regulation
Particulate Matter	0.1 lb/MMBtu	40 CFR 51.166, 40 CFR 60.43b, Sec. 3D-0530, and Sec. 3D-0524
Nitrogen Oxides	0.3 lb NO _x /MMBtu	40 CFR 60.44b(d), and Sec. 3D-0524
Sulfur Dioxide	2.3 lb SO ₂ /MMBtu	Sec 3D-0516
HCl	0.022 lb/MMBtu	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Mercury	5.7E-06 lb/MMBtu	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Carbon Monoxide (or demonstrate compliance with a continuous emissions monitor (CEM))	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; (or 900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Filterable Particulate Matter (or Total Selected Metals (TSM))	0.44 lb/MMBtu (or 4.5E-04 lb/MMBtu)	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Visible Emissions	20 percent opacity	40 CFR 60.43b(f) and Sec. 3D-0524
Visible Emissions	10 percent opacity (daily block average)	40 CFR 63.7525(c), Table 8, and Sec. 3D-1111
Nitrogen Oxides and Carbon Monoxide	1,650,000 MMBtu/yr heat input from the combustion of wood based on a monthly rolling 12-month rolling total	Sec. 3D-0530 and Sec. 3Q-0317

A. Prevention of Significant Deterioration [Sec. 3D-0530], New Source Performance Standards [Sec. 3D-0524]

- Standard for Particulate Matter** [Sec. 3D-0530 and Sec. 3D-0524] - Total particulate matter emissions shall not exceed 0.1 pounds per million Btu heat input as determined

by U.S. EPA Reference Method 5 (40 CFR 60 - Appendix A, amended November 14, 1990, or the most recent approved version of the method at the time of testing). This limit shall be met with the use of a multicyclone followed by an electrostatic precipitator.

This standard shall apply at all times except during periods of startup, shutdown or malfunction.

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Periodic monitoring and recordkeeping requirements** [Sec. 3D-0524 and Sec. 3Q-0508(f)] - The permittee shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone and electrostatic precipitator. The permittee shall install, calibrate, maintain, and operate a continuous opacity monitor (COM) and record the output of the system in accordance with NSPS Subpart Db, 40 CFR 60.48b(a). The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the COM used to measure the opacity of emissions discharged to the atmosphere pursuant to NSPS Subpart Db, 40 CFR 60.48b(e) and Sec. 3D-0524.
4. **Reporting requirement** [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] - The permittee shall comply with all applicable recordkeeping and reporting requirements specified in 40 CFR 60.49b, including, but not limited to, the requirement to submit excess emissions reports for any excess emissions of opacity which occur during the six-month period. These reports shall be submitted no later than January 30th for the period July through December and no later than July 30th for the period January through June. If there are no excess emissions during the semiannual period, the permittee shall submit a report stating that no excess emissions occurred during the reporting period.
5. **Compliance Assurance Monitoring and recordkeeping requirements for particulate matter** <40 CFR Part 64> [Sec. 3D-0614 and Sec. 3Q-0508(f)] - In order to demonstrate compliance with the CAM plan for the multicyclone and electrostatic precipitator, the following monitoring and recordkeeping requirements apply:
 - (a) The permittee shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone and electrostatic precipitator using the COM required in permit condition **3.5(A)(3)**.
 - (b) The outlet opacity shall be continuously monitored to provide data for at least 90% of the operating hours in each steam generating unit day, in at least 27 out of 30 successive steam generating unit days.
 - (c) The outlet opacity readings are recorded at least four times equally spaced over an hour for at least 90% of the operating hours.
 - (d) The averaging period for the opacity readings shall be six minutes.
 - (e) The permittee shall provide initial calibration of the COM in accordance with manufacturer's recommendation at startup. In addition, quarterly calibration of the COM shall be performed in accordance with manufacturer's recommended procedure. Preventative maintenance of the COM shall be performed on an annual basis.

An excursion is defined as data monitored greater than 12 percent opacity for more than

three consecutive hours during an operation day, except for startup and shutdown. An excursion will trigger an investigation into its cause and the appropriate corrective action will be performed and documented.

6. **Reporting Requirement** <40 CFR 64.9> [Sec. 3D-0614 and Sec. 3Q-0508(f)(1)] - The permittee shall submit the following report:
- (a) A summary report of the compliance assurance monitoring required in permit condition **3.5(A)(5)** including, as a minimum:
- (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with calibration checks, if applicable); and
 - (iii) A description of the actions taken to implement a QIP (if required by this Office) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

This report shall be received by this Office by January 30th for the period July through December and by July 30th for the period January through June.

B. New Source Performance Standards [Sec. 3D-0524]

1. **Standard for Nitrogen Oxides** [Sec. 3D-0524] - Total nitrogen oxides emissions shall not exceed 0.3 pounds per million Btu heat input as determined by U.S. EPA Reference Method 7 (40 CFR 60 - Appendix A, amended November 14, 1990, or the most recent approved version of the method at the time of testing).

This standard shall apply at all times including periods of startup, shutdown, or malfunction. Compliance with this emission limit is determined on a 30-day rolling average basis.

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] – Within 180 days of completion of the Keeler Gas Burner System Project, the permittee shall conduct a performance test of ES-62C to demonstrate compliance with the applicable limit specified in condition **3.5(B)(1)** above. The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring requirements** <40 CFR 60.48b(a)> [Sec. 3D-0524 and Sec. 3Q-0508(f)] -
- (a) The permittee shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The continuous monitoring system for nitrogen oxides shall be operated and data recorded during all periods of operation, except for continuous monitoring system breakdowns and repairs.

(b) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit day, in at least 22 out of 30 successive steam generating unit days.

4. **Recordkeeping and reporting requirements** <40 CFR 60.49b> [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] -

(a) The permittee shall comply with applicable recordkeeping and reporting requirements specified in 40 CFR 60.49b, including, but not limited to, the requirement to submit written excess emissions reports based on the data recorded by the continuous emissions monitoring system (CEM) for nitrogen oxides and opacity. These reports shall be submitted no later than January 30th for the period July through December and no later than July 30th for the period January through June.

(b) The CEM must be maintained, calibrated, operated and audited in accordance with 40 CFR 60, Appendix F quality assurance procedures. A data assessment report (DAR) which includes as a minimum the results of CEM accuracy assessments and all corrective actions taken when the CEM was determined to be out of control shall be filed with this Office. This report shall be submitted with the excess emissions report and received by this Office no later than January 30th for the period July through December and no later than July 30th for the period January through June.

C. **New Source Performance Standards Subpart Db Conditions [Sec. 3D-0524]**

1. **Monitoring and recordkeeping requirements** <40 CFR 60.49b(d)> [Sec. 3D-0524 and Sec. 3Q-0508(f)] - The permittee shall record and maintain records of the total amount of wood, natural gas, corn cleanings, corn germ, and dry and wet feed burned in the boiler each month. The log should also include the date and time each fuel is burned.
2. **Reporting requirement** [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] - The permittee shall submit the monthly total of each fuel burned in the boiler to this Office on a semiannual basis. The report shall be received by this Office no later than January 30th for the period July through December and no later than July 30th for the period January through June.

D. **Sulfur Dioxide Emissions from Combustion Sources [Sec. 3D-0516]**

1. **Standard** [Sec. 3D-0516] - Emissions of sulfur dioxide from the SCS Boiler shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.

3. **Monitoring, recordkeeping, and reporting requirements** - No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the combustion of wood, natural gas, corn cleanings, corn germ, and dry and wet feed for this source. However, the permittee shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed to fulfill the requirements for condition **2.13** entitled *Annual Emission Inventory Requirements*.

E. **Control of Visible Emissions [Sec. 3D-0524]**

1. **Standard** [Sec. 3D-0524] - Visible emissions shall not exceed 20% opacity (six-minute average), except for one six-minute period per hour of not more than 27% opacity, in accordance with 40 CFR 60.43b(f). The opacity standard applies at all times, except during periods of startup, shutdown or malfunction.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in permit condition **3.1(C)(2)**.
3. **Monitoring and recordkeeping requirements** [Sec. 3D-0524 and Sec. 3Q-0508(f)] - The permittee shall follow the monitoring and recordkeeping requirements specified in condition **3.5(A)(2)**.
4. **Reporting requirements** [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] - The permittee shall follow the reporting requirements specified in permit condition **3.5(A)(3)**.

F. **National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [Sec. 3D-1111 and 40 CFR 63 Subpart DDDDD]**

1. **Standard for hydrogen chloride** <40 CFR 63.7500(a)(1)> [Sec. 3D-1111] - Total hydrogen chloride emissions shall not exceed 0.022 pounds per million Btu heat input as determined by U.S. EPA Reference Methods 26 or 26A (40 CFR 60 - Appendix A, amended November 14, 1990, or the most recent approved version of the method at the time of testing).

This standard shall apply at all times except during periods of startup or shutdown. When compliance is determined by using Method 26, a minimum of 1 dscm per run must be collected. When compliance is determined by using Method 26A, a minimum of 120 liters per test run must be collected.

2. **Standard for mercury** <40 CFR 63.7500(a)(1)> [Sec. 3D-1111] - Total mercury emissions shall not exceed 5.7E-06 pounds per million Btu heat input as determined by U.S. EPA Reference Methods 29, 30A, or 30B (40 CFR 60 - Appendix A, amended November 14, 1990, or the most recent approved version of the method at the time of testing) or ASTM D6784.

This standard shall apply at all times except during periods of startup or shutdown.

When compliance is determined by using Method 29, a minimum of 3 dscm per test run must be collected. When compliance is determined by using Methods 30A or 30B, the permittee shall collect a minimum sample as specified in the method. When compliance is determined by using ASTM D6784, a minimum of 3 dscm per test run must be collected.

