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

August 10, 2023

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-16

This facility has applied for renewal of its Title V Air Quality operation permit. 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 **September 9, 2023**, 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-16	DATE, 2023	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”, 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-16
DATE, 2023
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AIR QUALITY OPERATING PERMIT

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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	**OR**
		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	**OR**
		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	**OR**
		W235813	Fisher-Klosterman, Inc. High Efficiency Transfer Cyclone	
		W628892	No. 2 Feed Scrubber	EP-AR
	#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
ES-31	**STARCH DRYING**			
	Starch Dryer fired with	W318894	Ducon Wet multi-vane	EP-I

Emission Source ID #	Emission Source Description	Control Device ID #	Control Device Description	Emission Point ID #
	Natural Gas (21.5 MMBtu/hr maximum heat input) with two Mueller High Efficiency Process Transfer Cyclones W315891 and W315892 in parallel		Scrubber	
		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
	BOILERS			
ES-62C	Keeler Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-based solid fired with Coal/ Wood/ Corn cleanings/ Corn germ/ Dry and Wet feed/ Corn derived gluten meal (313 MMBtu/hr maximum heat input when fired with wood and coal combination and 245 MMBtu/hr when fired only with coal) and 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 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]**

Pollutant (CAS Number)	De minimis level
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 product ion.

(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:

Emission Source Description	Maximum Allowable Emission Rate
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:

Emission Source Description	Maximum Allowable Emission Rate

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:

Emission Source Description	Maximum Allowable Emission Rate
#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	0.6 lb NO_x/MMBtu	40 CFR 51.166, 40 CFR 60.44b, 3D .0530, and Sec. 3D-0524
Sulfur Dioxide	310 lb SO_2 /hr	40 CFR 51.166 and Sec. 3D-0530
Sulfur Dioxide	Sulfur content of coal shall not exceed 0.9 percent	40 CFR 51.166 and Sec. 3D-0530
Sulfur Dioxide	Coal shall not be used to supply more than 95 percent of the boiler's thermal input in any 12-month rolling period	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
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], New Source Performance Standards [Sec. 3D-0524]

1. **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 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 **3.5(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. Prevention of Significant Deterioration [Sec. 3D-0530], New Source Performance Standards [Sec. 3D-0524]

1. **Standard for Nitrogen Oxides** [Sec. 3D-0530 and Sec. 3D-0524] - Total nitrogen oxides emissions shall not exceed 0.6 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)] - 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. **Prevention of Significant Deterioration [Sec. 3D-0530]**

1. **Standards for Sulfur Dioxide** [Sec 3D-0530] -

(a) Total emissions of sulfur dioxide shall not exceed 310 pounds per hour.
(b) The sulfur content of coal shall not exceed 0.90% by weight.
(c) Coal shall not be used to supply more than 95.0% of the boiler's thermal input in any consecutive 12 month period.

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** [Sec. 3Q-0508(f)] - A gross sample of coal shall be obtained from each truckload of coal shipped to the permittee from the coal mine site and the combined samples analyzed monthly for Btu, sulfur, and ash content by the coal mine's ASTM certified laboratory of choice in accordance with the following ASTM methods, or equivalent ASTM methods approved by this Office:

(a) D2234 - Collection of a Gross Sample of Coal
(b) D2013 - Methods for Preparing Coal Samples for Analysis
(c) D5865-99 - Gross Calorific Value of Coal and Coke by the Isoperibol Methods
(d) D4239 - Sulfur in Ash from Coal and Coke using High-Temperature Tube Furnace Combustion Method
(e) D3174 - Ash in the Analysis of Coal and Coke

4. **Recordkeeping and reporting requirements** [Sec. 3Q-0508(f)] - All data generated by the sulfur content analysis specified in condition **3.5(C)(3)** shall be submitted 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. The following provisions also apply:

   (a) Laboratory records of sample testing shall include documentation of the calibration and verification runs made for each piece of analytical equipment.
   (b) Upon request of Office personnel, the permittee shall obtain a split sample and submit it to a certified commercial laboratory of this Office's choosing for analysis.

D. New Source Performance Standards (NSPS) 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 coal, wood, 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.

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, chlorine content of coal delivered to the facility;

(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.

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]

1. **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:

   $E = 1.090 \times Q^{-0.2594}$, 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 form 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 coal handling and storage are to be minimized and all trucks carrying coal or ash shall use tarps or covers to minimize fugitive dust emissions		
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** - Fugitive dust emissions from coal handling and storage are to be minimized and all trucks carrying coal or 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.

FORSYTH COUNTY OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION
TV RENEWAL – STATEMENT OF BASIS

Applicant:	**Site Location:**		**New Permit No.**
Ingredion Incorporated, Winston-Salem Plant	4501 Overdale Road		00732-TV-16
Technical Contact:	**Phone:**	**Responsible Official:**	**Title:**
Christopher Lynch	336-785-8805	Dave Cluskey	Plant Manager
Agency Reviewer: Jeffrey A. Ebbitt	**Signature:**	**Date:**	
Agency Q/A Manager:	**Signature:**	**Primary/Secondary SIC Code(s):** 2046	

Date Application received: October 28, 2022 Date Approved:

FACILITY DESCRIPTION

Ingredion Incorporated operates a corn wet milling facility located about four miles south of the city of Winston-Salem. Raw corn is received and processed via wet milling into a variety of products including sweeteners (glucose), industrial starches, animal feeds, and other products. Products are then shipped in bulk to customers via rail or truck.

Ingredion Incorporated is a major source with respect to Title V because the potential (and actual) emissions of nitrogen oxides (NO_x), sulfur dioxides (SO_2), volatile organic compounds (VOC), and carbon monoxide (CO) from the facility are greater than 100 tons per year. In addition, uncontrolled emissions of particulate matter less than 10 microns in diameter (PM_{10}) are also greater than 100 tons per year. Also, actual emissions of hydrogen chloride, a hazardous air pollutant, are greater than 10 tons per year and the potential combined HAP emissions are greater than 25 tons per year.

The request to renew the permit was received on October 28, 2022, well before the requirement to submit a renewal request nine months before the permit expires in accordance with permit condition **2.26** of the current permit.

The draft renewal permit will go through a 30-day public comment period and a concurrent 45-day review by EPA Region IV. The public comment period will be posted on our website.

I. STATEMENT OF COMPLIANCE

This Office has reviewed the compliance status of this facility. Based on a review of the application and knowledge of this facility gleaned from compliance inspections, the facility is in compliance with all applicable requirements. The applicant has certified that the facility will be in

compliance with all applicable requirements at the time of permit issuance and will continue to comply with these requirements. The applicant has also certified that the facility will be in compliance with all subsequent applicable requirements taking effect during the term of this permit and will meet such requirements on a timely basis.

II. SUMMARY OF EMISSION SOURCES AND CONTROL DEVICES

The following table identifies all emission sources and associated control devices for which the Title V Operating Permit is issued.

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-11A	Corn Receiving (consisting of emission points C, A, B, and S)	W115891 W115894 W115895 W115803	Carter Day Fabric Filter Carter Day Fabric Filter Carter Day Fabric Filter Rolfes Fabric Filter
ES-11B	Corn Cleaning (consisting of emission points D, E, F, and T)	W115896 W115824 W115825 W115832	Carter Day Fabric Filter Air-Cure, Inc. Fabric Filter Donaldson Torit Fabric Filter Rolfes Fabric Filter
ES-25	Mill Products Loading (consisting of emission points H, O, P, Q, U, X, V, and AO)	W248893 W258891 W258896 W258899 W258895 W255897 W258894 W258898	Carter Day Fabric Filter Carter Day Fabric Filter Carter Day Fabric Filter Alanco Environmental Fabric Filter Carter Day Fabric Filter Carter Day Fabric Filter Carter Day Fabric Filter Material System Engineering Fabric Filter
ES-32	Starch Storage and Loading (consisting of emission points K and L)	W328891 W325892	Carter Day Fabric Filter Carter Day Fabric Filter
ES-83	Carbon Storage Silo (consisting of emission point N)	W838891	Donaldson Torit Fabric Filter
ES-85	Filter Aid Storage Silo (consisting of emission point G)	W858893	Donaldson Torit Fabric Filter
ES-14	Steeping (consisting of emission points SA1-8, SB1-8, SI1-3, Y, and M	None	Some emissions routed through ES-62, ES-62C, or ES-62F

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-22	Steepwater Evaporation	None	Some emissions routed through ES-62, ES-62C, or ES-62F
ES-31	Starch Drying firing natural gas with a total maximum heat input rate of 21.5 MMBtu/hr and two Mueller high Efficiency Process Transfer Cyclones in parallel (consisting of emission points I and J)	W318894 W318896	Two Ducon Wet multi-vane Scrubbers with fan spray nozzles in inlet duct
ES-15	Corn Wet Milling (consisting of Gluten Filter Vacuum Pumps - emission point AA, Fiber Dewatering – through emission point AL, Gluten Dewatering - emission points AF, AG, and AH, Ventilation Fans - emission points AK and AL, Germ Separation - emission point R)	W628893	Advanced Industries Technology Wet Cyclonic Scrubber
ES-21	Gluten Drying and Cooling (consisting of Gluten Dryer with a Fisher-Klosterman, Inc. High Efficiency Process Transfer Cyclone W215891 (Gluten Cooler) routed to emission point R)	W215893 W628893	Fisher-Klosterman, Inc. High Efficiency Cyclone Advanced Industries Technology Wet Cyclonic Scrubber
ES-23	Feed Drying and Cooling (consisting of #1 Feed Dryer, #2 Feed Dryer, and #3 Feed Dryer all routed through emission points Y, M, or EP-62F; and #1 Feed Cooler with two Carborundum High Efficiency Process Transfer Cyclones W235811 and W235812 in parallel, and #2 Feed Cooler with a Fisher-Klosterman, Inc. High Efficiency Process Transfer Cyclone W235815 routed through emission point R)	W235892 W235893 W235813 W628891 W628892 W628851 W628893	Two Carborundum Co. High Efficiency Cyclones Fisher-Klosterman, Inc. High Efficiency Cyclone Two Advanced Industries Technology Wet Cyclonic Scrubbers Swemco Direct Contact Tray Scrubber One Advanced Industries Technology Wet Cyclonic Scrubber

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-24	Germ Drying and Cooling (consisting of #1 Germ Dryer, and #2 Germ Dryer routed through emission points Y, M, or EP-62F)	W245892 W245893 W245895 W245898	Two Paul Mueller Co. High Efficiency Cyclones Two Fisher-Klosterman, Inc. High Efficiency Cyclones
ES-81	Sulfur Burner System (consisting of emission point AI)	W818806	A.H. Lundberg Wet Scrubber
ES-62C	Keeler Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-based solid fired with Coal/ Wood/ Corn cleanings/ Corn germ/ Dry and Wet feed/ Corn derived gluten meal (313 MMBtu/hr maximum heat input when fired with wood and coal combination and 245 MMBtu/hr when fired only with coal) and PCC Air Heater fired with Natural Gas (11.5 MMBtu/hr maximum heat input)	62SFB1 62SFB2	Zurn Industries Multicyclone Precipitair Pollution Control (PPC) Model 24R-1230-2711 Electrostatic Precipitator
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 PCC Air Heater fired with Natural Gas (11.5 MMBtu/hr maximum heat input)	62F1 62F2	Zurn Air Systems T-A Mechanical Collector PPC Industries Model 34R-1330-37125 Electrostatic Precipitator
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

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-62D	Ash Handling System (emission point EP-Z)	CD-62D-(PC,SC, FF, & WS)	National Conveyors Company, Inc. Primary Cyclone Model A-1141A, Secondary Cyclone Model A-1195-SA, Fabric Filter Model A-1728-P, and Wet Scrubber Model A-1750-1
ES-WHS	Wood Handling System	None	None

III. EMISSION SOURCE-BY-SOURCE EVALUATION

1.0 ES-11A, Corn Receiving, Three (3) Carter Day Fabric Filters and One (1) Rolfes Fabric Filter; and ES-11B, Corn Cleaning, One (1) Carter Day Fabric Filter, One (1) Air-Cure, Inc. Fabric Filter, One (1) Donaldson Torit Fabric Filter, and One (1) Rolfes Fabric Filter

1.0.1 Description

Corn Receiving is a process which involves dry corn being transferred to storage silos primarily from rail cars with a small quantity of corn being received via truck. The corn is then transferred from storage through a cleaning process as needed prior to steeping. The corn unloading station includes conveyors and elevators and three corn storage silos (Corn unloading - emission point C, Corn storage silo #1 - emission point A, Corn storage silo #2 - emission point B, and Corn storage silo #3 - emission point S). The emission points are the exhaust of the respective control devices. All of these units began operation at this facility in 1981 except for Corn Silo #3 which began operation in 1984. Typically only one of the three silos (A, B, or S) operates in tandem with the unloading system (C) at any given time.

Corn Cleaning consists of conveyors used to transport the corn (emission point D), a corn cleaner (emission point E), clean corn hopper and two corn cleaning silos (corn cleaning silo #1 and #2, emission points F and T, respectively). The corn passes through mechanical cleaners designed to separate unwanted material, such as pieces of cobs, sticks, husks, chaff and dust, as well as any foreign matter such as stones. All of these units began operation in 1981 except for Corn Cleaning Silo #2 which began operation in 1984.

Compliance assurance monitoring (CAM) requirements (40 CFR Part 64) may apply to pollutant-specific emission units (PSEUs) located at TV facilities. The requirements of this rule apply to all PSEUs that use a control device; need the control device to achieve

compliance with any emission limitation or standard; and have pre-control device potential emissions of the applicable regulated air pollutant that are equal to or greater than 100% of the amount (in tons per year) required for a source to be classified as a major source (in this case, 100 tons/yr of PM_{10}). However, the rule exempts any PSEU from submitting a CAM plan if the emission limitations or standards were proposed by the U.S. EPA after November 15, 1990 (e.g. MACT or NSPS standards). This isn't the case for any of the equipment in these emission sources as they are only subject to local regulations.

As detailed below, emission points A, B, C, D, E, F, S, and T each have a control device but the allowable emissions limit for PM (which includes PM_{10}) can be met without the use of the control device and therefore, CAM does not apply to any of these PSEUs. In addition, the uncontrolled emissions of PM_{10} from these sources are each less than 100 tons per year.

1.0.2 Applicable Regulatory Requirements

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**ES-#**	**Applicable Regulation**
Particulate Matter	$E = 4.10 \times P^{0.67}$ when operating at process rates equal to or less than 60,000 lb/hr, and $E = (55.0 \times P^{0.11}) - 40$ when operating at process rates greater than 60,000 lb/hr where: E = allowable emission rate (lbs/hr) P = process weight rate in tons/hr.	ES-11A and ES-11B	Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes

1.1 Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes

This rule was promulgated for emissions of particulate matter from any stack, vent, or outlet of any industrial process for which no other emission control standards are applicable.

1.1.1 Regulatory Analysis

The allowable emission rate of PM for process rates up to 60,000 lbs/hr is determined by the following equation:

$$E = 4.10 \times P^{0.67}$$

and the allowable emission rate of PM for process rates greater than 60,000 lbs/hr is determined by the following equation:

$$E = [(55.0 \times P^{0.11}) - 40]$$

where: E = allowable emission rate for particulate matter in lb/hr, and
P = process weight rate in tons/hr

The allowable emission rate at any time is based on the actual process rate. The applicant only needs to show compliance with the higher allowable emission rate at maximum potential to ensure compliance with the rules.

The process weight per hour means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. In this case, the corn is the only material that could produce particulate matter and is the only weight considered. Each emission point has a different process rate for corn and these numbers are given below:

Emission point	Max. Process rate (tons/hr)
C, A, B, S (Corn Receiving)	700
D, E, F, T (Corn Cleaning)	182

Therefore, the **allowable emission rates are**:

$E = [(55.0 \times 700^{0.11}) - 40] = 73.1$ lb/hr each for emission points C, A, B, and S, and

$E = [(55.0 \times 182^{0.11}) - 40] = 57.5$ lb/hr each for emission points D, E, F, and T

The uncontrolled emission factor for these processes was obtained from AP-42, Table 9.9.1-1 for grain elevators dated March 2003. The uncontrolled PM emission factor for emission points A, B, C, and S is 0.032 lb/ton of grain handled or processed by railcar (SCC 3-02-005-53). The uncontrolled PM emission factor for emission points D, E, F, and T is 0.061 lb/ton for headhouse and grain handling (SCC 3-02-005-30).

This would give the following uncontrolled emission rates:

0.032 lb/ton x 700 tons/hr = 22.4 lb/hr for each of the emission points A, B, C, and S; and

0.061 lb/ton x 182 tons/hr = 11.1 lb/hr for each of the emission points D, E, F, and T

All of the emission sources are able to demonstrate compliance with the allowable PM emission limit without the use of their respective control devices and the potential, before control emission rates are less than 100 tpy. Therefore, CAM does not apply.

1.2 Monitoring Requirements

The applicant shall follow the requirements for monitoring the visible emissions for the control devices associated with these emission sources as a surrogate parameter to ensure compliance with the particulate matter standards. These requirements are identified in Section **V.1.2**.

1.3 Recordkeeping Requirements

The applicant shall follow the recordkeeping requirements specified in Section **V.1.2** for visible emissions.

1.4 Reporting Requirements

The applicant shall follow the reporting requirements specified in Section **V.1.3** for visible emissions.

1.5 Alternative Operating Scenario

There is no alternative operating scenario for this equipment.

1.6 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

2.0 ES-25, Mill Products Loading, Six (6) Carter Day Fabric Filters, One (1) Alanco Environmental Fabric Filter, and One (1) Material System Engineering Fabric Filter; and
ES-32, Starch Storage and Loading, Two (2) Carter Day Fabric Filters; and
ES-83, Carbon Storage, One Donaldson Torit Fabric Filter; and
ES-85, Filter Aid Silo, One Donaldson Torit Fabric Filter

2.0.1 Description

In the mill products loading (MPL) operation, dry corn germ, dry corn gluten meal, and dry corn gluten feed are received from their respective processes, stored in silos, and loaded to bulk trucks or rail cars for shipment to customers. Processes included are the MPL dust collector (X), gluten silo (O), feed silos #1 (P) and #2 (Q), inline feed silo (U), inline germ silo (V), #1 germ silo (H), and the railcar transport blower(AO). The railcar transport blower is used to transfer dry corn gluten meal and/or feed from a railcar to

their respective MPL storage silos. This process is only run occasionally and a requirement for the permittee to check visible emissions every time it is in operation will be included in the air quality permit. In 2009, the applicant requested, and was granted, an alternative scenario with regard to the visible emissions check for these emission sources. The permit includes a condition that allows an alternative to performing a qualitative observation each time the sources are in operation. The applicant 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.

In the starch storage and loading operation (Starch Loading Dust System, L), starch is pneumatically transferred from starch drying (ES-31) to a storage silo (Starch Silo, K) and periodically loaded from storage to shipment via bulk trucks or rail cars.

In the carbon storage operation (Carbon Silo, G), activated carbon is received on site in bulk and stored for use in the manufacturing process.

In the filter aid storage operation (Filter Aid Silo, N), filter aid is received on site in bulk and stored for use in manufacturing process.

Each of these processes is a source of particulate matter. As detailed below, emission points H, V, O, N, P, Q, U, L, X, K, G, and AO each have a control device (fabric filter) but the allowable emissions limit for PM (which includes PM_{10}) for all the emission points except G and N can be met without the use of the control device. In addition, the uncontrolled emissions of PM_{10} from all of these sources are each less than 100 tons per year when taking into account the federally enforceable production limit of 29,200,000 bushels/year. Therefore, CAM does not apply to these PSEUs.

2.0.2 Applicable Regulatory Requirements

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**ES-#**	**Applicable Regulation**
Particulate Matter	$E = 4.10 \times P^{0.67}$ when operating at process rates equal to or less than 60,000 lb/hr, and	ES-25, ES-32, ES-83, and ES-85	Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
	$E = (55.0 \times P^{0.11}) - 40$ when operating at process rates greater than 60,000 lb/hr where: E = allowable emission rate (lbs/hr) P = process weight rate in tons/hr.		

2.1 Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes

This rule was promulgated for emissions of particulate matter from any stack, vent, or outlet of any industrial process for which no other emission control standards are applicable.

2.1.1 Regulatory Analysis

The allowable emission rate of PM for process rates up to 60,000 lbs/hr is determined by the following equation:

$$E = 4.10 \times P^{0.67}$$

and, the allowable emission rate of PM for process rates greater than 60,000 lbs/hr is determined by the following equation:

$$E = [(55.0 \times P^{0.11}) - 40]$$

where: E = allowable emission rate for particulate matter in lb/hr, and
P = process weight rate in tons/hr

The allowable emission rate at any time is based on the actual process rate. The applicant only needs to show compliance with the higher allowable emission rate at maximum potential to ensure compliance with the rules. The process weight per hour means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. In this case, the dry corn germ, dry corn gluten meal, dry corn gluten feed, starch, activated carbon, and filter aid are the only materials that could produce particulate matter and are the only weights considered. Each emission point has a different process rate and these numbers are listed below:

Emission point	Max. Process rate (tons/hr)
H (#1 Germ Silo)	6.2
V (Inline Germ Silo)	6.2
O (Gluten Silo)	4.8
G (Carbon Silo)	7.0

P (#1 Feed Silo)	17.1
U (Inline Feed Silo)	17.1
Q (#2 Feed Silo)	17.5
L (Starch Loading Dust System)	50.0
X (MPL Dust Collector)	150.0
K (Starch Silo)	12.5
N (Filter Aid Silo)	3.0
AO (Railcar Transport Blower)	15.0

Therefore, the **allowable emission rates** are:

$E = 4.1 \times 6.2^{0.67} = 13.9$ lb/hr each for emission points H and V;

$E = 4.1 \times 4.8^{0.67} = 11.7$ lb/hr for emission point O;

$E = 4.1 \times 7.0^{0.67} = 15.1$ lb/hr for emission point G;

$E = 4.1 \times 17.1^{0.67} = 27.5$ lb/hr each for emission point P and U;

$E = 4.1 \times 17.5^{0.67} = 27.9$ lb/hr for emission point Q;

$E = [(55.0 \times 50.0^{0.11}) - 40] = 44.6$ lb/hr for emission point L;

$E = [(55.0 \times 150.0^{0.11}) - 40] = 55.4$ lb/hr for emission point X;

$E = 4.1 \times 12.5^{0.67} = 22.3$ lb/hr for emission point K;

$E = 4.1 \times 3.0^{0.67} = 8.56$ lb/hr for emission point N; and

$E = 4.1 \times 15^{0.67} = 25.2$ lb/hr for emission point AO

The emission factors for all of these processes, except for the starch loading dust collector “L”, carbon storage “G”, and Filter aid silo “N”, were obtained from AP-42, Table 9.9.7-1 for corn wet milling operations dated January 1995. The controlled emission factor for these processes is 0.0014 lb/ton and is for starch storage bins (SCC 3-02-014-07). The starch storage bins emission factor was chosen to represent all these processes because the starch is the finest product and represents a more conservative estimate of emissions. The AP-42 emission factor is for starch storage bins with a fabric filter so the applicant divided out the control efficiency of 99.0% to calculate an uncontrolled emission factor. This results in an uncontrolled emission factor of 0.14 lb/ton by the equation: (0.0014lb/ton)/(1 - 0.99).

The controlled emission factor for the starch loading dust collector “L” was obtained from AP-42, Table 9.9.7-1 for corn wet milling operations dated January 1995. The emission factor is 0.00049 lb/ton and is for starch bulk loadout (SCC 3-02-014-08). The AP-42 emission factor for the starch bulk loadout operation includes control by a fabric filter so, the applicant divided out the control efficiency of 99.0% to calculate an uncontrolled emission factor. This results in an uncontrolled emission factor of 0.049 lb/ton by the equation: (0.00049lb/ton)/(1 - 0.99).

The uncontrolled emission factor for the carbon storage silo “G” and filter aid storage silo “N” was obtained from Air Pollution Engineering Manual, 1992 Edition (aka AP-40), page 527, Table 4 and a compliance certification drafted by this Office and dated 02/02/1991. The uncontrolled emission factor is 20 lb/ton.

The uncontrolled potential emissions (tons/yr) were determined taking into consideration the federally enforceable limit of 29,200,000 bushels/year of corn and converting this limit to the amount of commercial tons of dry product. The applicant has submitted a request to keep this information confidential because it contains trade secrets that if made public could possibly hurt their business in a competitive manner. The potential operation rate in days/year is calculated based on the amount of commercial tons of dry product. This information was deemed to be confidential and is kept out of the public files and kept in a locked cabinet. The emission rates as a result of these calculations are as follows:

0.9 lb/hr each for emission points H and V;

0.7 lb/hr for emission point O;

2.4 lb/hr each for emission points P and U;

2.5 lb/hr for emission point Q;

2.5 lb/hr for emission point L;

21.0 lb/hr for emission point X;

1.8 lb/hr for emission point K;

60.0 lb/hr for emission point N;

140.0 lb/hr for emission point G; and

2.1 lb/hr for emission point AO

All of the emission points, except G and N are able to demonstrate compliance with the allowable PM emission limit without the use of their respective control devices. The fabric filters for emission points N and G are rated at 99% efficiency. Therefore, the controlled emission rate for these emission points is calculated as follows:

140.0 lb/hr x 0.01 = 1.4 lb/hr for emission point G; and

60.0 lb/hr x 0.01 = 0.6 lb/hr for emission point N

Therefore, the use of the fabric filters is required in order for emission points G and N to comply with this requirement.