3. **Standards for carbon monoxide** <40 CFR 63.7500(a)(1)> [Sec. 3D-1111] - Total carbon monoxide emissions shall not exceed 3,500 ppm by volume on a dry basis corrected to 3 percent oxygen based on a 3-run average. Or, as an alternative, the permittee may choose to install and operate a carbon monoxide CEMS whereas the carbon monoxide emissions shall not exceed 900 ppm by volume on a dry basis corrected to 3 percent oxygen.

These standards shall apply at all times except during periods of startup or shutdown. Each test run for carbon monoxide emissions sampling shall have a minimum of 1 hour sampling time. Compliance with the carbon monoxide emissions when using a CEMS shall be determined based on a 30-day rolling average.

4. **Standards for filterable particulate matter or total selected metals (TSM)** <40 CFR 63.7500(a)(1)> [Sec. 3D-1111] - Total filterable particulate matter emissions shall not exceed 0.44 pounds per million Btu heat input. Or, if the permittee elects to demonstrate compliance with the alternative TSM limit, the TSM emissions shall not exceed 4.5E-04 pounds per million Btu heat input.

These standards shall apply at all times except during periods of startup or shutdown. When conducting a stack test to demonstrate compliance with these limits, the permittee shall collect a minimum of 1 dscm per test run.

5. **Stack testing procedures** <40 CFR 63.7515 and 63.7520 and Tables 5 and 7 to the Subpart> [Sec. 3D-1111] - For each boiler that is required, or the permittee elects, to demonstrate compliance with any of the applicable emissions limits in permit conditions **3.5(F)(1) through (4)** through performance testing, the initial compliance requirements include the following:

- (a) Each performance test shall be conducted in accordance with the requirements in 40 CFR 63.7(c), (d), (f), and (h) and Table 5 to Subpart DDDDD.
- (b) The permittee shall develop a site-specific stack test plan according to the requirements in 40 CFR 63.7(c).
- (c) The permittee shall conduct each performance test under the specific conditions listed in Tables 5 and establish operating limits according to Table 7 to Subpart DDDDD. The performance tests shall be conducted at representative operating load conditions while burning the type of fuel or mixture of fuels that has the highest content of chlorine and mercury, and TSM if you are opting to comply with the TSM alternative standard and you shall demonstrate initial compliance and establish the operating limits based on these performance tests. **These requirements could result in the need to conduct more than one performance test.** Following each performance test and until the next performance test, the permittee shall comply with the operating limit for operating load conditions as specified in Table 4 to Subpart

DDDDD.

- (d) The permittee shall conduct a minimum of three separate test runs for each performance test as specified in 40 CFR 63.7(e)(3). Each test run must comply with the minimum applicable sampling times or volumes specified in Table 2 to Subpart DDDDD.
- (e) To determine compliance with the emission limits, the permittee shall use the F-Factor methodology and equations in sections 12.2 and 12.3 of EPA Method 19 at 40 CFR Part 60, appendix A-7 to convert the measure particulate matter concentrations, the measured HCl concentrations, the measured mercury concentrations, and the measured TSM concentrations that result from the performance test to pounds per million Btu heat input emission rates.
- (f) Except for a 30-day rolling average based on CEMS (or sorbent trap monitoring system) data, if measurement results for any pollutant are reported as below the method detection level (e.g., laboratory analytical results for one or more sample components are below the method defined analytical detection level), the permittee shall use the method detection level as the measured emissions level for that pollutant in calculating compliance. The measured result for a multiple component analysis (e.g., analytical values for multiple Method 29 fractions both for individual HAP metals and for total HAP metals) may include a combination of method detection level data and analytical data reported above the method detection level.

6. **Subsequent stack tests** <40 CFR 63.7515> [Sec. 3D-1111] - The permittee shall conduct all applicable performance tests according to permit condition **3.5(F)(5)** above on an annual basis, except as specified below. Annual performance tests must be completed no more than 13 months after the previous performance test, except as specified below:
- (a) If the performance tests for a given pollutant for at least two consecutive years show that the emissions are at or below 75 percent of the emission limit for the pollutant, and if there are no changes in the operation of the individual boiler or air pollution control equipment that could increase emissions, the permittee may choose to conduct performance tests for the pollutant every third year. Each such performance test must be conducted no more than 37 months after the pervious performance test. If you elect to demonstrate compliance using emission averaging in accordance with 40 CFR 63.7522, you must continue to conduct performance tests annually.
 - (b) If a performance test shows emissions exceeded the emission limit or 75 percent of the emission limit for a pollutant, the permittee shall conduct annual performance tests for that pollutant until all performance tests over a consecutive 2-year period meet the required level (at or below 75 percent of the emission limit).
7. **Fuel analysis** <40 CFR 63.7510, 63.7515, 63.7521, 63.7530 and Tables 6 and 7 to the Subpart> [Sec. 3D-1111] - For each boiler that is required, or the permittee elects, to demonstrate compliance with any of the applicable emissions limits in permit conditions **3.5(F)(1) through (4)** through fuel analysis, the initial compliance requirements include the following:
- (a) Conduct fuel analyses for chlorine and mercury for each type of fuel burned in your boiler according to the procedures outlined in 40 CFR 63.7521(b) through (e) and

- Table 6 to Subpart DDDDD, as applicable. If the permittee chooses to comply with the alternative TSM emission standard, a fuel analysis for TSM must also be performed using the applicable procedures noted above. The permittee shall establish operating limits according to 40 CFR 63.7530 and Table 7 to the Subpart. A fuel analysis is not required for natural gas.
- (b) The permittee shall develop a site-specific fuel monitoring plan according to the procedures and requirements in 40 CFR 63.7521(b)(1) and (2).
 - (c) If the permittee chooses to demonstrate compliance with the mercury, HCl, or TSM emissions limits based on fuel analysis, a monthly fuel analysis must be conducted according to 40 CFR 63.7521 for each type of fuel burned that is subject to an emission limit in permit conditions **3.5(F)(1), (2), or (4)**. The permittee may comply with this monthly requirement by completing the fuel analysis any time within the calendar month as long as the analysis is separated from the previous analysis by at least 14 calendar days. If a new type of fuel is burned, the permittee must conduct a fuel analysis before burning the new type of fuel in the boiler. The permittee shall still meet all applicable continuous compliance requirements in 40 CFR 63.7540. If each of 12 consecutive monthly fuel analyses demonstrates 75 percent or less of the compliance level, the fuel analysis frequency may be decreased to quarterly for that fuel. If any quarterly sample exceeds 75 percent of the compliance level or if you begin burning a new type of fuel, you must return to monthly monitoring for that fuel, until 12 months of fuel analyses are again less than 75 percent of the compliance level.
 - (d) The permittee is not required to conduct fuel analyses for fuels used for only startup, unit shutdown, and transient flame stability purposes. The permittee is required to conduct fuel analyses only for fuels and units that are subject to emission limits for mercury, HCl, or TSM.
8. **Emissions averaging** <40 CFR 63.7522 and 63.7541> [Sec. 3D-1111] - As an alternative to meeting the requirements of 40 CFR 63.7500 for Filterable PM (or TSM), HCl, or mercury on a boiler-specific basis, the permittee may demonstrate compliance by emissions averaging, if the averaged emissions are not more than 90 percent of the applicable emission limit according to the procedures in 40 CFR 63.7522. Demonstrating continuous compliance under emission averaging shall be conducted according to 40 CFR 63.7541.
9. **Operating limits and demonstrating continuous compliance** <40 CFR 63.7520, 63.7525, and Tables 7 and 8 to Subpart DDDDDD> [Sec. 3D-1111] - The permittee shall comply with the following operating limits to demonstrate continuous compliance with the Boiler MACT

Establishing operating limits:

- (a) For carbon monoxide, the permittee shall collect oxygen data every 15 minutes from the oxygen trim system during the entire period of the stack test. The hourly average oxygen concentration shall be determined by computing the hourly averages using all of the 15-minute readings taken during the stack test. The permittee shall determine the lowest hourly average oxygen concentration established during the stack test as the minimum operating limit.
- (b) For particulate matter, the permittee shall use opacity as a surrogate parameter. The

opacity shall be maintained to less than or equal to 10 percent opacity based on a daily block average.

- (c) For any pollutant for which compliance is demonstrated by a performance test, the permittee shall establish a unit specific limit for the maximum operating load in accordance with permit condition **3.5(F)(5)(c)** above. The permittee shall collect operating load or steam generation data every 15 minutes during the entire period of the performance test. The average operating load shall be determined by computing the hourly averages using all of the 15-minute readings taken during the stack test. The permittee shall determine the highest hourly average of the three tests run averages during the stack test, and multiply this by 1.1 (110 percent) as the operating limit.

Demonstrating continuous compliance:

- (d) For carbon monoxide, the permittee shall set the oxygen trim system to the minimum oxygen level determined during the stack test.
- (e) For particulate matter, the permittee shall install, operate, certify, maintain, and collect the opacity system monitoring data according to 40 CFR 63.7525(c) and 63.7535 and reduce the data to 6-minute averages. The permittee shall maintain the opacity to less than or equal to 10 percent based on a daily block average.
- (f) For boiler load, the permittee shall collect the operating load data or steam generation every 15 minutes. The permittee shall maintain the operating load such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test based on a 30-day rolling average.