The uncontrolled potential emissions (tons/yr) were determined by taking into consideration the federally enforceable limit of 29,200,000 bushels/year of corn and

converting this limit to the amount of commercial tons of dry product. The applicant has submitted a request to keep this information confidential because it contains trade secrets that if made public could possibly hurt their business in a competitive manner. The potential operation rate in days/year was calculated based on the amount of commercial tons of dry product. This information was deemed to be confidential and is kept out of the public files and kept in a locked cabinet. The uncontrolled emission rates as a result of these calculations are as follows:

4.0 tons/yr each for emission points H and V;

3.0 tons/yr for emission point O;

10.0 tons/yr each *for emission points P, and U;*

11.0 tons/yr for emission point Q;

3.0 tons/yr for emission point L;

17.0 tons/yr for emission point X;

7.0 tons/yr for emission point K;

20.0 tons/yr for emission point N;

10.0 tons/yr for emission point G; and

0.3 tons/yr for emission point AO

Even though the control devices are only needed for emission points G and N to demonstrate compliance with the allowable PM limit, the uncontrolled emissions from each of the emission points while taking into account the production limit are less than 100 tons per year. Therefore, CAM does not apply to any of these emission sources.

2.2 Monitoring Requirements

The applicant shall follow the requirements for monitoring the visible emissions for the control devices associated with these emission sources as a surrogate parameter to ensure compliance with the particulate matter standards. These requirements are identified in Section **V.1.2**.

However, the Railcar Transport Blower (AO), Carbon storage silo (N), and Filter Aid storage silo (G) are used infrequently, so the applicant shall perform a qualitative visual observation of the stack ducting emissions from these sources once per day each day that the source is operating. As noted above, the applicant may, as an alternative to performing a qualitative observation, perform a monthly preventative maintenance inspection of the fabric filters.

2.3 Recordkeeping Requirements

The applicant shall follow the recordkeeping requirements specified in Section **V.1.2** for visible emissions.

For the Railcar Transport Blower (AO), the Carbon storage silo (N), and the Filter Aid storage silo (G), 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 contain the following records: the date and time of visual observation; the person(s) who performed visual observation; the results of the visual observation (note color, duration, density (heavy or light), and include identifying stacks where visible emissions occurred); any actions taken to reduce the visible emissions; and the date and time a qualitative observation can't be obtained due to adverse weather conditions or darkness.

As an alternative to performing a qualitative observation noted above, the applicant may perform a monthly preventative maintenance inspection of the fabric filters. The preventative maintenance inspections shall include the following items: the date and time of preventative monitoring inspection; the person(s) who performed inspections; the results of the preventative maintenance inspections; any corrective actions taken as a result of the preventative maintenance inspections.

2.5 Reporting Requirements

The applicant shall follow the reporting requirements specified in Section **V.1.3** for visible emissions.

In addition, the applicant shall submit a summary report of the monitoring requirements for emission points N, G, and AO 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 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.

2.6 Alternative Operating Scenario

There is no alternative operating scenario for this equipment.

2.7 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

3.0 ES-31, Starch Drying, Two (2) Ducon Wet Multi-vane Scrubbers

3.0.1 Description

Starch slurry from ES-15 is dewatered in a centrifuge then sent to a dryer where the starch is flash dried and then pneumatically conveyed to storage (ES-32). The two

Mueller high efficiency cyclones are for product collection/transfer rather than for control of particulates and are considered part of the process. The dried starch passes through the cyclones and the product collected goes on to Starch Storage and Loading (ES-32). The particulates not captured by the cyclones are then routed to the wet scrubbers for control.

This emission source is a direct-fired unit, meaning the combustion gases do come into direct contact with the process emissions. Therefore, it doesn't meet the definition of a process heater in Subpart DDDDDD and isn't subject to the Boiler MACT.

3.0.2 Applicable Regulatory Requirements

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**ES-#**	**Applicable Regulation**
Particulate Matter	$E = 4.1 \times P^{0.67}$ where: E = allowable emission rate (lbs/hr) P = process weight rate in tons/hr.	ES-31	Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes
Sulfur Dioxide *	2.3 lb SO_2/MMBtu		Sec. 3D-0516 - Sulfur Dioxide Emissions from Combustion Sources

*This rule 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 applicant shall maintain the appropriate records for raw material usage and/or production rates in order to calculate the emissions data needed for permit condition **2.13** entitled, *Annual Emission Inventory Requirements*.

3.1 Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes

This rule was promulgated for emissions of particulate matter from any stack, vent, or outlet of any industrial process for which no other emission control standards are applicable.

3.1.1 Regulatory Analysis

The allowable emission rate of PM for process rates up to 60,000 lbs/hr is determined by the following equation:

$$E = 4.10 \times P^{0.67}$$

where: E = allowable emissions rate for particulate matter in lb/hr, and
P = process weight rate in tons/hr

The process weight per hour means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. In this case, the wet starch cake is the only material that could produce particulate matter and is the only weight considered. The process rate for ES-31 is 25,000 lbs/hr or 12.5 tons/hr as noted below:

Emission points	Process rate (tons/hr)
I and J (W318894 and W318896)	12.5 total for each emission point

Therefore, the allowable emission rates are:

$E = 4.10 \times 12.5^{0.67} = 22.3$ lb/hr or 11.2 lb/hr each for emission points I and J

The emission factor for these processes was obtained from AP-42, Table 9.9.7-1 for corn wet milling operations dated January, 1995. The controlled emission factor is 0.59 lb/ton and is for starch drying flash dryers (SCC 3-02-014-10, -12). The emission factor is for flash dryers with a wet scrubber so the applicant divided out the control efficiency of 95% for wet scrubbers to calculate an uncontrolled emission factor. This results in an uncontrolled emission factor of 11.8 lb/ton by the equation: (0.59 lb/ton)/(1 - 0.95).

This would give the following uncontrolled emission rate:

11.8 lb/ton x 12.5 tons/hr = 147.5 lb/hr total or 73.8 lb/hr each for emission points I and J

The controlled emission rate is calculated in the following manner:

12.5 ton/hr x 0.59 lb/ton = 7.4 lb/hr total or 3.7 lb/hr each for emission points I and J

The wet scrubbers are needed to ensure compliance with the allowable PM limit from these emission points. These scrubbers operate in parallel and half of the emissions are routed to each scrubber. The applicant calculated the uncontrolled potential emissions on a yearly basis by taking into consideration the federally enforceable limit of 29,200,000 bushels/year of corn and converting this limit to the amount of commercial tons of dry product. The applicant has submitted a request to keep this information confidential because it contains trade secrets that if made public could possibly hurt their business in a competitive manner. The potential operation rate in days/year was calculated based on the amount of commercial tons of dry product. This information was deemed to be confidential and is kept out of the public files and kept in a locked cabinet. The potential uncontrolled emission rate (ton/yr) as a result of these calculations is as follows:

311.9 ton/yr for emission points I and J.

Each of these processes is subject to the PM standard and need the wet scrubbers to comply with this standard. Therefore, CAM does apply to each of these PSEUs because the uncontrolled emissions of PM from these sources are each greater than 100 tons per year when taking into account the emissions are based on the federally enforceable limit of 29,200,000 bushels/year. CAM requirements are in the current permit and are detailed below.

3.2 Monitoring Requirements

3.2.1 Compliance Assurance Monitoring required for compliance with Sec. 3D-0515 – Particulates from Miscellaneous Industrial Products

The applicant's CAM plan involves three different measures to ensure compliance with the particulate matter standard.

First, the applicant shall conduct a visible observation of each of the stacks on a monthly basis. 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.

Second, the applicant 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.

Third, the applicant shall conduct an annual internal inspection of the 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 systems 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.

3.3 Recordkeeping Requirements

The results of the CAM activities in Section **IV.3.2** above shall be recorded in a log (written or electronic form). The log shall be maintained on site and shall contain a record visible observations conducted for each of the stacks of ES-31 and any corrective actions taken to mitigate emissions. The log shall also contain a record of the presence or absence of scrubber flow water to Scrubbers W318894 and W318896 during operation of ES-31. In addition, the log shall contain a record of the validation dates of the flow sensing device and a record of the findings of the validation performed. The log shall also contain a record of the dates of the annual internal inspection of the control devices, the inspection results, and a record of the any corrective action taken as a result of the inspections.

3.4 Reporting Requirements

The applicant shall submit a summary report of the CAM requirements specified in Section **IV.3.2** to this Office by January 30th and July 30th for the preceding six-month period.

3.5 Alternative Operating Scenario

There is no alternative operating scenario for this equipment.

3.6 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

4.0 ES-15, Wet Milling, One (1) Advanced Industries Technology Wet Cyclonic Scrubber; and ES-21, Gluten Drying and Cooling, Two (2) Fisher-Klosterman, Inc. High Efficiency Cyclones and One (1) Advanced Industries Technology Wet Cyclonic Scrubber; and ES-23, Feed Drying and Cooling, Four (4) Carborundum Co. High Efficiency Cyclones, Two (2) Fisher-Klosterman, inc. High Efficiency Cyclones, Three (3) Advanced Industries Technology Wet Cyclonic Scrubbers, One (1) Swemco Direct Contact Tray Scrubber; and ES-24, Germ Drying and Cooling, Two (2) Paul Mueller Co. High Efficiency Cyclones, Three (3) Fisher-Klosterman, Inc. High Efficiency Cyclones, Twp (2) Carborundum Co. High Efficiency Cyclones, Two (2) Advanced Industries Technology Wet Cyclonic Scrubers, One (1) Swemco Direct Contact Tray Scrubber

4.0.1 Description

Steeped corn from ES-14 is milled and separated into germ, gluten, feed, and starch in the Wet Milling process. The wet gluten meal, wet fiber, and wet germ are then dried in steam tube dryers, cooled and pulverized (dry gluten meal and dry fiber only) in ES-21, ES-23, and ES-24 respectively, and then sent to storage silos in the Mill Products Loading area (ES-25).

Control Strategy:

ES-15 - Emission point AA consists of emissions from the vacuum pump seal water used in dewatering gluten. The pH of the vacuum pump seal water is controlled to achieve 75% reduction of SO2 emissions. Emission point AC consists of SO2 and trace VOC emissions from the fiber dewatering process and is uncontrolled. Emissions points AF, AG, and AH consist of SO2 and trace VOC emissions from gluten dewatering and are uncontrolled. Emission points AK and

AL consist of SO2 and trace VOC emissions from the ventilation fans in the Wet Milling Process area and are uncontrolled. Emission point R consists of emission from the Germ Separation unit.

ES-21 - The gluten dryer exhausts to a high efficiency cyclone and the gluten is cooled then separated by a process transfer cyclone (emissions routed to EP-R) before it is routed to the gluten silo. PM emissions are reduced by both cyclones and the exhaust is routed to the Mill Products Scrubber (Advanced Industries) (EP-R) where SO2 emissions are reduced by controlling the pH of the scrubber water.

ES-23 - A portion of the exhaust from this source is routed through various control devices then on to the solid fuel, gasified wood, or Deltak boiler for control of odor (EP-Y, 62F, or M). The other portion is routed through process transfer cyclones then on to the Mill Products Scrubber for control of SO2 emissions. The control strategy is as follows:

Route through Boiler - PM, SO2, and trace VOC emissions from each of the three feed dryers are routed through high efficiency cyclones. The exhaust from the #1 and #2 Feed Dryer cyclones are then routed through the #1 Feed Scrubber (W628891) and then tied in with the exhaust from the #2 Feed Scrubber to exhaust through the DC Scrubber (W628851). The exhaust from this scrubber is then routed to the solid fuel, wood, or Deltak boiler for odor control. The exhaust from the #3 Feed Dryer cyclone is routed through the #2 Feed Scrubber (W628892) where the exhaust is tied in with the exhaust from the #1 Feed Scrubber and then on to either the Keeler (ES-62C) or the SCS (ES-62F) boilers for odor control.