10. **Work practice standards (Boiler tune-up)** <40 CFR 63.7515 and 63.7540(a)(10)> [Sec. 3D-1111] - The permittee shall conduct an initial tune-up of the boiler **no later than January 31, 2016**. Subsequent to the initial tune-up, the permittee shall conduct a tune-up of the boiler every five years to demonstrate continuous compliance. The permittee may delay the burner inspection specified in permit condition **(10)(a)** below, until the next scheduled or unscheduled unit shutdown, but the permittee must inspect the burner at least once every 72 months. The five year tune-up shall be performed no more than 61 months after the previous tune-up and be performed as specified below:

- (a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
- (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
- (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
- (d) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject;
- (e) Measure the concentrations in the effluent stream of CO in parts per million, by

- volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and
- (f) Maintain on-site and submit, if requested by this Office, an annual report containing the information below:
- (i) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;
 - (ii) A description of any corrective actions taken as a part of the tune-up; and
 - (iii) The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

11. Work practice standards (Startup and Shutdown Procedures) <Items 5 and 6 of Table 3 to Subpart DDDDD> [Sec. 3D-1111]

(a) *Startup:*

- (i) The permittee must operate all CMS during startup.
- (ii) For startup of a boiler or process heater, the permittee must use one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, fuel oil-soaked rags, kerosene, hydrogen, paper, cardboard, refinery gas, liquefied petroleum gas, clean dry biomass, and any fuels meeting the appropriate HCl, mercury and TSM emission standards by fuel analysis.
- (iii) The permittee has the option of complying using either of the following work practice standards:
 - (A) If you choose to comply using definition (1) of “startup” in 40 CFR 63.7575, once you start firing fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices. Startup ends when steam or heat is supplied for any purpose, **OR**
 - (B) If you choose to comply using definition (2) of “startup” in 40 CFR 63.7575, once you start to feed fuels that are not clean fuels, you must vent emissions to the main stack(s) and engage all of the applicable control devices so as to comply with the emission limits within 4 hours of start of supplying useful thermal energy. You must engage and operate PM control within one hour of first feeding fuels that are not clean fuels. You must start all applicable control devices as expeditiously as possible, but, in any case, when necessary to comply with other standards applicable to the source by a permit limit or a rule other than this subpart that require operation of the control devices. You must develop and implement a written startup and shutdown plan, as specified in 40 CFR 63.7505(e).

The permittee must comply with all applicable emission limits at all times except during startup and shutdown periods at which time you must meet this work practice. You must collect monitoring data during periods of startup, as specified in 40 CFR 63.7535(b). You must keep records during periods of startup. Reports concerning

activities and periods of startup shall be submitted as specified in permit **3.5(F)(13)**.

(b) *Shutdown:*

- (i) The permittee must operate all CMS during shutdown.
- (ii) While firing fuels that are not clean fuels during shutdown, you must vent emissions to the main stack(s) and operate all applicable control devices when necessary to comply with other standards applicable to the source that require operation of the control device.
- (iii) If, in addition to the fuel used prior to initiation of shutdown, another fuel must be used to support the shutdown process, that additional fuel must be one or a combination of the following clean fuels: Natural gas, synthetic natural gas, propane, other Gas 1 fuels, distillate oil, syngas, ultra-low sulfur diesel, refinery gas, and liquefied petroleum gas.

The permittee must comply with all applicable emissions limits at all times except for startup or shutdown periods conforming to this work practice. Monitoring data must be collected during periods of shutdown, as specified in 40 CFR 63.7555(b). The permittee must keep records during periods of shutdown. Reports concerning activities and periods of shutdown shall be submitted as specified in permit **3.5(F)(15)**.

12. Recordkeeping requirements <40 CFR 63.7555> [Sec. 3D-1111 and Sec. 3Q-0508(f)] - The permittee shall keep all applicable records required in accordance with 40 CFR 63.7555 including, but not limited to, the following:

- (a) A copy of each notification and report that you submitted to demonstrate compliance, including all documentation supporting any notification or semiannual report;
- (b) Records of all performance tests, fuel analyses, or other compliance demonstrations and performance evaluations;
- (c) For each CEMS, COMS, and continuous monitoring system, records as stated in 40 CFR 63.7555(b);
- (d) Records of all monitoring data and calculated averages for applicable operating limits to show continuous compliance with each emission limit and operating limit that applies;
- (e) Monthly records of fuel use, including the type(s) of fuel and amount(s) used;
- (f) Copy of all calculations and supporting documentation of maximum chlorine, mercury, and/or TSM fuel input that were done to demonstrate compliance with the respective emission limits through performance testing;
- (g) Copy of all calculations and supporting documentation of HCl, mercury, and/or TSM emission rates that were done to demonstrate compliance with the respective emission limits through fuel analysis. The permittee may use the results from one fuel analysis for multiple boilers provided they are all burning the same fuel type. However, you must calculate chlorine fuel input, or HCl emission rate, for each boiler;
- (h) Records that document that the emissions in previous stack test(s) were less than 75 percent of the applicable emission limit, and document that there was no change in source operations, including fuel composition and operation of air pollution control equipment, that would cause emissions of the relevant pollutant to increase within the past year;

- (i) Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment;
- (j) Records of actions taken during periods of malfunction to minimize emissions including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation;
- (k) Records of the calendar date, time, occurrence and duration of each startup and shutdown; and
- (l) Records of the type(s) and amount(s) of fuels used during each startup and shutdown.
- (m) For each startup period, for units selecting definition (2) of “startup” in 40 CFR 63.7575 you must maintain records of the time that clean fuel combustion begins; the time when you start feeding fuels that are not clean fuels; the time when useful thermal energy is first supplied; and the time when the PM controls are engaged.
- (n) If you choose to rely on definition (2) of “startup” in 40 CFR 63.7575, for each startup period, you must maintain records of the hourly steam temperature, hourly steam pressure, hourly steam flow, hourly flue gas temperature, and all hourly average CMS data (e.g., CEMS, PM CPMS, COMS, ESP total secondary electric power input, scrubber pressure drop) collected during each startup period to confirm that the control devices are engaged. In addition, if compliance with the PM emission limit is demonstrated using a PM control device, you must maintain records as specified below:
 - (i) For a boiler or process heater with an electrostatic precipitator, record the number of fields in service, as well as each field's secondary voltage and secondary current during each hour of startup.
- (o) If you choose to use definition (2) of “startup” in 40 CFR 63.7575 and you find that you are unable to safely engage and operate your PM control(s) within one hour of first firing of non-clean fuels, you may choose to rely on definition (1) of “startup” in 40 CFR 63.7575 or you may submit to this Office a request for a variance with the PM controls requirement, as described below:
 - (i) The request shall provide evidence of a documented manufacturer-identified safety issue.
 - (ii) The request shall provide information to document that the PM control device is adequately designed and sized to meet the applicable PM emission limit.
 - (iii) In addition, the request shall contain documentation that:
 - (A) The unit is using clean fuels to the maximum extent possible to bring the unit and PM control device up to the temperature necessary to alleviate or prevent the identified safety issues prior to the combustion of primary fuel;
 - (B) The unit has explicitly followed the manufacturer's procedures to alleviate or prevent the identified safety issue; and
 - (C) Identifies with specificity the details of the manufacturer's statement of concern.
 - (iv) You must comply with all other work practice requirements, including but not limited to data collection, recordkeeping, and reporting requirements.

Records shall be in a form suitable and readily available for expeditious review. Each record shall be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Each record shall be kept on site, or they must be accessible from on site, for at least 2 years after the date of each

occurrence, measurement, maintenance, corrective action, report, or record.

13. Reporting requirements <40 CFR 63.7550> [Sec. 3D-1111 and Sec. 3Q-0508(f)] -

The facility shall submit a semi-annual report to this Office postmarked or received no later than January 31st for the period July through December and no later than July 31st for the period January through June. The first report is to be postmarked or received by this Office no later than July 31, 2016. The reports shall contain the following information:

- (a) Company and Facility name and address;
- (b) Process unit information, emissions limitations, and operating parameter limitations;
- (c) Date of report and beginning and ending dates of the reporting period;
- (d) The total operating time during the reporting period;
- (e) The total fuel use by each individual boiler within the reporting period, including, but not limited to, a description of the fuel, whether the fuel has received a non-waste determination by the EPA or your basis for concluding the fuel is not a waste, and the total fuel usage amounts with units of measure;
- (f) If the applicant is conducting performance tests once every three years, the date of the last two performance tests and a statement as to whether there have been any operational changes since the last performance test that could increase emissions;
- (g) If the applicant wishes to burn a new type of fuel and cannot demonstrate compliance with the maximum chlorine input operating limit using Equation 7 of 40 CFR 63.7530, or the maximum mercury input operating limit using Equation 8 of 40 CFR 63.7530, or the maximum TSM input operating limit using Equation 9 of 40 CFR 63.7530, the applicant shall include in the compliance report a statement indicating the intent to conduct a new performance test within 60 days of starting to burn the new fuel;
- (h) If there are no deviations from any emission limits or operating limits, a statement that there were no deviations from the emission limits or operating limits during the reporting period;
- (i) If a malfunction occurred during the reporting period, the report shall include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report shall also include a description of actions taken by the permittee during a malfunction of a boiler or associated air pollution control device or CMS to minimize emissions in accordance with 40 CFR 63.7500(a)(3), including actions taken to correct the malfunction;
- (j) If the permittee plans to demonstrate compliance by emission averaging, certify the emission level achieved or the control technology employed is no less stringent than the level or control technology contained in the notification of compliance status;
- (k) For each reporting period, the compliance reports must include all of the calculated 30-day rolling average values based on the daily CEMS (CO and mercury) and CPMS (PM CPMS output, scrubber pH, scrubber liquid flow rate, scrubber pressure drop) data;
- (l) A statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
- (m) For each deviation from an emission limit or operating limit that occurs at an individual boiler where you are not using a CMS to comply with that emission limit or operating limit, the report shall additionally contain:

- (i) a description of the deviation and which emission limit, operating limit, or work practice standard from which you deviated;
 - (ii) Information on the number, duration, and cause (including unknown cause), as applicable, and the corrective action taken; and
 - (iii) If the deviation occurred during an annual performance test, provide the date the annual performance test was completed.
- (n) For each deviation from an emission limit, operating limit, and monitoring requirement occurring at an individual boiler where you are using a CMS to comply with that emission limit or operating limit, the report shall additionally contain the following information. This includes any deviations from the site-specific plan as required in 40 CFR 63.7505(d).
- (i) The date and time that each deviation started and stopped and a description of the nature of the deviation (i.e. what you deviated from);
 - (ii) The date and time that each CMS was inoperative, except for zero (low-level) and high-level checks;
 - (iii) The date, time, and duration that each CMS was out of control, including the information in 40 CFR 63.8(c)(8);
 - (iv) The date and time that each deviation started and stopped;
 - (v) A summary of the total duration of the deviation during the reporting period and the total duration as a percent of the total source operating time during the reporting period;
 - (vi) A characterization of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes;
 - (vii) A Summary of the total duration of CMS's downtime during the reporting period and the total duration of CMS downtime as a percent of the total source operating time during the reporting period;
 - (viii) A brief description of the source for which there was a deviation; and
 - (ix) A description of any changes in CMS's, processes, or controls since the last reporting period for the source for which there was a deviation.
- (o) For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of 40 CFR 63.7575(d).