Route through Mill Products Scrubber - The dry feed is cooled and separated by three process transfer cyclones. Feed Cooler #1 exhaust is split between two cyclones (W235811 and W235812) and Feed Cooler #2 exhausts through W235815. PM emissions are reduced by the cyclones and the exhaust is then routed through the Mill Products Scrubber. These emissions include PM, SO2, and trace VOC emissions. SO2 emissions are reduced by 75% through the control of the pH of the scrubber water.

ES-24 - The exhaust from the #1 and #2 Germ Dryers are each routed through two high efficiency cyclones (W245892, W245893, and W245898, W245895 respectively). These cyclones control PM emissions. The emissions from the #1 Germ Dryer cyclones then are routed to the DC Scrubber (W628851). The exhaust from this scrubber is then routed either the Keeler (ES-62C) or the SCS (ES-62F) boilers for odor control as explained in ES-23 above. The exhaust from the #2 Germ Dryer is routed through the Feed Dryers in ES-23 to provide inlet air. These emissions follow the circuitous route through the cyclones and scrubbers used by the processes in ES-23 to eventually go through the either the Keeler (ES-62C) or the SCS (ES-62F) boilers for odor control. All emissions from this process are associated with the emissions from these boilers.

4.0.2 Applicable Regulatory Requirements

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**ES-#**	**Applicable Regulation**
Particulate Matter	$E = 4.1 \times P^{0.67}$ where: E = allowable emission rate (lbs/hr) P = process weight rate in tons/hr.	ES-21 and ES-23	Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes
Sulfur Dioxide	3.3 lb SO_2/hr from emission point R (Mill Products Scrubber)	ES-15, ES-21, and ES-23	Sec. 3D-0530 - Prevention of Significant Deterioration (PSD) and Sec. 3Q-0317 - Avoidance Conditions
Sulfur Dioxide	0.88 lb SO_2/hr from emission point AA (Gluten Dewatering Vacuum Pumps)	ES-15	Sec. 3D-0530 - PSD and Sec. 3Q-0317 - Avoidance Conditions

4.1 Sec. 3D-0515 - Particulates from Miscellaneous Industrial Processes

This rule was promulgated for emissions of particulate matter from any stack, vent, or outlet of any industrial process for which no other emission control standards are applicable.

4.1.1 Regulatory Analysis

The allowable emission rate of PM for process rates up to 60,000 lbs/hr is determined by the following equation:

$$E = 4.10 \times P^{0.67}$$

where: E = allowable emission rate for particulate matter in lb/hr, and
P = process weight rate in tons/hr

The process weight per hour means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. In this case, the wet gluten meal and the wet fiber are the only materials that could produce particulate matter and are the only weights considered. The process rates for ES-21 and ES-23 are given below:

Emission point	Process rate (tons/hr)
EP-R for ES-21 (Gluten Dryer	4.7

& Cooler)	
EP-R for ES-23 (#1 & #2 Feed Coolers)	17.0

Therefore, the allowable emission rates are:

$E = 4.10 \times 4.7^{0.67} = 11.6$ lb/hr for the Gluten Dryer & Cooler, and

$E = 4.10 \times 17.0^{0.67} = 27.4$ lb/hr or 13.7 lb/hr each for #1 & #2 Feed Coolers

The emission factor for these processes was obtained from AP-42, Table 9.9.7-1 for corn wet milling operations. The emission factor is 0.49 lb/ton and is for gluten feed drying indirect-fired rotary dryers (SCC 3-02-007-64) and for gluten drying indirect-fired rotary dryers (SCC 3-02-007-69). These emission factors include a product recovery cyclone as these devices are used to recover product after the dryers to be further processed. Ingredion Incorporated's processes also employ high efficiency cyclones for product transfer and separation and are they considered part of the process and not control devices. Therefore, the use of these emission factors results in uncontrolled emissions data. Using these factors results in the following uncontrolled emission rates:

0.49 lb/ton x 4.7 tons/hr = 2.30 lb/hr for the Gluten Dryer & Cooler, and

0.49 lb/ton x 17.0 tons/hr = 8.33 lb/hr or 4.17 lb/hr each for the #1 & #2 Feed Coolers

Both of these emission rates are below the allowable particulate limit without the use of the further control devices. In addition, the uncontrolled potential PM emissions are less than 100 tons per year (10.0 tons/yr for ES-21 and 36.5 tons/yr for ES-23). Therefore, CAM does not apply to particulate matter emissions from these sources.

Only the Gluten Dryer and Cooler (ES-21) and the #1 and #2 Feed Coolers (ES-23) are subject to the particulate standard of Sec. 3D-0515 because their exhaust is routed through the MP Scrubber (emission point R). Whereas, the emissions of the #1 through #3 Feed Dryers (ES-23) and the equipment in Germ Dryers (ES-24) are routed to one of the two boilers (ES-62C or ES-62F) which already have a particulate standard. In the case of ES-62C and ES-62F it is a BACT limit as a result of a PSD review.

4.2 Sec. 3D-0530 - PSD (Sulfur Dioxide) and Sec. 3Q-0317 - Avoidance Conditions for ES-15, ES-21, and ES-23

The purpose of this rule is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166. This facility is a PSD permitted facility due to the emissions from ES-62C and ES-62F and is subject to emission limits for SO_2 to protect ambient air. During a modification at the facility in 1995 the applicant chose to restrict the throughput of these processes in order to remain below the sulfur dioxide significance level of 40 tons for PSD (see Section V.2 below). Sec. 3Q-0317 is cited as the applicable regulation to establish an enforceable limit to avoid PSD regulations for the 1995 modification. Sec. 3D-0530 is cited as the applicable regulation

to establish an enforceable limit which ensures compliance with PSD regulations. The requirements for ES-15, ES-21, and ES-23 are discussed here. The requirements for ES-81 are addressed in Section **IV.5** below.

In addition to the process throughput limits, emission limits were requested for emission points AA (ES-15) and R (ES-21,23) to ensure that the total SO_2 emissions from the processes (which were previously unknown to exist) are accounted for in the original PSD ambient air analysis and remain below the PSD significance level of 40 tons/year. As a result of these emission limits, these emission points are not subject to CAM because the potential emissions for SO_2 are less than 100 tons per year.

4.2.1 Regulatory Analysis

Compliance with the emissions limit of 0.88 lb SO2/hr for emission point AA is calculated as follows:

A stack test was performed in 1996 using Method 6 to measure SO2 emissions from emission point AA. The results yielded an emissions rate of 2.41 lb SO2/hr. The emissions from this source are proportional to the grind rate of the plant. The grind rate during the test was 55,000 bushels of corn per day. The maximum allowable grind rate is set by a federally enforceable permit condition at 80,000 bushels of corn per day. Emissions of SO2 are controlled from the vacuum pump seal water by maintaining a pH greater than 5.0 which yield a control efficiency of 75%. To determine emissions rate at maximum rate of 80,000 bushels of corn per day:

2.41 lb SO2/hr x 80,000 bushels/day / 55,000 bushels/day = 3.51 lb SO2/hr

3.51 lb SO2/hr x 0.25 = 0.88 lb SO2/hr

Compliance with the emissions limit of 3.3 lb SO2/hr for emission point R is calculated as follows:

A stack test was performed in 1996 using Method 6 to measure SO2 emissions from emission point R which includes emissions from ES-21 and ES-23. The results yielded an emissions rate of 5.78 lb SO2/hr. The emissions from this source are proportional to the grind rate of the plant. The grind rate during the test was 55,000 bushels of corn per day. The maximum allowable grind rate is set by a federally enforceable permit condition at 80,000 bushels of corn per day. A test was also performed on emission point AB (1st Grind Overflow Tank) to determine the SO2 emissions rate. The resultant emissions rate was 4.78 lb SO2/hr. These emissions are independent of the grind rate and are constant. These emissions were routed to the Mill Products Scrubber (emission point R) during the modifications to the plant in 1995. Therefore, these emissions must be added to those from the stack test results for emission point R to determine the total emissions rate. Emissions of SO2 are controlled from the Mill Products Scrubber by maintaining a pH above 5.0 in the scrubber water which yields a control efficiency of 75%. To determine emissions rate at maximum rate of 80,000 bushels of corn per day:

5.78 lb SO2/hr x 80,000 bushels/day / 55,000 bushels/day = 8.41 lb SO2/hr

(8.41 lb SO2/hr + 4.78 lb SO2/hr) x 0.25 = 3.29 lb SO2/hr

4.3 Monitoring Requirements

4.3.1 Monitoring required for compliance with Sec. 3D-0515 - Particulates from Miscellaneous Industrial Sources

The applicant shall follow the requirements for monitoring the visible emissions for the control devices associated with these emission sources as a surrogate parameter to ensure compliance with the particulate matter standards. These requirements are identified in Section **V.1.2**.

4.3.2 Monitoring required for compliance with Sec. 3D-0530 - PSD and Sec *3Q-0317 - Avoidance Conditions*

The applicant shall continuously monitor the pH values of the Gluten Filter Vacuum Pumps seal water and the Scrubber W628893 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 and the Scrubber W628893 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. 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 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.

4.4 Recordkeeping Requirements

4.4.1 Recordkeeping required for compliance with Sec. 3D-0515 - Particulates from Miscellaneous Industrial Sources

The applicant shall follow the recordkeeping requirements specified in Section **V.1.2** for visible emissions.

4.4.2 Recordkeeping required for compliance with Sec. 3D-0530 - PSD and Sec. *3Q-0317 - Avoidance Conditions*

The daily pH of the Gluten Filter Vacuum Pumps seal water and the Scrubber W628893 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.

4.5 Reporting Requirements

The applicant shall follow the reporting requirements specified in Section **V.1.3** for visible emissions.

In addition, the applicant shall submit a summary report of the monitoring requirements specified in Section **IV.4.3.2** to this Office by January 30th for the period July through December, and by July 30th for the period January through June.

4.6 Alternative Operating Scenario

There is no alternative operating scenario for this equipment.

4.7 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

5.0 ES-81, Sulfur Burner System, One (1) Lundberg Wet Scrubber

5.0.1 Description

Molten sulfur is burned in the sulfur burner to produce gaseous SO_2 which is then absorbed into water to create sulfurous acid which is used in the steeping process (ES-14). Exhaust gas is routed to the A. H. Lundberg Wet Scrubber (W818806) (Emission Point AI). The pH of the scrubber water shall be controlled at or above a pH of 5.5.

5*.0.2 Applicable Regulatory Requirements*

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**ES-#**	**Applicable Regulation**
Sulfur Dioxide	0.1 lb SO_2/hr	ES-81	Sec. 3D-0530 - PSD and Sec. 3Q-0317 - Avoidance Conditions

5.1 Sec. 3D-0530 - PSD (Sulfur dioxide) and Sec. 3Q-0317 - Avoidance Conditions for ES-81

The purpose of this rule is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166 . This facility is a PSD permitted facility due to the emissions from ES-62C and ES-62F and is subject to emission limits for SO_2 to protect ambient air. During a modification at the facility in 1995 the applicant chose to restrict the throughput of this processes in order to remain below the sulfur dioxide significance level of 40 tons for PSD. Sec. 3Q-0317 is cited as the applicable regulation to establish an enforceable limit which ensures compliance with PSD. Sec. 3D-0530 is cited as the applicable regulation to establish an enforceable limit which ensures compliance with PSD regulations. As a result of these emission limits to avoid PSD, this emission source is not subject to CAM because the potential emissions for SO_2 are less than 100 tons per year.

5.1.1 Regulatory Analysis

The sulfur burner was added to this facility in 1995 during a modification at the facility. These sulfur dioxide emissions were included in the model revision to show compliance with the National Ambient Air Quality Standards (NAAQS) and Increment in 1995. The maximum level of sulfur dioxide emissions and the allowable limit for the sulfur burner were set at 0.1 lb SO_2/hr and modeled at this rate.

The sulfur dioxide emissions are based on the SO_2 concentration of the steep acid tank and absorber added together to determine emissions entering the scrubber. A test was performed by Argo to determine the SO_2 vapor concentrations at 125 degrees Fahrenheit in process steep water. The scrubber has an efficiency of 99.3% for sulfur dioxide emissions and the maximum emissions from this source are 0.03 lb SO_2/hr but were modeled at 0.1 lb/hr. In order to demonstrate compliance with this emission rate, the applicant shall control the pH levels of the Wet Scrubber (W818806) water by maintaining the pH levels at or above 5.5.

5.2 Monitoring Requirements

The applicant shall continuously monitor the pH values of the Wet 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 Wet 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. 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 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.

5.3 Recordkeeping Requirements

The daily pH of the Wet 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.

5.4 Reporting Requirements

The permittee shall submit a summary report of the monitoring requirements specified in Section **IV.5.2** to this Office by January 30th for the period July through December and by July 30th for the period January through June.

All emissions from this source shall be included in the annual emissions inventory submitted to this Office.

5.5 Alternative Operating Scenario

There is no alternative operating scenario for this equipment.

5.6 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

6.0 *ES-62C, Keeler* Hybrid Suspension/Grate Boiler *and PCC Air Heater, One (1) Zurn Industries Multicyclone, and One (1) Precipitair Pollution Control Electrostatic Precipitator*

6.0.1 Description

This unit is an industrial boiler (313 MMBtu/hr maximum heat input when combusting 100% wood or wood/coal combination, and 245 MMBtu/hr maximum heat input when combusting 100% coal) firing coal, wood, corn cleanings, corn germ, dry and wet feed, and corn derived gluten meal and used for process and space heat. This boiler provides steam for the wet milling processes at the facility and is also be used to generate electricity for use by the facility. The PCC air heater (11.5 MMBtu/hr) combusts natural gas and is used to heat the process vapors before they enter the boiler. The emissions from the boiler and the PCC air heater are routed through a multicyclone (62SFB1) and then to the Electrostatic Precipitator (62SFB2) before exiting through emission point EP-Y.

The boiler is subject to requirements for PSD, NSPS and MACT. The applicant submitted notification to this Office that this boiler (ES-62C) is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD. The Initial Notification was to be submitted no later than May 31, 2013. The applicant submitted this notification on May 28, 2013 in compliance with this requirement. This boiler must

comply with the MACT no later than January 31, 2016. A one time energy assessment and an initial tune up have been completed by this date. The applicant demonstrated compliance with the numerical emissions limits by July 29, 2016 through stack testing data as required by rule. The applicable requirements for compliance with the Boiler MACT are detailed below. Ingredion has submitted a permit application for the replacement of coal in the Keeler Boiler with natural gas. The permit will be modified after this renewal permit is issued.

6.*0.2 Applicable Regulatory Requirements*

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**Applicable Regulation**
Particulate Matter	0.1 lb PM/million Btu	Sec. 3D-0524 - New Source Performance Standards (NSPS) and Sec. 3D-0530 (PSD)
Nitrogen Oxides	0.6 lb NO_x/million Btu	Sec. 3D-0524 and Sec. 3D-0530 (PSD)
Sulfur Dioxide	310 lb SO_2/hr	Sec. 3D-0530
Sulfur Dioxide	Sulfur content of coal shall not exceed 0.9 percent	40 CFR 51.166 and Sec. 3D-0530 (PSD)
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 (demonstrating 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% opacity	Sec. 3D-0524 and 40 CFR 60.43b(f)
Visible Emissions	10 percent opacity (daily block average)	40 CFR 63.7525(c), Table 8, and Sec. 3D-1111

Only Sec. 3D-0516 - *Sulfur Dioxide from Combustion Sources* - and Sec. 3D-0521 - *Control of Visible Emissions* - applies to the natural gas-fired PCC Air Heater. Use of natural gas easily assures compliance with both the 2.3 lb/MMBtu SO_2 standard and the 20% opacity standard. Therefore, no additional monitoring or recordkeeping requirements are required to demonstrate compliance with these limits. The emissions from the combustion of natural gas are accounted for in the 310 lb SO_2/hr limit on the boiler emissions and in the facility's annual emissions inventory.

6.1 Sec. 3D-0524 and Sec. 3D-0530 - New Source Performance Standards and PSD (Particulate Matter)

Sec. 3D-0524 incorporates the U.S. EPA New Source Performance Standards (NSPS) by reference and Sec. 3D-0530 incorporates the Federal PSD regulations as the floor when selecting BACT. NSPS and PSD both apply to regulate the standards of performance for PM from industrial steam generating units in this particular case. The boiler is subject to NSPS Subpart Db for boilers because it has a maximum fossil fuel heat input between 100 and 250 MMBtu/hr. The maximum potential emissions of SO_2 from this boiler are greater than 250 tons/year and therefore, any pollutants above the PSD significance levels need to be reviewed for PSD. The maximum potential emissions of PM are above the significance level of 25 tons/year and so PM emissions are subject to the PSD regulations.

6.1.1 Regulatory Analysis

The permit application for this boiler was received by this Office on June 14, 1984 which was five days prior to the proposed Subpart Db regulation. On October 17, 1984 Ingredion Incorporated submitted an application reflecting a BACT of 0.1 lb PM/MMBtu by employing a multicyclone and an electrostatic precipitator (ESP). This Office concurred with this determination and the EPA indicated that this level represented minimum BACT at that time. This standard shall apply at all times except during periods of startup, shutdown or malfunction.

The applicant provided in their technical analysis a PM emission factor (controlled) of 1.98 lb PM/ton of coal combusted. This factor is derived by using the uncontrolled emission factor in AP-42 Table 1.1-4 dated September 1998 for a spreader stoker coal boiler of 66 lb/ton and the control efficiency for the multicyclone and ESP of 97%. The applicant used the coal emission factor for PM because it provides more conservative results than the emission factor for wood. This factor is verified as follows:

66 lb PM/ton x (1 - 0.97) = 1.98 lb PM/ton

Compliance with the allowable BACT limit for PM of 0.1 lb/MMBtu is demonstrated as follows: (given the 2019 actual average heat content of coal combusted in the boiler was 13,711 Btu/lb coal)

13,711 Btu/lb coal x 2,000 lb/ton = 27.42 MMBtu/ton coal and,

(1.98 lb PM/ton coal) / 27.42 MMBtu/ton coal = <u>0.07 lb PM/MMBtu</u>

Uncontrolled emissions of PM and PM_{10} are greater than 100 tons per year and the boiler uses a control device to meet the BACT standard. Therefore, CAM applies to this boiler for emissions of PM_{10}.

6.2 Sec. 3D-0524 and Sec. 3D-0530 - NSPS and PSD (Nitrogen Oxides)

Sec. 3D-0524 incorporates the U.S. EPA NSPS by reference and Sec. 3D-0530 incorporates the Federal PSD regulations by reference. NSPS and PSD are parallel rules which regulate the standards of performance for NO_x from steam generating units in this particular case. The boiler is subject to NSPS Subpart Db for boilers because it has a maximum heat input between 100 and 250 MMBtu/hr. The maximum potential emissions of SO_2 from this boiler are greater than 250 tons/year and therefore, pollutants above the PSD significance levels were reviewed under PSD prior to construction of the boiler. The maximum potential emissions of nitrogen oxides are above the significance level of 40 tons/year and so NO_x emissions are subject to the PSD regulations.

6.2.1 Regulatory Analysis

The allowable standard for nitrogen oxide emissions for boilers subject to Subpart Db that combust coal is 0.60 lb NO_x/MMBtu heat input. The NSPS standard was proposed by the applicant as BACT for this boiler and is achieved through proper combustion design and operating techniques. This Office concurred with this determination and the EPA indicated that this limit is BACT for this source.

In addition, a performance test of the boiler was conducted on May 7, 1986 using Method 7 for Nitrogen oxides and the results of this test revealed an average NO_x emissions rate of 0.47 lb/MMBtu for the three test runs. This test was performed while running 100% coal. This test reveals that the NO_x limit can be met by the boiler because it was performed while combusting only coal which has a higher AP-42 emission factor for NO_x than that of wood. Therefore, the boiler has shown that it is in compliance with the limit even while combusting only coal which is more conservative than wood.

Compliance with this emission limit is determined on a 30-day rolling average basis and is demonstrated through the use of the continuous emissions monitor for NO_x and, if necessary, by using Method 7 of 40 CFR 60, Appendix A. CEM reports are submitted semiannually to this Office and a review of these records reveals the facility has not exceeded the BACT limit for nitrogen oxides based on the 30-day rolling average.

This source does not have a control device to reduce emissions of nitrogen oxides therefore, CAM does not apply.

6.3 Sec. 3D-0530 - PSD (Sulfur Dioxide)

Sec. 3D-0530 incorporates the Federal PSD regulations by reference. The maximum potential emissions of SO_2 from this boiler are greater than 250 tons/year and therefore, subject to the PSD regulations.

6.3.1 Regulatory Analysis

Modeling for PSD was performed in 1984 due to the construction of this boiler. The results of the modeling required a restriction be put on the sulfur content of the coal so the SO_2 emissions would comply with the 3-hour National Ambient Air Quality Standards (NAAQS) for sulfur dioxide. This restriction limits the sulfur content of coal to no more than 0.90% by weight. A restriction on the heat content was also required as a result of the modeling analysis. As a result, the thermal input to the boiler shall not exceed 245 million Btu per hour when using 100% coal or 313 million Btu per hour when using 100% wood or wood and coal fuel combination.

The resulting emissions of sulfur dioxide based on these restrictions yielded an emissions rate of 310 lb SO_2/hr. This limit, which was also determined to be Best Available Control Technology (BACT), was put into the applicant's air quality permit in 1992. During a modification of the facility in 1995 that included a "debottlenecking" of processes to increase production up to 80,000 bushels of corn per day it was discovered that several of the other processes at the facility also emitted SO_2.

Some of these processes (ES-22, #1 through #3 Feed Dryers in ES-23, and ES-24) had been routed through the boiler for control of odor and now needed to be quantified to show that they, along with boiler SO_2 emissions, meet the allowable limit of 310 lb/hr.

The process SO_2 emissions are based upon Method 6 tests performed prior to the modification at a point prior to the Keeler boiler to document the inlet SO_2 emissions. The highest result of the three test runs was 13.2 lb/hr. This value is directly proportional to the grind rate. The grind rate during the test was 55,000 bushels/day. The 1995 "debottlenecking" of equipment resulted in a maximum grind rate of 80,000 bushels/day and an average rate of 72,000 bushels/day. So, the calculation of the maximum process SO_2 emissions at each grind is as follows:

13.2 lb SO_2/hr x 80,000 bushels/day (max grind rate) / 55,000 bushels/day = <u>19.2 lb SO_2/hr</u>; and

13.2 lb SO_2/hr x 72,000 bushels/day (avg grind rate) / 55,000 bushels/day = <u>17.3 lb SO_2/hr</u>

The emission factor for this process was obtained from AP-42, Table 1.1-3 for bituminous coal combustion dated September, 1998. The uncontrolled emission factor is 38S or, 38 x the sulfur content of coal for spreader stoker boilers (SCC 1-01-002-04). The emission factor is 38 lb SO_2/ton x 0.9 (max sulfur content) = 34.2 lb/ton.

Compliance with the BACT limit is demonstrated in the following manner:

(310 lb SO_2lhr - 19.2 lb SO_2/hr (removing the process vapor emissions)) 34.2 lb SO_2/ton = 8.5 tons of coal /hr.

This means that the applicant could not burn more than 8.5 tons of coal per hour in order to demonstrate compliance. In 2019, the applicant combusted 5,749 tons of coal over a boiler operating time of 8,081 hours. So, (5,749 tons/yr) / (8,081 hr/yr) = 0.71 tons of coal/hr, which demonstrates compliance with the SO_2 BACT limit.

This source does not have a control device to reduce emissions of sulfur dioxide therefore, CAM does not apply.

6.4 Sec. 3D-0524 - NSPS (Visible Emissions)

Sec. 3D-0524 incorporates the NSPS regulations in 40 CFR Part 60 by reference. 40 CFR 60.43b(f), of the NSPS, details the requirements for visible emissions from boilers subject to Subpart Db.

6.4.1 Regulatory analysis

Visible emissions shall not exceed 20% opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 27% opacity may occur not more than once in any hour as determined by U.S. EPA Reference Method 9 (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 apply at all times, except during periods of startup, shutdown or malfunction in accordance with NSPS Subpart Db, 40 CFR 60.43b(f) and (g) and Sec. 3D-0524.

6.5 Sec. 3D-1111 " National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters", (40 CFR 63, Subpart DDDDD)

The Keeler Boiler (ES-62C) and the SCS Boiler (ES-62F) are subject to the Boiler MACT. Each of these boilers meets the definition under the MACT subcategory as "Hybrid suspension/grate burners designed to burn wet biomass/bio-based solid".

The Deltak Boiler (ES-62) is also subject to the Boiler MACT but since it only burns natural gas, it isn't required to meet any numeric emissions limits. It is only subject to work practice standards (boiler tune-up and a one-time energy assessment).

The Boiler MACT lists many options and alternate standards, as well as numerous methods to determine compliance and continuous compliance based on the standards with which the applicant chooses to comply. This review is based on the method of compliance the applicant chose but the permit will list the available options for each standard and reference the MACT for details on compliance.