In addition to submitting the compliance report to this Office, the permittee shall submit the compliance report electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (www.epa.gov/cdx).

14. **Notification requirements** <40 CFR 63.7545> [Sec. 3D-1111] - The permittee shall submit to this Office all of the notifications in 40 CFR 63.7(b) and (c), 63.8(e), (f)(4) and (6), and 63.9(b) through (h) that are applicable to your facility. In addition, the permittee shall submit the following notifications:
- (a) A Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin;
 - (b) A notification when switching fuels or making a physical change to the boiler and the fuel switch or physical change resulted in the applicability of a different subcategory, the permittee must provide notice of the date upon which you switched fuels or made

the physical change within 30 days of the switch/change. The notification must identify:

- (i) The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, and the date of the notice;
- (ii) The currently applicable subcategory; and
- (iii) The date upon which the fuel switch or physical change occurred.

G. Monitoring requirement for moisture content of biomass fuel [Sec. 3Q-0508(f)(1)]

1. **Testing** - The permittee shall sample the biomass fuel on a quarterly basis to determine the moisture content of the fuel. The sampling shall be conducted according to the requirements detailed in 40 CFR 63.7521 and Table 6 to Subpart DDDDD.
2. **Recordkeeping requirements** - For each quarterly sample, the permittee shall record the following:
 - (i) The date and time of the sampling;
 - (ii) The date the analysis was performed;
 - (iii) The name of the company or entity that performed the analysis;
 - (iv) The analytical techniques of method used to collect and analyze the sample;
 - (v) The result of the analysis; and
 - (vi) The moisture content based on an as-fired annual heat input basis.
3. **Notification requirement** - The permittee shall notify this Office if the results of the fuel moisture content analysis performed pursuant to condition **3.5(G)(1)** are less than 40% based on an as-fired annual heat input basis. Moisture content of less than 40% for the biomass fuel is considered a fuel switch as detailed in 40 CFR 63.7545(h) and subject to the applicable emissions specified in 40 CFR 63.7500. The permittee shall notify this Office within 30 days of the switch and provide the following information:
 - (i) The name of the owner/operator of the affected source, the location of the affected source, the boiler(s) that have switched fuels, and the date of the notice;
 - (ii) The current applicable boiler subcategory under Subpart DDDDD; and
 - (iii) The date upon which the fuel switch occurred.
4. **Reporting requirement** - The permittee shall submit the moisture content sampling results as described in condition **3.5(G)(2)** to this Office by January 30th for the period July through December, and by July 30th for the period January through June.

H. Prevention of Significant Deterioration (PSD) [Sec. 3D-0530 and Sec. 3Q-0317]

1. **Maximum annual heat input while combusting wood** [Sec. 3D-0530 and Sec. 3Q-0317] - The annual heat input of ES-62C while combusting wood shall not exceed 1,650,000 million Btu per year based on a monthly rolling 12-month total in order to avoid the applicability of Sec. 3D-0530 for nitrogen oxides and carbon monoxide.
2. **Recordkeeping requirement** [Sec. 3D-0530 and Sec. 3Q-0317(b)] - The permittee shall record and maintain a record of the amount of wood combusted in the boiler each

month. The monthly heat input for the combustion of wood shall then be calculated using the measured heat input of wood and the monthly total of wood combusted in the boiler. The monthly heat input totals shall be recorded in a log (written or electronic form). These monthly totals shall be included in a 12-month rolling total to determine compliance with the PSD avoidance limit.

3. **Reporting** [Sec. 3D-0530 and Sec. 3Q-0317(b)] - The permittee shall submit the monthly and 12-month rolling total heat input from the combustion of wood to this Office on a semiannual basis. The report shall be received by this Office no later than January 30th for the period July through December and no later than July 30th for the period January through June.

3.6 **ES-62F Steam and Control Systems, Inc. (SCS) Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-based solid, controlled by Multicyclone 62F1 and ESP 62F2**

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	Applicable Regulation
Particulate Matter	0.03 lb/MMBtu	40 CFR 51.166 and Sec. 3D-0530
Nitrogen Oxides	0.30 lb NO _x /MMBtu	40 CFR 51.166 and Sec. 3D-0530
Sulfur Dioxide	2.3 lb SO ₂ /MMBtu	Sec. 3D-0516
Carbon Monoxide	0.43 lb CO/MMBtu	40 CFR 51.166 and Sec. 3D-0530
HCl	0.022 lb/MMBtu	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Mercury	5.7E-06 lb/MMBtu	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Carbon Monoxide (or demonstrate compliance with a continuous emissions monitor (CEM))	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; (or 900 ppm by volume on a dry basis corrected to 3 percent oxygen, 30-day rolling average)	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
Filterable Particulate Matter (or Total Selected Metals (TSM))	0.44 lb/MMBtu (or 4.5E-04 lb/MMBtu)	40 CFR 63.7500(a)(1), Table 2, and Sec. 3D-1111
N/A	Natural gas usage shall be limited to an annual capacity factor of 10 percent or less	40 CFR 60.44b(k) and Sec. 3D-0524
Visible Emissions	20 percent opacity	40 CFR 60.43b(f) and Sec. 3D-0524
Visible Emissions	10 percent opacity (daily block average)	40 CFR 63.7525(c), Table 8, and Sec. 3D-1111

A. Prevention of Significant Deterioration [Sec. 3D-0530]

- Standard for Particulate Matter [Sec. 3D-0530]** - Total particulate matter emissions shall not exceed 0.03 pounds per million Btu heat input as determined by U.S. EPA

Reference Method 5 (40 CFR 60 - Appendix A, amended October 17, 2000, or the most recent approved version of the method at the time of testing). This limit shall be met with the use of a multicyclone followed by an electrostatic precipitator as Best Available Control Technology.

This standard shall apply at all times except during periods of startup, shutdown or malfunction.

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Periodic monitoring and recordkeeping requirements** [Sec. 3D-0524 and Sec. 3Q-0508(f)] - The permittee shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone and electrostatic precipitator. The permittee shall install, calibrate, maintain, and operate a continuous opacity monitor (COM) and record the output of the system in accordance with NSPS Subpart Db, 40 CFR 60.48b(a). The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the COM used to measure the opacity of emissions discharged to the atmosphere pursuant to NSPS Subpart Db, 40 CFR 60.48b(e) and Sec. 3D-0524.
4. **Reporting requirement** [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] - The permittee shall comply with all applicable recordkeeping and reporting requirements specified in 40 CFR 60.49b, including, but not limited to, the requirement to submit excess emissions reports for any excess emissions of opacity which occur during the six-month period. These reports shall be submitted no later than January 30th for the period July through December and no later than July 30th for the period January through June. If there are no excess emissions during the semiannual period, the permittee shall submit a report stating that no excess emissions occurred during the reporting period.
5. **Compliance Assurance Monitoring and Recordkeeping requirements for particulate matter** <40 CFR Part 64> [Sec. 3D-0614 and Sec. 3Q-0508(f)] - In order to demonstrate compliance with the CAM plan for the multicyclone and electrostatic precipitator, the following monitoring and recordkeeping requirements apply:
 - (a) The permittee shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone and electrostatic precipitator using the COM required in permit condition **3.6(A)(3)**.
 - (b) The outlet opacity shall be continuously monitored to provide data for at least 90% of the operating hours in each steam generating unit day, in at least 27 out of 30 successive steam generating unit days.
 - (c) The outlet opacity readings are recorded at least four times equally spaced over an hour for at least 90% of the operating hours.
 - (d) The averaging period for the opacity readings shall be six minutes.
 - (e) The permittee shall provide initial calibration of the COM in accordance with manufacturer's recommendation at startup. In addition, quarterly calibration of the COM shall be performed in accordance with manufacturer's recommended procedure. Preventative maintenance of the COM shall be performed on an annual basis.

An excursion is defined as data monitored greater than 12 percent opacity for more

than three consecutive hours during an operation day, except for startup and shutdown. An excursion will trigger an investigation into its cause and the appropriate corrective action will be performed and documented.

6. **Reporting Requirement** <40 CFR 64.9> [Sec. 3D-0614 and Sec. 3Q-0508(f)(1)] - The permittee shall submit the following report:
- (a) A summary report of the compliance assurance monitoring required in permit condition **3.6(A)(5)** including, as a minimum:
- (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
 - (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with calibration checks, if applicable); and
 - (iii) A description of the actions taken to implement a QIP (if required by this Office) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

This report shall be received by this Office by January 30th for the period July through December and by July 30th for the period January through June.

B. Prevention of Significant Deterioration [Sec. 3D-0530]

1. **Standard for Nitrogen Oxides** [Sec. 3D-0530] - Total nitrogen oxides emissions shall not exceed 0.30 pounds per million Btu heat input as determined by U.S. EPA Reference Method 7 (40 CFR 60 - Appendix A, amended November 14, 1990, or the most recent approved version of the method at the time of testing). This limit shall be met by the proper operation of the boiler design of low excess air and staged combustion as Best Available Control Technology. Compliance with this limit shall be demonstrated by the installation, operation and maintenance of a continuous emissions monitor (CEM).

This standard shall apply at all times including periods of startup, shutdown, or malfunction. Compliance with this emission limit is determined on a 30-day rolling average basis.

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring requirements** [Sec. 3D-0530 and Sec. 3Q-0508(f)] -
- (a) The permittee shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The continuous monitoring system for nitrogen oxides shall be operated and data recorded during all periods of operation, except for continuous monitoring system breakdowns and repairs.

- (b) When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit day, in at least 22 out of 30 successive steam generating unit days.

4. **Recordkeeping and reporting requirements** [Sec. 3D-0530 and Sec. 3Q-0508(f)] -

- (a) The permittee shall submit written excess emissions reports based on the data recorded by the CEM for nitrogen oxides. This report shall be submitted no later than January 30th for the period July through December and no later than July 30th for the period January through June.
- (b) The CEM must be maintained, calibrated, operated and audited in accordance with 40 CFR 60, Appendix F quality assurance procedures. A data assessment report (DAR) which includes as a minimum the results of CEM accuracy assessments and all corrective actions taken when the CEM was determined to be out of control shall be filed with this Office. This report shall be submitted with the excess emissions report no later than January 30th for the period July through December and no later than July 30th for the period January through June.

C. **Sulfur Dioxide Emissions from Combustion Sources** [Sec. 3D-0516]

1. **Standard** [Sec. 3D-0516] - Emissions of sulfur dioxide from the SCS Boiler shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring, recordkeeping, and reporting requirements** - No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the combustion of wood, natural gas, corn cleanings, corn germ, and dry and wet feed for this source. However, the permittee shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed to fulfill the requirements for condition **2.13** entitled *Annual Emission Inventory Requirements*.

D. **Prevention of Significant Deterioration** [Sec. 3D-0530]

1. **Standard for Carbon Monoxide** [Sec. 3D-0530] - Total carbon monoxide emissions shall not exceed 0.43 pounds per million Btu heat input as determined by U.S. EPA Reference Method 10 (40 CFR 60 - Appendix A, amended November 14, 1990, or the most recent approved version of the method at the time of testing). This limit shall be met by the boiler design of low excess air and staged combustion and good operating combustion practices as Best Available Control Technology.

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall demonstrate compliance with the carbon monoxide emission limit by conducting an annual performance test. The permittee shall follow the testing requirements specified in conditions **2.22, 2.23, and 3.1(C)(2)**.
3. **Monitoring, recordkeeping, and reporting requirements** - No monitoring, recordkeeping, or reporting is required for carbon monoxide emissions from the combustion of wood, natural gas, corn cleanings, corn germ, and dry and wet feed for this source. However, the permittee shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed to fulfill the requirements for condition **2.13** entitled *Annual Emission Inventory Requirements*.

E. New Source Performance Standards (NSPS) Subpart Db Conditions [Sec. 3D-0524]

1. **Standard** <40 CFR 60.49b(d)> [Sec. 3D-0524] - Natural gas usage shall be limited to an annual capacity factor of 10% or less in order to avoid the nitrogen oxides standard in Subpart Db in accordance with 40 CFR 60.44b(k).
2. **Monitoring and recordkeeping requirements** <40 CFR 60.49b(d)> [Sec. 3D-0524 and Sec. 3Q-0508(f)] - The permittee shall record and maintain records of each fuel combusted during each day and calculate the annual capacity factor for natural gas on a semiannual basis. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The annual capacity factor is the ratio between the actual heat input to the boiler from natural gas during a calendar year and the potential heat input to the boiler had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity.
3. **Reporting requirement** [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] - The permittee shall submit records of the annual capacity factor for natural gas, based on a 12-month rolling average by January 30th for the period July through December, and by July 30th for the period January through June.

F. Control of Visible Emissions [Sec. 3D-0524] -

1. **Standard** [Sec. 3D-0524] - Visible emissions shall not exceed 20% opacity (six-minute average), except for one six-minute period per hour of not more than 27% opacity, in accordance with 40 CFR 60.43b(f). The opacity standard applies at all times, except during periods of startup, shutdown or malfunction.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring and recordkeeping requirements** [Sec. 3D-0524 and Sec. 3Q-0508(f)] - The permittee shall follow the monitoring and recordkeeping requirements specified in

condition **3.6(A)(2)**.

4. **Reporting requirement** [Sec. 3D-0524 and Sec. 3Q-0508(f)(1)] - The permittee shall follow the reporting requirements specified in permit condition **3.6(A)(3)**.

G. **National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [Sec. 3D-1111 and 40 CFR 63 Subpart DDDDD]** - The permittee shall demonstrate compliance with the NESHAP, Subpart DDDDD for the boiler (ES-62F), by complying with all of the requirements under permit condition **3.5(F)** above as applicable.

H. **Monitoring requirement for moisture content of biomass fuel [Sec. 3Q-0508(f)(1)]** - The permittee shall comply with the testing, recordkeeping and reporting requirements under permit condition **3.5(G)** above.

3.7 ES-62G Temporary Boiler, Uncontrolled

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	Applicable Regulation
Particulate Matter	$E = 1.090 \times Q^{-0.2594}$, where E = allowable emission limit for particulate matter in lb/million Btu and Q = maximum heat input in million Btu/hour	Sec. 3D-0503
Sulfur Dioxide*	2.3 lb SO ₂ /MMBtu	Sec. 3D-0516
Toxic Air Pollutants Steam Flow Requirements	117,308 10 ³ lb/yr, 62.96 10 ³ lb /hr, and 1,262 10 ³ lb /day	Sec. 3Q-0317(a)(8), Sec. 3Q-0308(a)(1), Sec. 3Q-0707
Visible Emissions	20 percent opacity	Sec. 3D-0521(d) - see condition 3.1(C) for requirements

*Sec. 3D-0516 - *Sulfur Dioxide Emissions from Combustion Sources* applies to the boilers associated with these emission units. Use of only natural gas assures compliance with this standard. No monitoring, recordkeeping, or reporting is required to assure compliance. However, the permittee shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed for condition **2.13** entitled, *Annual Emission Inventory Requirements*.

A. Particulates from Fuel Burning Indirect Heat Exchangers [Sec. 3D-0503]

1. Standard/Operation requirements [Sec. 3D-0503] -

(a) **Emission limit for ES-62G** - Particulate matter emissions shall not exceed the allowable limit calculated by the following equation:

$$E = 1.090 \times Q^{-0.2594}, \text{ where}$$

E = allowable emission limit for particulate matter in lb/million Btu, and
Q = maximum heat input of all indirect heat exchangers in million Btu/hour

2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.

3. **Monitoring, recordkeeping, and reporting** - No monitoring, recordkeeping, or reporting is required for particulate matter emissions from the combustion of natural gas for this source. However, the permittee shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed to fulfill the requirements for condition **2.13** entitled *Annual Emission Inventory Requirements*.

B. Operational limits of the temporary boiler [Sec 3Q-0317(a)(8), Sec. 3Q-0308(a)(1),

and Sec. 3Q-0707]

1. **Standard/Operation requirements** [Sec 3Q-0317(a)(8), Sec. 3Q-0308(a)(1), and Sec. 3Q-0707] – The temporary boiler shall have a boiler efficiency of 80% or higher and steam flow from the temporary boiler shall not exceed the following annual, hourly, and daily limits based on a measurement of the feedwater:

Time period	Steam Flow (thousand pounds, 10 ³ lb)
Annual	117,308 10 ³ lb/year
Hourly	62.96 10 ³ lb /hour
Daily	1,262 10 ³ lb /day

2. **Monitoring and recordkeeping requirements for ES-62G** [Sec. 3D-0611, Sec 3Q-0317(a)(8), Sec. 3Q-0308(a)(1), and Sec. 3Q-0707] - The permittee shall monitor the feedwater of ES-62G to determine the steam flow on a continuous basis to demonstrate compliance with the steam flow limits in permit condition **3.7(B)(1)** above. Measurements of the feedwater shall be obtained and recorded at least four times equally spaced over each hour of operation. The permittee shall install, calibrate, operate, and maintain the monitoring equipment according to manufacturer's recommendations and Sec. 3D-0611(c) as applicable. Records shall be kept in a log on site and the log shall be available for inspection by this Office.
 3. **Reporting requirements for ES-62G** [Sec. 3Q-0308(a)(1)] - The permittee shall submit a report of the annual, hourly, and daily steam flow on a semiannual basis to this Office. This report shall be received by this Office by July 30th for the previous months of January through June, and by January 30th for the previous months of July through December.
- C. **Notification requirements** [Sec. 3-0103(a)(5) and Sec. 3Q-0308(a)(1)] - The permittee shall submit notification to this Office as follows:
1. A written notification, hard copy or electronic, providing the date the temporary boiler was ordered and the date and time the temporary boiler began operation. This notification shall include information describing make, model, firing rate (MMBtu/hr), boiler efficiency rating, and installation location of the boiler. This notification shall be submitted so that it is received no later than three business days after the date the temporary boiler commences operation.
 2. A written notification, hard copy or electronic, providing the date the temporary boiler was removed from the facility and the date and time the temporary boiler last ceased operation prior to its removal. This notification shall be submitted so that it is received no later than five business days after the date the temporary boiler is removed from the facility.
- D. **Temporary boiler criteria ES-62G: 40 CFR Part 63, Subpart DDDDD (National emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters** [Sec. 3D-1111] - The boiler

must at all times meet the definition of temporary boiler as stated in section 63.7575 of 40 CFR Part 63, Subpart DDDDD

Temporary boiler means any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

1. The equipment is attached to a foundation.
2. The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
3. The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
4. The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

E. Temporary boiler criteria ES-62G: 40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial, Commercial, and Institutional Steam Generating Units [Sec. 3D-0524] - The boiler must at all times meet the definition of temporary boiler as stated in section 60.41c of 40 CFR Part 60, Subpart Dc

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO₂ emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

1. The equipment is attached to a foundation.
2. The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.
3. The equipment is located a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

4. The equipment is moved from one location to another in an effort to circumvent the residence time requirements of this definition.