The compliance date for the MACT was January 31, 2016 and the facility must be in compliance with the emission limits no later than July 29, 2016. The applicant has demonstrated compliance by those dates and is currently in compliance with the requirements of the MACT.

6.5.1 Regulatory Analysis for Sec. 3D-1111 and 40 CFR 63, Subpart DDDDD – NESHAP Emission Limits for HCl, Mercury, CO, PM or Total Selected Metals (TSM)

The emission limits for these boilers can be found in items 1 and 13 of Table 2 to Subpart DDDDD. The limits are as follows:

Pollutant	Emission limit (not applicable during startup or shutdown)	Notes on sampling volume or test run duration
HCl	2.2E-02 pounds per million Btu of heat input	For Method 26A, Collect a minimum of 1 dscm per run; for M26, collect a minimum of 120 liters per run.
Mercury	5.7E-06 pounds per million Btu of heat input	For M29, collect a minimum of 3 dscm per run; for M30A or M30B, collect a minimum sample as specified in the method; for ASTM D6784, collect a minimum of 3 dscm.
CO (or CEMS)	3,500 ppm by volume on a dry basis corrected to 3 percent oxygen, 3-run average; or (900 ppm by volume corrected to 3 percent oxygen, 30-day rolling average)	1 hour minimum sampling time per run.
Filterable PM (or TSM)	0.44 pounds per million Btu heat input; or (4.5E-04 pound per million Btu heat input	Collect a minimum of 2 dscm per run.

Compliance with the emission limits above is demonstrated through performance testing, which means either a stack test or a fuel analysis. An annual stack test has been conducted by Ingredion to demonstrate compliance with each of the above limits. Table 5 to Subpart DDDDD lists the Methods to use when complying with the limits via stack testing.

The applicant has tested the boilers to demonstrate compliance with the MACT limits several times since the permit was last renewed on July 18, 2014. The SCS Boiler was tested on November 20 and 24, 2014. The Keeler Boiler was tested on September 10 and 11, 2015. Then, the SCS again on November 15, 2016 and the Keeler Boiler on November 16, 2016. The SCS was tested again on September 6, 2017. The Keeler boiler was tested again on October 2, 2019 and it was found that they exceeded the HCl standard. They conducted a re-test on April 28, 2020 and passed for HCl by using coal from a mine with a lower chlorine content.

As an alternative to a stack test, the applicant may conduct fuel analyses to demonstrate compliance with HCl, mercury, or TSM (as an alternative to the PM limits). TSM means the combination of the following metallic HAPs: arsenic, beryllium, cadmium, chromium, lead, manganese, nickel, and selenium. Table 6 to the Subpart lists the Methods to be used when complying with the limits via fuel analysis. However, the applicant has chosen to comply with the standards via stack testing and the permit focuses on the requirements for such testing. The permit does list the option to conduct fuel analyses in case the applicant choses to comply using this method.

Compliance with carbon monoxide can be demonstrated with either an annual stack test or the installation of a CO continuous emissions monitoring system (CEMS). The renewal permit will reference all the applicable tables and mention the options for alternative standards. The applicant has chosen to comply with the CO limit via stack testing.

Subsequent compliance tests:
If compliance is determined by performance stack test, the applicant shall conduct performance (stack) tests annually. If test results for 2 consecutive years are <75% of emission limit, the facility may conduct performance test every third year. If the stack test results are >75% of the emission limit, the stack testing must revert to an annual test until the results from 2 consecutive years are <75% of the limit. The facility must continue to comply with all applicable operating limits and monitoring requirements.

Ingredion has had stack tests that resulted in the emissions being less than 75% of the standard for both the Keeler and SCS boilers and has gone to stack testing every three years. However, the results of the most recent stack test for the Keeler boiler showed an exceedance of the HCl limit. Ingredion has opted to go back to annual MACT stack testing for the Keeler boiler until they have two consecutive years with less than 75% of the standard for all pollutants. Technically, the allowance to conduct testing every three years is pollutant specific but Ingredion has decided to re-test all the pollutants so they can set up a new allowable steam load limit and the oxygen trim limit by testing all of the pollutants. The SCS boiler is due for its three-year stack test at the end of this calendar year.

If compliance is determined by fuel analysis, the applicant shall conduct a fuel analysis each month, then reduce to the analysis results to a 12-month rolling average and maintain them below the emission limits. The applicant shall continue to comply with applicable operating limits and monitoring requirements. As mentioned above, the applicant is demonstrating compliance through stack testing, so the fuel analysis data is not pertinent to this permit but the information will be included in the permit as an option to stack testing.

Operating Limits and demonstrating continuous compliance:
Table 4 to Subpart DDDDD lists the applicable operating limits which must be followed by the applicant. The operating limits are based on the type of control device used for each pollutant. Ingredion will be subject to an opacity standard for ES-62C and ES-62F as outlined in item 6 of Table 4 for PM. The opacity standard is 10 percent and compliance with the standard is based on a daily block average of the recorded opacity levels. The applicant has had several violations noted in the past for exceeding the 10 percent opacity standard based on a daily block average. Notices of Violation have been issued along with Civil Penalties. The applicant has paid the penalties and has come back into compliance with this operating limit.

The facility is also subject to item 8 of Table 4. This item states that boilers demonstrating compliance with the emission limits with a performance test must maintain the operating load of each unit such that it does not exceed 110 percent of the highest hourly average operating load recorded during the most recent performance test. Compliance with this limit is based on a 30-day rolling average. The applicant has

maintained compliance with this operating limit.

Table 7 of the Subpart identifies the methods to establish the operating limits identified above. Item 4 of the Table identifies oxygen as the operating limit used to comply with the CO standard. The applicant shall collect oxygen data every 15 minutes during the entire period of the performance test. These data points are then averaged for each test run. Then, the applicant will establish the lowest hourly average oxygen level over the test runs as the minimum operating limit to be monitored. This limit is met by setting the oxygen trim system for both boilers to the minimum average established during the stack test. The applicant has demonstrated compliance with this operating limit.

Item 5 of Table 7 lists the procedure for establishing the maximum operating load during the performance test. The operator must collect the operating load or steam generation data every 15 minutes during the entire period of the performance test. These data points are then averaged for each test run. Then, the highest hourly average for the three test runs is multiplied by 1.1 to get the 110 percent operating load. Compliance with this limit is based on a 30-day rolling average.

Table 8 of the Subpart lists how to demonstrate continuous compliance with the emission limits based on the applicable operating limits. Item 1 addresses the installation of a continuous opacity monitor and how the applicant must average the readings over a daily block period. Ingredion Inc. already has opacity monitors installed on both boiler stacks. These were installed to comply with NSPS Subpart Db. Item 10 details the strategy for collecting the operating load data or steam generation data every 15 minutes. The daily average operating load or steam generation data must be less than 110 percent of the value recorded during the most recent performance test based on a 30-day rolling average. Item 9 refers to the oxygen content but it doesn't apply because the facility operates and maintains an oxygen trim system. This system shall be operated with the oxygen level set no lower than the lowest hourly average oxygen concentration measured during the most recent CO performance test as the operating limit for oxygen according to Table 7. The applicant has continued to demonstrate continuous compliance using these methods.

Work Practice Standards

Table 3 to the Subpart lists the work practice standards with which the applicant shall comply. Item 1 to the Subpart identifies the requirements for a tune-up of the boilers. The applicant shall conduct a tune-up of the boiler no later than January 31, 2016. Subsequent tune-ups shall be completed every five years. Normally, the tune-up is an annual requirement but the MACT allows for a five year tune-up for sources that have an oxygen trim system in place on their boilers. Ingredion Inc. does employ an oxygen trim system in both of the boilers (ES-62C and ES-62F). The specifications for the tune-up can be found in 40 CFR 63.7540 and are listed in the renewal permit. The applicant is in compliance with this work practice standard.

Items 5 and 6 of Table 3 of Subpart DDDDD identify the requirements during startup and shutdown of the boilers and they are listed in the renewal permit. The language for startup and shutdown was revised in 2015 and the renewal permit contains the revised language. The applicant has demonstrated compliance with these requirements and documents any startup/shutdowns in their semiannual reports.

6.6 Monitoring Requirements

6.6.1 CAM and recordkeeping required for compliance with Sec. 3D-0530 - PSD and Sec. 3D-0524 - NSPS (Particulate Matter)

In order to demonstrate compliance with the CAM plan for the multicyclone and electrostatic precipitator, the following monitoring and recordkeeping requirements apply:

(a) The applicant shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone and electrostatic precipitator using the COM described in Section **IV.6.6.2** below.
(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 applicant 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.

6.6.2 Monitoring and Recordkeeping required for compliance with Sec. 3D-0530 - PSD and Sec. 3D-0524 - NSPS (Particulate Matter)

The applicant shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone precleaner and electrostatic precipitator. The applicant 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.

6.6.3 Monitoring and Recordkeeping required for compliance with Sec. 3D-0530 - PSD and Sec. 3D-0524 - NSPS (Nitrogen Oxides)

The applicant shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEM) for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The CEM must be maintained, calibrated, operated and audited in accordance with 40 CFR 60, Appendix F quality

assurance procedures. 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.

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.

6.6.4 Monitoring for compliance with Sec. 3D-0530 - PSD (Sulfur Dioxide)

A gross sample of coal shall be obtained from each truckload of coal shipped to the permittee at the coal mine site and the combined samples analyzed monthly for Btu, sulfur, and ash content by the coal mine's ASTM certified laboratory of choice in accordance with the following ASTM methods:

(a) D2234 - Collection of a Gross Sample of Coal
(b) D2013 - Methods for Preparing Coal Samples for Analysis
(c) D5865 - 99 - Gross Calorific Value of Coal and Coke by the Isoperibol Methods
(d) D4239 - Sulfur in Ash from Coal and Coke using High-Temperature Tube Furnace Combustion Method
(e) D3174 - Ash in the Analysis of Coal and Coke

6.6.5 Monitoring for compliance with Sec. 3D-0524 - NSPS (Visible Emissions)

The applicant shall follow the monitoring and recordkeeping requirements specified in Section **IV.6.4** above for visible emissions.

6.6.6 Recordkeeping for compliance with Sec. 3D-1111 - NESHAP Boiler MACT

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, and chlorine content of coal delivered to the facility;
(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 the applicant chooses to rely on definition(2) of "startup" in 40 CFR 63.7575, for each startup period, they 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, the applicant 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 the applicant chooses to use definition (2) of "startup" in 40 CFR 63.7575 and they find that they are unable to safely engage and operate your PM control(s) within one hour of first firing of non-clean fuels, they may choose to rely on definition (1) of "startup" in 40 CFR 63.7575 or they 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 extant 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) The applicant 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. Inspections of the facility have documented compliance with the records retention requirement.

As part of this renewal, a requirement to maintain monthly records of the chlorine content of coal delivered to the facility will be added in paragraph (e) above. This additional information will provide characterization of the coal fuel to ensure the type of coal combusted in the boiler, i.e. type of fuel, is consistent with the type of fuel used to demonstrate compliance with the HCL emission limit. If the chlorine content of the coal received by the facility increases significantly, a new performance may be required to demonstrate compliance using the higher chlorine containing coal.

6.7 Reporting Requirements

6.7.1 CAM Reporting Requirements for compliance with Sec. 3D-0530 - PSD and Sec. 3D-0524 - NSPS (Particulate Matter)

The applicant shall submit a summary report of the compliance assurance monitoring required in Section **IV.6.6.2** including, as a minimum:

(a) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

(b) 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

(c) 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.

6.7.2 Reporting Requirements for compliance with Sec. 3D-0530 - PSD and Sec. 3D-0524 - NSPS (Particulate Matter)

The applicant 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.

6.7.3 Reporting Requirements for compliance with Sec. 3D-0530 - PSD and Sec. 3D-0524 - NSPS (Nitrogen Oxides)

The applicant shall submit written excess emissions reports based on the data recorded by the CEM for nitrogen oxides. In addition, 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. These reports shall be submitted to 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.

6.7.4 Reporting Requirements for compliance with Sec. 3D-0530 - PSD (Sulfur Dioxide)

All data generated by the sulfur content analysis specified in Section **IV.6.5.4** shall be submitted to this Office on a semiannual basis. The 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. The following provisions also apply:

(a) Laboratory records of sample testing shall include documentation of the calibration and verification runs made for each piece of analytical equipment.
(b) Upon request of Department personnel, the permittee shall obtain a split sample and submit it to a certified commercial laboratory of this Office's choosing for analysis.