3.8 ES-62D Ash Handling System, Controlled by Cyclones 62D-PC and 62D-SC, Fabric Filter 62D-FF, and Scrubber 62D-WS; and ES-WHS Wood Handling System, Uncontrolled

The following provides a summary of the limits and/or standards for the emission source(s) described above.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Particulate Matter	0.02 lb PM/hr	ES-62D	40 CFR 51.166 and Sec. 3D-0530
Particulate Matter (fugitive)	Fugitive dust emissions from the wood-fuel conveyors shall be minimized by use of covered conveyors	ES-WHS	
Visible Emissions	20 percent opacity	ES-62D, and ES-WHS	Sec. 3D-0521(d) - see condition 3.1(C) for requirements

A. Prevention of Significant Deterioration [Sec. 3D-0530]

1. **Standard/Operation requirements** [Sec. 3D-0530] -
 - (a) **Emission limit for ES-62D** - Total emissions of particulate matter shall not exceed 0.02 pounds per hour. This limit shall be met with the use of two cyclones, a fabric filter, and a wet scrubber as Best Available Control Technology.
 - (b) **Fugitive dust emissions standard for ES-62D** – All trucks carrying ash shall use tarps or covers to minimize fugitive dust emissions as Best Available Control Technology.
 - (c) **Fugitive dust emissions standard for ES-62WHS** - Fugitive dust emissions from the wood-fuel conveyors shall be minimized by use of covered conveyors as Best Available Control Technology.
2. **Testing** [Sec. 3D-2602(i) and Sec. 3Q-0508(b) and (n)(2)] - The permittee shall follow the testing requirements specified in condition **3.1(C)(2)**.
3. **Monitoring requirement** [Sec. 3Q-0508(f)] - The permittee shall follow the monitoring and recordkeeping requirements for visible emissions in condition **3.1(C)(3)**. In addition

to monitoring visible emissions, particulate matter emissions from the ash handling system shall be controlled by the control devices during all periods of operation. To ensure that optimum control efficiency is maintained, the permittee shall perform inspections and preventative maintenance in a manner consistent with good practice for minimizing emissions. As a minimum, the inspection and maintenance requirement must include the following:

- (a) an annual internal inspection of each of the control device's structural integrity; and
 - (b) a monthly visual inspection of the system ductwork, and material collection unit for leaks.
4. **Recordkeeping requirement** [Sec. 3Q-0508(f)] - The results of all inspections and maintenance performed shall be recorded in a log (written or electronic form). The log shall be maintained on site and shall contain the following records:
- (a) the date and time of actions recorded;
 - (b) the results of each inspection; and
 - (c) the results of any maintenance performed on the control devices.
5. **Reporting requirement** [Sec. 3Q-0508(f)(1)] - The permittee shall submit a summary report of the monitoring requirements specified condition **3.8(A)(3)** to this Office by January 30th for the period July through December, and by July 30th for the period January through June.

PART II

AIR QUALITY CONSTRUCTION PERMIT

The Permittee is hereby authorized to construct air emission source(s) and associated air pollution control device(s) described Section 3, Part II of this permit, in accordance with the specific conditions set out in Section 3 and the associated air quality permit application(s) received, including all plans, specifications, previous applications, and other supporting data, all of which are filed with the Forsyth County Office of Environmental Assistance and Protection (FCEAP) and are incorporated in Part II of this Air Quality Permit.

SECTION 1: APPROVAL OF CONSTRUCTION ACTIVITIES

This permit modification is for the construction of the following project:

Keeler Gas Burner System Project (ES-62C) The applicant plans to discontinue the use of coal as a fuel for the boiler and introduce the firing on natural gas. The modified boiler will then fire primarily wood with natural gas as a supplemental fuel. The boiler is still defined as a hybrid suspension/grate burner designed to burn wet biomass/bio-based solid with respect to the Boiler MACT. The boiler will be rated at 290 million Btu/hour while firing wood and 150 million Btu/hour while firing natural gas. There will times when the boiler is fired by a combination of wood and natural gas. Emissions from the boiler are controlled by a multicyclone and an electrostatic precipitator (ESP).

SECTION 2: GENERAL CONDITIONS:

This section describes terms and conditions applicable to the construction of the air emission source(s) and associated air pollution control device(s) listed in Section 1. Unless otherwise specified herein all references to the "permit" in this section apply only to Part II of the permit.

A. General Provisions

1. This permit is nontransferable by the Permittee. Future owners and operators must obtain a new air quality permit from the FCEAP.
2. This issuance of this permit in no way absolves the Permittee of liability for any potential civil penalties which may be assessed for violations of State law which have occurred prior to the issuance date of this permit.
3. A violation of any term or condition of Part II of this permit shall subject the Permittee to enforcement pursuant to Forsyth County Air Quality Control Ordinance and Technical Code, including assessment of civil and/or criminal penalties.

B. Submissions (REPORTS, TEST DATA, MONITORING DATA, NOTIFICATIONS, AND REQUESTS FOR RENEWAL)

Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the FCEAP.

C. Part II Renewal Request

The Permittee shall request renewal of the emission source(s) and associated air pollution control device(s) listed in Section 1 at the same time as specified in Part I, Section 2.26 of this permit.

D. Annual Fee Payment

The Permittee shall pay all fees in accordance with Forsyth County Air Quality Control Ordinance and Technical Code Section 3Q-0200 and in conjunction with Part I, Section 2.12 of this permit.

E. Reporting Requirements

Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Director:

1. changes in the information submitted in the application;
2. changes that modify equipment or processes; or
3. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by the FCEAP to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

F. Termination, Modification, and Revocation of the Permit

The Director may terminate, modify, or revoke and reissue this permit if:

1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred; or
4. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of Forsyth county Air Quality control Ordinance and Technical Code.

G. Inspection and Entry

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the FCEAP, or an authorized representative to perform the following:

1. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
2. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
3. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. sample or monitor substances or parameters, using reasonable safety practices, for the

purpose of assuring compliance with the permit or applicable requirements at reasonable times.

SECTION 3: SPECIFIC LIMITATIONS AND CONDITIONS:

The air emission source(s) and associated air pollution control device(s) listed in Section 1 are subject to the following specific terms, conditions, and limitations, including the monitoring, recordkeeping, and reporting requirements as specified herein:

- 3.1 **Keeler Gas Burner System Project (ES-62C)** The applicant plans to discontinue the use of coal as a fuel for the boiler and introduce the firing on natural gas. The modified boiler will then fire primarily wood with natural gas as a supplemental fuel. The boiler is still defined as a hybrid suspension/grate burner designed to burn wet biomass/bio-based solid with respect to the Boiler MACT. The boiler will be rated at 290 million Btu/hour while firing wood and 150 million Btu/hour while firing natural gas. There will times when the boiler is fired by a combination of wood and natural gas. Emissions from the boiler are controlled by a multicyclone and an electrostatic precipitator (ESP).
- A. **Construction authorization** - This permit, **00732-TV-18** authorizes the construction of the above listed equipment in accordance with the permit application and attendant information. **[Sec. 3Q-0304(i)]**
- B. **Commencement of construction** - If construction/modification of the project has not commenced by June 19, 2025 (18 months after the effective date of permit 00732-TV-17), or if construction activities lapse for a period of 18 months after construction has commenced, the permittee shall reapply to this Office and obtain a permit to construct before commencing or resuming construction. **[Sec. 3Q-0308(a)]**
- C. **Operation authorization** - The Permittee shall operate the air emission source and control devices listed in Section 1 in accordance with provisions contained in Part I of this permit. **[Sec. 3Q-0308(a)]**
- D. **Natural gas testing and coal run out** – The Permittee is authorized to combust natural gas in order to test the new fuel once the Keeler Gas Burner System Project is operational. No coal shall be combusted by the Keeler boiler during the testing of natural gas as a fuel. The Permittee shall cease the delivery of coal to the facility upon beginning construction of the Keeler Gas Burner System Project unless otherwise approved in writing by this Office. Upon completion of the testing and debugging, the Permittee is authorized to combust the remaining coal in the silo in the Keeler boiler until it is depleted. The new natural gas burners are not permitted to run during the time that coal is being combusted until it is depleted. While combusting coal, the Permittee shall comply with all the requirements under permit condition **3.5** of the previous Air Quality Permit (00732-TV-17). Once the coal is depleted, the Permittee shall then operate the boiler to burn wet biomass/bio-based solid fired with Wood/ Natural Gas/ Corn cleanings/ Corn germ/ Dry and Wet feed/ Corn derived gluten meal as permitted in this Air Quality Permit. **[Sec. 3Q-0308(a)]**

- E. **30-day notification from start-up** - The permittee shall notify this Office of the actual start-up date of the completed project within 30 days after such date. This notification is to enable this Office to plan an inspection to verify compliance with any applicable standards. **[Sec. 3-0103(a)(5)]**
- F. **7-day notification of natural gas testing and coal combustion** - The Permittee shall be granted authority to test the system while burning natural gas as detailed in permit condition **3.1(D)** above. The Permittee shall notify this Office of the date when the testing period ends within seven days after such date. The Permittee shall notify this Office of the date when the facility begins to burn the remaining coal to deplete the amount in the silo and the date when the coal silo has been emptied and the facility switches over to the fuels authorized in this Air Quality Permit within seven days after such date for each event. **[Sec. 3Q-0308(a)]**
- G. **Notification of beginning construction of the Keeler Gas Burner System Project** - The Permittee shall notify this Office within seven days of beginning construction of the modification of the Keeler Gas Burner System Project. **[Sec. 3Q-0308(a)]**

**Minor Modification/Local Construction
And
Significant Modification Statement of Basis**

**Ingredion Incorporated – Winston-Salem Plant
Permit #00732-TV-17 (Minor Modification/Local Construction)
and
Permit #00732-TV-18 (Significant Modification)**

Application Tracking #1419
December 8, 2023

PROCESSING

The changes requested in the permit application received on May 17, 2023 will initially be processed as a minor modification in a local construction permit (TV-17) under Sec. 3Q-0515 and Sec. 3Q-0300 of the Forsyth County Air Quality Control Ordinance and Technical Code (FCAQTC). Concurrently, a separate air quality permit (TV-18) will be processed as a Significant Modification in accordance with Sec. 3Q-0516 of the FCAQTC. This second Draft operating permit will go through a 30-day public comment period and a parallel 45-day review by the U.S. EPA prior to final approval. This modification is considered a Significant Modification because the applicant requested conditions be placed in the permit limiting the annual heat input of wood combusted in the Keeler boiler to no more than 1,650,000 MMBtu/year. These conditions will be used to avoid the Prevention of Significant Deterioration (PSD) requirements.

The applicant requested a construction permit be processed and issued first to allow construction to begin prior to going through the public comment period and the subsequent review by the U.S. EPA for the significant modification. This Office has approved this request and will issue a Minor Modification construction permit (TV-17) and then the Significant Modification TV operating permit (TV-18).

Permit #00732-TV-17 will be issued first as a Minor modification. Part II of this permit (construction section) will only allow for the construction of the Keeler Gas Burner System Project (ES-62C). Operation of the Keeler Gas Burner System Project (ES-62C) will not be authorized until completion of the public comment period and the U.S. EPA review period for the Signification Modification (TV-18).

This Statement of Basis will cover bother the Minor modification/Local Construction permit (TV-17) and the Significant Modification for the operation of Keeler Gas Burner System Project (ES-62C). The only change to the permit for TV-17 will be the addition of Part II allowing for the modification of the fuel switch in the Keeler boiler from coal to natural gas. No further documentation is necessary in this Statement of Basis concerning this permit.

MODIFICATION SUMMARY

The applicant has submitted a permit application for the modification of the following equipment:

- Keeler Gas Burner System Project (ES-62C) The applicant plans to discontinue the use of coal as a fuel for the boiler and introduce the firing on natural gas. The modified boiler will then primarily fire wood with natural gas as a supplemental fuel. The boiler is still defined as a hybrid suspension/grate burner designed to burn wet biomass/bio-based solid with respect to the Boiler MACT. The boiler will be rated at 290 million Btu/hour while firing wood and 150 million Btu/hour while firing natural gas. There will times when the boiler is fired by a combination of wood and natural gas. Emissions from the boiler are controlled by a multicyclone and an electrostatic precipitator (ESP).

The Keeler Boiler is currently a hybrid suspension/grate designed to fire both coal and wood. The boiler currently has a maximum heat input of 313 million Btu/hour when firing a combination of coal and wood and a maximum heat input of 245 million Btu/hour when firing only coal. Due to the difficulty in sourcing coal with a lower chlorine content, the facility has decided to discontinue using coal as a fuel and has proposed to replace it with natural gas. The addition of natural gas as a fuel will not affect the boiler's classification as a hybrid suspension/grate boiler with respect to the MACT.

The applicant has submitted calculations to show that this modification does not require a PSD demonstration resulting in Best Available Control Technologies (BACT) being implemented for this modification. There will be some minor changes to permit conditions with regard to the New Source Performance Standards (NSPS) and the National Emission Standards for Hazardous Air Pollutants (NESHAP – MACT) currently in the permit as a result of this modification.

APPLICABLE REQUIREMENTS AND DISCUSSION

PSD - Sec.3D-0530

Baseline actual emissions (BAE)

The facility is currently subject to the Prevention of Significant Deterioration (PSD) regulations in Section 3D-0530 of the Forsyth County Air Quality Technical Code. The applicant first determined the baseline actual emissions. The baseline proposed are the emissions from the consecutive 24-month period of 2015 and 2016 as the most representative for this demonstration. This baseline is outside of the five year look back provided in the regulation, however, Sec. 3D-0530(b)(1)(A) allows for a longer look back, not to exceed 10 years, with approval by this agency. Our agency has reviewed the applicant's request to use this 24-month period and has concurred that it is the most representative of the emissions and can be used for this demonstration. Some of the reasons provided by the applicant for using the 24-month period outside of the five year look back period include that the boiler ran with minimal non-operating days and the grind production throughput ran efficiently with higher rates during these years with a high Keeler boiler usage. The applicant stated that the other years, including the Covid-19 impact years and a malware attack on the facility in late 2019 resulted in a decrease in production and is the reason those years were not chosen as representative for the PSD demonstration. The fuels used during the 24-month period in the Keeler boiler were coal, wood, and corn cleanings.

The average emissions from the 24-month period of 2015-2016 are:

- Particulate matter – 12.07 tons per year
- PM-10 – 11.84 tons per year
- PM-2.5 – 11.61 tons per year
- SO₂ – 116.47 tons per year
- NO_x – 225.28 tons per year
- VOC – 9.99 tons per year

- CO – 364.19 tons per year
- Lead – 3.89E-03 tons per year

These are the baseline actual emissions to be used in the PSD demonstration for this project. These emissions have been verified by this Office and are available in the application package.

Projected actual emissions (PAE)

The calculated Projected actual emissions from this proposed fuel change modification include a request by the applicant to limit the heat input while combusting wood in the Keeler boiler to no more than 1,650,000 MMBtu/year. These are the Projected actual emissions for the Keeler Gas Burner System Project based on this limitation. These emissions have been reviewed and verified by this Office and are available in the application package.

- PM - 18.09 tons per year
- PM₁₀ - 17.76 tons per year
- PM_{2.5} - 17.43 tons per year
- SO₂ - 32.73 tons per year
- NO_x - 279.92 tons per year
- VOC - 15.27 tons per year
- CO - 514.30 tons per year
- Lead - 0.01 tons per year

These emissions are based on the firing of wood, natural gas, and corn cleanings in the Keeler boiler with the above restriction on the annual heat input of the boiler while combusting wood. These emissions have been approved by this Office. There was an issue with the emission factor used for NO_x, but the applicant stated this value (0.3 lb NO_x/MMBtu) is guaranteed by the vendor of the fuel change (it is also the applicable NSPS limit). This Office stated that this emission factor is acceptable, but the air quality permit will require a stack test of the boiler to demonstrate compliance with the NO_x emission limit in the permit.

“Could have accommodated” emissions (CHA)

40 CFR 52.21(b)(41)(iii)(c) states that when calculating the Projected actual emissions, the applicant shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth. The applicant provided calculated emissions that “could have been accommodated” by the Keeler boiler during the baseline period of 2015-2016.

The calculation of “could have accommodated” emissions may be established by determining the annual production rate over the baseline production rate during the 24-month period used to establish the baseline actual emissions. The applicant provided data showing that the Keeler boiler operated for several months (July through September) during calendar year 2016 at a higher rate due to the facility’s other boiler (SCS boiler) being down. Spreadsheets were provided with the application documenting the steam rate for the Keeler boiler reached maximums of 148,000 lb steam/hour during this period. The applicant used an average rate of 125,000 lb steam/hour to calculate the “cold have accommodated” emissions.

In calculating these emissions, the applicant assumed a steam rate of 125,000 lb steam/hour at 1,000 Btu/lb steam and a boiler efficiency of 74%. This equates to 168.9 MMBtu/hr (125,000/0.74) of heat input. The applicant noted the Keeler boiler was down for 6 days of maintenance during this period and used 8,616 hours (8,760 hrs - 144 hours) as the annual operating rate of the boiler. This results in a yearly heat input of 1,455,405 MMBtu (168.9 MMBtu/hr x 8,616 hr).

The applicant used the same emission factors for the combustion of wood that were used to calculate the Projected actual emissions to calculate the “could have accommodated” emissions by multiplying the emission factors by the annual heat input of 1,455,405 MMBtu/yr. These calculations have been reviewed and verified by this agency and they are as follows:

- PM - 14.772 tons per year
- PM₁₀ - 14.481 tons per year
- PM_{2.5} - 14.190 tons per year
- NO_x - 240.142 tons per year
- CO - 436.622 tons per year

The “could have accommodated” credit (Baseline actual emissions – could have accommodated emissions) is as follows:

Pollutant	CHA (tons)	BAE (tons)	CHA Credit (CHA – BAE) (tons)
PM	14.772	12.071	2.70
PM₁₀	14.481	11.840	2.64
PM_{2.5}	14.190	11.609	2.58
NO_x	240.142	225.280	14.86
CO	436.622	364.186	72.44

The *PSD significant levels* used to determine if PSD regulations are applicable as the result of a modification are as follows:

- PM - 25 tons per year
- PM₁₀ - 15 tons per year
- PM_{2.5} - 10 tons per year
- SO₂ - 40 tons per year
- NO_x - 40 tons per year
- VOC - 40 tons per year
- CO - 100 tons per year
- Lead - 0.6 tons per year

The overall emissions increase or decrease when comparing projected actual emissions while excluding the “could have accommodated” emissions to the baseline actual emissions are as follows:

	PAE (tons)	CHA Credit (tons)	Adjusted PAE (PAE-CHA) (tons)	BAE (tons)	Emissions Increase/Decrease (Adjusted PAE-BAE) (tons)	PSD Significance Levels (tons)	Trigger PSD?
PM	18.09	2.70	15.39	12.07	3.32	25	No
PM₁₀	17.76	2.64	15.12	11.84	3.28	15	No
PM_{2.5}	17.43	2.58	14.85	11.61	3.24	10	No
SO₂	32.73	-	-	116.47	-83.74	40	No
NO_x	279.92	14.86	265.06	225.28	39.78	40	No
VOC	15.27	-	-	9.99	5.28	40	No

CO	514.30	72.44	441.86	364.19	77.67	100	No
Lead	0.01	-	-	3.89E-03	0.006	0.6	No

The results show that the this modification will not lead to an increase of emissions above the PSD Significance Levels and therefore, this modification does not trigger a full PSD review. These calculations include a limit on the heat input while combusting wood of 1,650,000 MMBtu/year. A *PSD avoidance condition* for the nitrogen oxide and carbon monoxide emissions will be included in the permit along with monitoring/recordkeeping/reporting requirements to ensure compliance with this limit.