6.7.5 Reporting Requirements for compliance with Sec. 3D-0524 - NSPS (Visible Emissions)

The applicant shall follow the reporting requirements specified in Section **IV.7.7.2** above for visible emissions.

6.7.6 Reporting Requirements for compliance with Sec. 3D-1111 - NESHAP Boiler MACT

The facility shall submit a semi-annual report to the Office that contains the information dependent upon how the facility chooses to comply with the limits in the Subpart. 40 CFR 63.7550(c) lists four different options of report details. Ingredion has complied with the emission limits via stack testing so, that is the option spelled out in the renewal permit. The reports due for any alternative standards are mentioned in the permit but will not go into as much detail as the ones for stack testing.

The first report is to be postmarked or received by this Office no later than July 31, 2016 and shall contain:

(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 ht 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).

Ingredion has demonstrated compliance with the reporting requirements by submitting their semiannual reports in a timely manner. The latest report was received on January 29, 2020.

6.7.6 Notification Requirements for compliance with Sec. 3D-1111 - NESHAP Boiler MACT

The facility 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 the facility. In addition, the facility 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.

The facility has notified this agency in the past 60 days prior to scheduling any stack testing.

6.8 Alternative Operating Scenario

This emission source does not have an alternative operating scenario. However, when this boiler and ES-62F are both not operational, process vapors are routed to the Deltak boiler. This AOS is described in the Section **IV.7.7**.

6.9 Other Specific Conditions

A log must be maintained on site, and available for inspection, which accurately documents the total amount of coal, wood, 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. The monthly totals of each fuel burned shall be reported to this Office by January 30th and July 30th for the preceding six-month period. This recordkeeping and reporting requirement is required of all sources subject to NSPS Subpart Db. This requirement is in 40 CFR 60.49b(d) and the information recorded is to be used to determine the annual capacity factor of each fuel. The facility received a waiver from the U.S. EPA in 1998 from having to calculate the annual capacity factor because it is not relevant to determining any allowable limits for this boiler. However, the facility is still required to record the fuel usages and report them to this Office.

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

7.0 ES-62G, One Temporary Boiler fired with natural gas, Uncontrolled

7.0.1 Description

The Temporary boiler is an industrial boiler (<100 MMBtu/hr maximum heat input) firing only natural gas with an efficiency rating of 80% or higher. The boiler will be used to provide process steam when one of the other boilers is down for maintenance due to the Deltak boiler (ES-62) no longer being on site. A Temporary boiler was first brought on site and operated at this facility in 2020. The emissions from the boiler are not controlled and therefore, this process is not subject to CAM.

The Temporary boiler is exempt from both the Nation Emission Standards for Hazardous Air Pollutants (NESHAP) Part 63, Subpart DDDDD (Boiler MACT) and the New Source Performance Standards (NSPS) Part 60, Subpart Dc as long as it meets the definition of “temporary boiler” in each of these regulations. The applicant has stated they intend to comply with this definition.

7.0.2 Applicable Regulatory Requirements

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance

were correct.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Particulate Matter	$E = 1.090 \times Q^{-.2594}$ where: E = allowable emission rate (lb/MMBtu) Q = maximum heat input rate of all fuel burning heat exchangers (MMBtu/hr)	ES-62G	Sec. 3D-0503
Sulfur Dioxide *	2.3 lb SO_2/MMBtu	ES-62G	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	ES-62G	Sec. 3Q-0317(a)(8), Sec. 3Q-0308(a)(1), Sec. 3Q-0707

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

7.1 Sec. 3D-0503 - Particulates from Fuel Burning Indirect Heat Exchangers

This rule regulates the emissions of particulate matter from the combustion of fuel that are discharged to any stack or chimney into the atmosphere.

7.1.1 Regulatory Analysis

The allowable emission rate of PM is determined by the following equation:

$E = 1.090 \times Q^{-.2594}$

where:

E = allowable emission rate in lb/MMBtu, and

Q = maximum heat input rate of all fuel burning heat exchangers in MMBtu/hr

The Temporary boiler will have a maximum heat input of less than 100 million Btu per hour. The temporary boiler may have a different maximum heat input each time one is brought onto the site to assist with the steam load during routine maintenance of either the Keeler or SCS boiler. Therefore, the permit will contain the above equation to determine the allowable PM limit based on the maximum heat input of all the boilers at the facility. Due to the inherent low PM emissions from the combustion of natural gas, it

is expected that the temporary boiler will be in compliance with any PM allowable limit.

7.2 Sec. 3Q-0317(a)(8) – Avoidance Conditions (Toxic Air Pollutants Steam Flow Requirements)

This rule allows for owners or operators to request terms and conditions be placed in the permit to avoid other rules of Subchapter 3. In this case, the owner has requested terms and conditions be included in the permit to avoid the requirements for Toxic Air Pollutants from the operation of the Temporary Boiler.

7.2.1 Regulatory Analysis

The applicant notified our Office in August 2020 that the Deltak boiler had an issue with the feedwater while it was in operation and that resulted in extensive damage to the boiler. The applicant decided that the cost of repairing the boiler would outweigh the cost of having a temporary boiler brought on-site to run in tandem with the Keeler (ES-62C) or the SCS (ES-62F) boiler while one or the other is down for its annual maintenance.

The applicant had several meetings with our Office to discuss the permit ramifications of having a temporary boiler brought onto the site to operate during the routine maintenance of either the Keeler or SCS boilers to provide supplementary steam to the plant. The temporary boiler will emit toxic air pollutants (TAP) as did the Deltak boiler. To ensure that there are no net increases of toxic air pollutants, TAPs) in the permit for benzene, benzo-a-pyrene, formaldehyde, n-hexane, and toluene, the actual TAP emissions from the Deltak boiler were compared to the emissions from the temporary boiler.

The applicant submitted an application that includes a permit limit on the operation of the temporary boiler such that the steam load of the temporary boiler will not exceed the "actual rate of emissions" as defined in Sec. 3Q-0703 of the FCAQCOTC from the Deltak boiler based on the corresponding steam load for each of these "actual rate of emissions". The annual, hourly, and daily maximum steam loads were derived using calendar years 2018 and 2019 as representative of normal operation in accordance with the definition of "actual rate of emissions" in Sec. 3Q-0703. Provided the temporary boiler is at least as efficient as the Deltak, steam load limits on the temporary boiler will demonstrate and ensure that the emissions from the temporary boiler do not exceed the actual TAP emissions previously emitted from the Deltak boiler. This will ensuring no net increase in TAP emissions, and other emissions, from this project.

The applicant provided the maximum steam load for the annual, hourly and daily periods from the Deltak boiler for calendar years 2018 and 2019. These rates are 117,308 thousand pounds per year (10^3 lb/yr), 62.96 10^3 lb /hour, and 1,262 10^3 lb /day. These limits are included in the draft permit to ensure no emissions increase for the removal of the Deltak boiler and operation of the temporary boiler. The applicant stated the temporary boiler will be supplied with the same quality of feedwater used by the Deltak boiler. They further stated the temporary boiler would be operated at 150 psig (same as the Deltak boiler) with no superheat, and discharged into the same steam header as the Deltak boiler. The applicant uses feedwater flow as the tracking method for steam flow to demonstrate compliance with these limits. The feedwater is continually tracked by the

applicant. Any temporary boiler brought on site will also need to have a boiler efficiency equal to or greater than 80%. The Deltak boiler had a boiler efficiency of about 75% based on the Deltak boiler's operation during the shutdown of the SCS boiler in 2019, as provided by the applicant.

7.3 Standard/Operation Requirements

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

7.4 Monitoring/Recordkeeping Requirements

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 Section **7.3** above. Measurements of the feedwater shall be obtained and recorded at least four times equally spaced over each hour of operation. The applicant 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.

7.5 Reporting/Notification Requirements

The applicant 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.

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.

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 form the facility.

7.6 Other Specific Conditions

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 and in section 60.41c of 40 CFR Part 60, Subpart Dc.

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

8.0 *ES-62F, Steam and Control Systems, Inc. Hybrid suspension/grate Boiler, Zurn Air Systems Mechanical Collector and PPC Electrostatic Precipitator*

8.0.1 Description

This is an industrial boiler (324.5 MMBtu/hr maximum heat input when combusting wood and natural gas, and 245 MMBtu/hr maximum heat input when combusting only natural gas) firing wood, natural gas, corn cleanings, corn germ, dry and wet feed, and corn derived gluten meal. This boiler provides steam for the wet milling processes at the facility and can also generate electricity for use by the facility. The construction/operation permit for this boiler became effective in 1997. The existing coal/wood-fired boiler (ES-62C) operates at a reduced rate, as required, to provide the remainder of the plant steam needs. The emissions from the boiler and the PCC air heater are routed through a multicyclone (62F1) and then to the Electrostatic Precipitator (62F2) before exiting through emission point EP-62F.

The SCS boiler (ES-62F) meets the definition of a hybrid suspension/grate burner designed to burn wet biomass/bio-based solid in the subcategories of boilers and process heaters in 40 CFR 63.7499(h). The wet biomass, by definition, must have a moisture content of greater than 40%. The permit requires quarterly sampling of the fuel to demonstrate compliance with this definition and submit the results in their semi annual report.

The applicant has submitted notification to this Office that this boiler (ES-62F) is subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD. The Initial Notification was to be submitted no later than May 31, 2013. The applicant submitted this notification on May 28, 2013 in compliance with this requirement. This boiler must comply with the MACT no later than January 31, 2016. A one time energy assessment and an initial tune up must be completed by this date. The applicant must demonstrate compliance with emissions limits by July 29, 2016. The applicant has met all these requirements for this boiler.

8.*0.2 Applicable Regulatory Requirements*

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Applicable Standard	Applicable Regulation
Particulate Matter	0.03 lb PM/million Btu	Sec. 3D-0530
Nitrogen Oxides	0.30 lb NO_x/million Btu	Sec. 3D-0530
Sulfur Dioxide	2.3 lb SO_2/MMBtu	Sec. 3D-0516
Carbon Monoxide	0.43 lb CO/MMBtu	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 (demonstrating 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% opacity	Sec. 3D-0524 and 40 CFR 60.43b(f)
Visible Emissions	10 percent opacity (daily block average)	40 CFR 63.7525(c), Table 8, 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

8.1 Sec. 3D-0530 - PSD (Particulate Matter)

Sec. 3D-0530 incorporates the Federal PSD regulations by reference. The maximum potential emissions of PM from this boiler were above the PSD significance level of 25 tons/year and so PM emissions are subject to the PSD regulations.

8.1.1 Regulatory Analysis

The applicant provided in their technical analysis a PM emission factor (controlled) of 0.03 lb PM/MMBtu from the combustion of wood which is guaranteed by the vendor of the unit and achieved through the use of a mechanical collector (multicyclone) and an ESP as BACT. This limit was proposed as BACT for PM for this boiler and approved by

this Office.

A stack test was performed on November 16, 1998 after initial operation of the boiler to determine compliance with the allowable BACT limit for PM. The test results revealed a measured value of 0.0045 lb PM/MMBtu, which demonstrated compliance with the BACT limit. The most recent stack test conducted on September 7, 2017 to demonstrate compliance with the MACT limits for PM resulted in a PM limit of 1.5E-03 lb PM/MMBtu, which also document compliance with the PSD limit for PM.

Uncontrolled emissions of PM and PM_{10} are greater than 100 tons per year and the boiler uses a control device to meet the BACT standard. Therefore, CAM applies to this boiler for emissions of PM_{10}.

8.2 Sec. 3D-0530 - PSD (Nitrogen Oxides)

Sec. 3D-0530 incorporates the Federal PSD regulations by reference. The maximum potential emissions of nitrogen oxides were above the significance level of 40 tons/year and so NO_x emissions are subject to the PSD regulations.

8.2.1 Regulatory Analysis

The applicant provided in their technical analysis a NO_x emission factor of 0.30 lb NO_x/MMBtu from the combustion of wood which is guaranteed by the vendor of the unit and is achieved by the boiler design of low excess air and staged combustion as BACT. This BACT limit was established in July, 2000 after the applicant was required to conduct a re-analysis of the BACT limit after discovering, subsequent to startup that the unit could not meet the original BACT emissions limit of 0.19 lb/MMBtu. This limit is based on a guarantee by the vendor of the boiler. This limit was proposed as BACT for NO_x for this boiler and approved by this Office.