This modification will result in the references to PSD for nitrogen oxides from the Keeler boiler to be deleted from the permit. The PSD BACT limits for this pollutant will be removed and replaced with the applicable emission limit in NSPS Subpart Db. The PSD BACT limit for nitrogen oxides was 0.6 lb/MMBtu and this has been revised in the permit to reflect the NSPS limit of 0.3 lb/MMBtu for the combustion of wood and natural gas. The reference to PSD will also be removed for this pollutant.

The emission limit for particulate matter will remain unchanged because it is was based on the NSPS emissions limit. The references to PSD will remain in the permit.

This modification will result in the existing PSD BACT requirements for SO₂ emissions from the Keeler boiler being deleted from the permit because they were based on the use of coal and wood, when the permit was first issued, and are no longer applicable as coal is being replace with natural gas. The SO₂ requirements will be replaced with the local SO₂ emissions limit of 2.3 lb/MMBtu for combustion sources found in Sec. 3D-0516 of the FCAQTC. The Keeler boiler easily meets this requirement for the combustion of wood and natural gas as the emission factor for SO₂ from wood combustion is 0.025 lb/MMBtu and the factor for SO₂ from the combustion of natural gas is 5.88E-04 lb/MMBtu, both of which are well below the allowable limit.

NESHAP - Sec. 3D-1111

The Keeler boiler is currently subject to NESHAP Subpart DDDDD (Boiler MACT) and will continue to be subject to this regulation. The change in fuel from coal to natural gas does not meet the definition of construction or reconstruction in accordance with the definitions found in NESHAP Subpart A - General Provisions. Construction means the fabrication, erection, or installation of an affected facility and reconstruction is defined as the replacement of components of an existing facility to such an extent that:

- (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and
- (2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

The switching of fuels is not a fabrication, erection, or installation of an affected facility, and the fixed capital cost of the fuel change does not, in any way, approach the 50 percent of the fixed capital cost of constructing a new boiler. In addition, the boiler will remain in the subcategory titled Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid after the fuel change. Therefore, the regulations that are currently in the air quality permit will remain unchanged. The applicant has demonstrated compliance with these limits and it is expected that they will continue to remain in compliance after the fuel change.

The current permit includes emission limits for particulate matter or total selected metals, mercury, hydrogen chloride, and carbon monoxide based on the Boiler MACT and can be found in permit condition 3.5(F). These limits, and the requirements for determining compliance with

these limits, will remain the same in the new permit following the change in fuels. The only change in the NESHAP requirements is the removal of the requirement to keep monthly records of the chlorine content of coal delivered to the facility in permit condition 3.5(F)(12)(e). The language referencing coal will be deleted from this permit condition.

NSPS - Sec. 3D-0524

The Keeler boiler is currently subject to NSPS Subpart Db and will continue to be subject to this regulation. The change in fuel from coal to natural gas does not meet the definition of construction or reconstruction in accordance with the definitions found in NSPS Subpart A - General Provisions. Construction means the fabrication, erection, or installation of an affected facility and reconstruction is defined as the replacement of components of an existing facility to such an extent that:

- (1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and
- (2) It is technologically and economically feasible to meet the applicable standards set forth in this part.

The switching of fuels is not a fabrication, erection, or installation of an affected facility, and the fixed capital cost of the fuel change does not, in any way, approach the 50 percent of the fixed capital cost of constructing a new boiler. Therefore, the regulations that are currently in the air quality permit will remain unchanged, with the exception of the standard for nitrogen oxides.

The current nitrogen oxide limit for the Keeler boiler is 0.6 pounds per million Btu heat input. This limit was based on a PSD analysis and Subpart Db for the combustion of coal and wood in the boiler. Since the facility is switching from coal to natural gas, the new applicable limit is 0.3 pounds per million Btu heat input pursuant to 40 CFR 60.44b(d) in Subpart Db. This limit was also used by the applicant as the emission factor for nitrogen oxides. The applicant said the vendor of the fuel equipment has guaranteed the boiler will meet this limit. A stack test requirement will be included in the permit to verify this level is met.

Other Permit Issues

The applicant requested the Compliance Assurance Monitoring (CAM) for particulate matter in permit conditions 3.5(A)(5) of the current permit be removed because the Keeler boiler is subject to MACT standards, which are exempt from having to have a CAM plan. The CAM requirements in the permit are for the NSPS Subpart Db standards for particulate matter emissions.

The CAM regulations in 40 CFR Part 64 (40 CFR 64.2(b)(1)(i)) lists the exempt emission limitations or standards and states "The requirements of this part shall not apply to any of the following emission limitations or standards:

- (i) Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act."

However, NSPS Subpart Db was proposed in 1986 and therefore, not exempt from the CAM rule. Thus, the request to remove the CAM requirements in the permit is not granted as Subpart Db is not exempt from CAM.

Changes made to the permit as a result of these modifications

TV-17

1. Modified the Header on each page to reflect the new permit number (00732-TV-17) and the new effective date.
2. Added Part II: Air Quality Construction Permit authorizing the construction of the Keeler Gas Burner System Project (ES-62C). This section **only** allows the construction of the proposed equipment as stated in permit condition **3.1(C)** of this section. The operation of the equipment in this Project will be authorized in Air Quality Permit #00732-TV-18 once it has gone through the 30-day Public Notice period and concurrent 45-day review by the U.S. EPA.

TV-18:

1. Modified the Header on each page to reflect the new permit number (00732-TV-18) and the new effective date.
2. Modified permit condition **3.1(B)** in Part II of the permit to state that if the permittee does not commence construction by June 19, 2025 (18 months of the effective date of permit 00732-TV-17), or if construction lapses for 18 months after beginning construction, then the permittee shall reapply to this Office and obtain a permit to construct before commencing or resuming construction.
3. Replaced permit condition **3.1(C)** of Part II to allow the operation of the Keeler Gas Burner System Project (ES-62C) in accordance with the provisions in Part I of the permit. Also added permit condition **3.1(E)** to Part II requiring the applicant to notify our Office of the start-up of the completed project within 30 days after such date.
4. Added permit conditions **3.1(D)**, **3.1(F)**, and **3.1(G)** to Part II of the permit. Condition **3.1(D)** allows for the testing of the new natural gas burners after construction is completed. It also requires Ingredion to cease delivery of coal to the facility upon beginning construction of the Keeler Gas Burner Project. It then allows for the combustion of coal to deplete the supply on site. At this time, no natural gas is to be combusted along with coal. Once the coal supply has been depleted, the facility can then switch back to burning natural gas. Condition **3.1(F)** requires notification within seven days completing the test firing of natural gas and when the coal has been depleted. Condition **3.1(G)** requires notification to this Office within seven days of commencing construction of the Project.
5. Updated the Keeler boiler description in the table in Section 1: FACILITY-WIDE PERMITTED EQUIPMENT AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S) to remove coal as a fuel and replace it with natural gas. The maximum heat input has been updated as 290 MMBtu/hr when firing only wood and 150 MMBtu/hr when firing natural gas.
6. Removed references to Prevention of Significant Deterioration [Sec. 3D-0530] for nitrogen oxide emissions from the Keeler boiler in permit condition **3.5(B)** and the table under this permit condition as it is no longer applicable. The boiler is only subject to the NSPS standard for nitrogen oxides.

7. Revised the nitrogen oxides emission limit in permit condition **3.5(B)(1)** from 0.6 lb/MMBtu to 0.3 lb/MMBtu. The previous limit was required because of PSD and the NSPS emission limits for the combustion of coal. Since coal is being replaced by natural gas, the new standard reflects the NSPS standard for the combustion of wood and natural gas. The permit language referring to PSD has also been removed from this permit condition. Also added **performance test requirement** to permit condition **3.5(B)(2)** to demonstrate compliance with the revised nitrogen oxides emission limit.
8. Removed permit conditions under **3.5(C)** - Prevention of Significant Deterioration for Sulfur Dioxide from the Keeler Boiler, since coal is no longer to be fired in this boiler and these restrictions are no longer applicable. This permit condition is being replaced with the requirement that sulfur dioxide emissions remain below 2.3 pounds per million Btu of heat input pursuant to Sec. 3D-0516 of the Forsyth County Air Quality Code. This condition was moved to **3.5(D)** and the existing monitoring requirements for NSPS under permit condition **3.5(D)** have been renamed as **3.5(C)**.
9. Revised permit condition **3.8(A)(1)(b)** to delete the requirement for fugitive dust emissions from coal handling to be minimized and the coal trucks to be covered with tarps as BACT. This portion of the permit condition has been removed because coal will no longer be used as a fuel at the facility.
10. Deleted the requirement to record the chlorine content of the coal delivered to the facility in permit condition **3.5(F)(12)(e)** because coal is no longer combusted by the Keeler boiler.
11. Added permit condition **3.5(H)** to include the PSD avoidance condition (limit of wood fuel heat input to no more than 1,650,000 MMBtu/yr based on monthly rolling 12-month total) and the monitoring/recordkeeping and reporting requirements associated used to demonstrate compliance with this limit.

APPROVAL:

Agency Reviewer: _____

Date: _____

Agency Q/A Manager: _____

Date: _____