This standard shall apply at all times including periods of startup, shutdown, or malfunction. Compliance with this limit shall be demonstrated by the installation, operation and maintenance of a continuous emissions monitor (CEM). Compliance with this emission limit is determined on a 30-day rolling average basis. CEM reports are submitted semiannually to this Office and a review of these records reveals the facility has not exceeded the BACT limit for nitrogen oxides based on the 30-day rolling average.

This source does not have a control device to reduce emissions of nitrogen oxides therefore, CAM does not apply.

8.3 Sec. 3D-0516 - Sulfur Dioxide Emissions from Combustion Sources

This rule regulates the emission of sulfur dioxide from any source of combustion that is discharged from any stack or chimney.

8.3.1 Regulatory Analysis

The rule limits the amount of sulfur dioxide emitted from this source to no more than 2.3

pounds of sulfur dioxide per million Btu input.

The applicant used the appropriate AP-42 emission factor for the emissions calculations. The factor used is 0.025 lb SO_2/MMBtu of heat input of wood from Table 1.6-2 of AP-42 for bark/bark and wet wood/wet wood-fired boiler (SCC 1-01-009-22) dated September, 2003. The applicant calculated SO_2 emissions from the combustion of wood instead of from natural gas because it results in higher emissions of SO_2 and is more conservative.

This emission factor demonstrates the emissions of SO_2 are in compliance with the allowable limit of 2.3 lb/MMBtu.

In addition, process vapors containing SO_2 emissions will be routed to this boiler. The maximum SO_2 emissions from the process vapors are 19.2 lb/hr (calculated in Section **IV.6.3.1.**) so, this must be added to the emissions from the combustion of wood to get 27.31 lb/hr as calculated below:

0.025 lb/MMBtu x 324.5 MMBtu/hr = 8.11 lb SO2/hr from the combustion of wood.

and,

8.11 lb/hr + 19.2 lb SO_2/hr from process vapors = 27.31 lb/hr.

so,

(27.31 lb/hr) (324.5 MMBtu/hr) = 0.084 lb/MMBtu which is less than the allowable limit.

This source does not have a control device to reduce emissions of SO_2 therefore, CAM does not apply. 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 permit condition **2.13** entitled *Annual Emission Inventory Requirements*.

8.4 Sec. 3D-0530 - PSD (Carbon Monoxide)

Sec. 3D-0530 incorporates the Federal PSD regulations by reference. The maximum potential emissions of carbon monoxide are above the significance level of 100 tons/year and so carbon monoxide emissions are subject to the PSD regulations.

8.4.1 Regulatory Analysis

The applicant originally provided in their technical analysis a carbon monoxide emission factor of 0.3 lb CO/MMBtu from the combustion of wood which is guaranteed by the vendor of the unit and is achieved by the boiler design of low excess air and staged combustion. This limit was proposed as BACT for CO for this boiler and approved by this Office. The applicant is required to perform an annual stack test to demonstrate compliance with this BACT limit.

Ingredion failed a stack test for carbon monoxide (CO) emissions from the SCS Boiler (ES-62F) on September 6, 2017. This was the fourth failed stack test for CO since 2012. Ingredion subsequently entered into a Special Oder by Consent to re-analyze the Best Available Control Technology (BACT) limit for CO. On February 4, 2020, permit TV-13 was issued with a new BACT limit for CO, which is **0.43 lb CO/MMBtu**. A stack test was performed on October 4, 2022 and the results (0.27 lb CO/MMBtu) showed compliance with the revised limit.

This source does not have a control device to reduce emissions of CO therefore, CAM does not apply.

8.5 Sec. 3D-0524 - NSPS (Visible Emissions)

Sec. 3D-0524 incorporates the NSPS regulations in 40 CFR Part 60 by reference. 40 CFR 60.43b(f) of the NSPS details the requirements for visible emissions from boilers subject to Subpart Db.

8.5.1 Regulatory analysis

Visible emissions shall not exceed 20% opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 27% opacity may occur not more than once in any hour as determined by U.S. EPA Reference Method 9 (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 apply at all times, except during periods of startup, shutdown or malfunction in accordance with NSPS Subpart Db, 40 CFR 60.43b(f) and (g) and Sec. 3D-0524.

8.6 Sec. 3D-0524 - NSPS (Annual Capacity Factor)

Sec. 3D-0524 incorporates the NSPS regulations in 40 CFR Part 60 by reference. 40 CFR 60.44b(k) of the NSPS details the requirements for calculating the annual capacity factor to avoid the nitrogen oxide emissions standard for applicable boilers subject to Subpart Db.

8.6.1 Regulatory analysis

The applicant has requested that a federally enforceable permit condition which limits the annual capacity factor for natural gas to 10% or less be included in their air quality permit. This restriction enables the applicant to be exempt from the NOx standard in NSPS Subpart Db pursuant to 40 CFR 60.44b(d) and the accompanying requirement for a continuous emissions monitoring system. However, the permittee has decided to install a continuous emissions monitor for NO_x and will maintain and operate it in accordance with NSPS Subpart Db, 40 CFR 60.48b and Sec. 3D-0524 - *NSPS* even though they are not subject to these requirements.

The applicant has been submitting records on a semiannual basis documenting the annual capacity factor. The latest records received on January 30, 2020 show the highest 12-month rolling annual capacity factor is 4.7 percent from November 2019, which meets the requirement of this rule.

8.7 3D .1111 " National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters", (40 CFR 63, Subpart DDDDD)

The Keeler Boiler (ES-62C) and the SCS Boiler (ES-62F) are subject to the Boiler MACT. Each of these boilers is listed under the MACT subcategory as "Hybrid Suspension/Grate Boiler designed to burn wet biomass/bio-solid". In order to demonstrate compliance with the MACT, the SCS Boiler shall follow the same requirements as the Keeler Boiler as applicable. These requirements are detailed in Section **IV.6.5.1**.

8.8 Monitoring and Recordkeeping Requirements

8.8.1 CAM required for compliance with Sec. 3D-0530 - PSD (Particulate Matter)

In order to demonstrate compliance with the CAM plan for the multicyclone and electrostatic precipitator, the following monitoring and recordkeeping requirements apply:

(a) The applicant shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone and electrostatic precipitator using the COM described in Section **IV.8.8.2** below.
(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 applicant 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.

8.8.2 Monitoring and Recordkeeping required for compliance with Sec. 3D-0530 - PSD (Particulate Matter)

The applicant shall monitor opacity as a surrogate to ensure the proper operation of the multicyclone precleaner and electrostatic precipitator. The applicant 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.

8.8.3 Monitoring and Recordkeeping required for compliance with Sec. 3D-0530 - PSD (Nitrogen Oxides)

The applicant shall install, calibrate, maintain, and operate a continuous emissions monitoring system (CEM) for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system. The CEM must be maintained, calibrated, operated and audited in accordance with 40 CFR 60, Appendix F quality assurance procedures. 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.

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.

8.8.4 Monitoring required for compliance with Sec. 3D-0530 - PSD (Carbon Monoxide)

The applicant is required to perform an annual stack test in accordance with the appropriate EPA Reference Methods to demonstrate compliance with the BACT limit for CO. The most recent stack test was conducted on March 2, 2020 and the results demonstrated compliance with the revised CO BACT limit.

8.8.5 Monitoring and Recordkeeping required for compliance with Sec. 3D-0524 - NSPS (Visible Emissions)

The applicant shall follow the monitoring and recordkeeping requirements specified in Section **IV.8.8.2** above for visible emissions.

8.8.6 Monitoring and Recordkeeping required for compliance with Sec. 3D-0524 - NSPS (Annual Capacity Factor)

The applicant shall record and maintain records of each fuel combusted during each day and calculate the annual capacity factor individually for wood and natural gas semiannually. 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 means the ratio between the actual heat input to the boiler from wood and 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. This recordkeeping is required pursuant to NSPS Subpart Db, 40 CFR 60.49b(d) and Sec. 3D-0524.

8.8.7 Recordkeeping Requirements for compliance with Sec. 3D-1111 - NESHAP (Boiler MACT)

In order to demonstrate compliance with the reporting requirements in the Boiler MACT,

the SCS Boiler shall follow the same requirements as the Keeler Boiler as applicable. These requirements are detailed in Section **IV.6.6.6**.

8.9 Reporting Requirements

8.9.1 CAM Reporting Requirements for compliance with Sec. 3D-0530 - PSD (Particulate Matter)

The applicant shall submit a summary report of the compliance assurance monitoring required in Section **IV.8.8.2** including, as a minimum:

(a) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
(b) 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
(c) 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.

8.9.2 Reporting Requirements for compliance with Sec. 3D-0530 -PSD (Particulate Matter)

The applicant 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.

8.9.3 Reporting Requirements for compliance with Sec. 3D-0530 -PSD (Nitrogen Oxides)

The applicant shall submit written excess emissions reports based on the data recorded by the CEM for nitrogen oxides. In addition, 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. These reports shall be submitted to 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.

8.9.4 Reporting Requirements for compliance with Sec. 3D-0524 - NSPS (Visible Emissions)

The applicant shall follow the reporting requirements specified in Section **IV.9.8.2** above for visible emissions.

8.9.5 Reporting Requirements for compliance with Sec. 3D-0524 - NSPS (Annual Capacity Factor)

The applicant shall submit records of the annual capacity factor for natural gas, based on a 12-month rolling average, semiannually to verify that the natural gas annual capacity factor is not above 10%.

8.9.6 Reporting Requirements for compliance with Sec. 3D-1111 - NESHAP (Boiler MACT)

In order to demonstrate compliance with the reporting requirements in the Boiler MACT, the SCS Boiler shall follow the same requirements as the Keeler Boiler as applicable. These requirements are detailed in Section **IV.6.7.6**.

8.10 Alternative Operating Scenario

This emission source does not have an alternative operating scenario. However, when this boiler and ES-62C are both not operational, process vapors are routed to the Deltak boiler. This AOS is described in the Section **IV.7.7**.

8.11 Other Specific Conditions

Thermal input to the boiler shall not exceed 324.5 MMBtu/hr when using 100% wood or fuel combination, or 245 MMBtu/hr when using only natural gas in accordance with Sec. 3D-0530.

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

9.0 *ES-62D, Ash Handling System, National Conveyors Company, Inc. Primary Cyclone Model A-1141A, Secondary Cyclone Model A-1195-SA, Fabric Filter Model A-1728-P, and Wet Scrubber Model A-1750-1*

9.0.1 Description

The bottom ash and the fly ash from ES-62C and ES-62F are pneumatically transferred to the ash silo by means of a vacuum created by a steam jet. The pneumatic transfer air and the ash are separated at the silo by two cyclones in series. The primary cyclone separates the majority of the ash. The collected ash from both cyclones is discharged to the ash silo. The primary cyclone air exhaust discharges into a secondary cyclone where most of the remaining ash is collected and discharged into the ash silo. The exhaust from the secondary cyclone is discharged to a fabric filter. Particulate matter captured by the fabric filter is discharged into the ash silo. The exhaust from the fabric filter passes through the steam eductor, which creates the pneumatic transfer vacuum to a final wet scrubber before being discharged to the atmosphere (EP-Z). Fugitive dust (ash) is conditioned with water prior to loading into trucks for transport from the facility for final disposal.

9.0.2 Applicable Regulatory Requirements

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Applicable Standard	Applicable Regulation
Particulate Matter	0.02 lb PM/hour	Sec. 3D-0530 - PSD
Particulate Matter (Fugitives)	Fugitive dust emissions from coal handling and storage are to be minimized and all trucks carrying coal or ash shall use tarps or covers to minimize fugitive dust emissions	Sec. 3D-0530

9.1 Sec. 3D-0530 - PSD (Particulate Matter)

The purpose of this rule is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166. This facility is subject to PSD due to the particulate matter emissions from ES-62F being greater than the PSD significance level of 25 ton/year.

9.1.1 Regulatory Analysis

The bottom ash and flyash is transferred pneumatically through two cyclones in series followed by a fabric filter then a wet scrubber. The particulate emissions limit from this process was set at 0.02 lb/hr as the BACT limit. This Office has agreed that BACT is being met by this process and that, due to the minimal amount of particulate matter emissions, further effort to reduce emissions from this source would not yield significant results. The EPA concurred with this decision at the time the BACT was determined.

The applicant referenced this Office's compliance certification dated February 2, 1991 as the basis for the emission factor for particulate matter from this process in Section 29 of the application. This compliance certification cited an emission factor from AP-42 Table 8.10-2 (revised - see below) which was for particulate emissions from the process of pneumatically unloading cement to an elevated storage silo. This factor was 0.27 lb PM/ton and was found to be satisfactory to use as a surrogate factor for emissions of ash.

AP-42 has since been revised and the new emission factors for concrete batching are found in AP-42 Table 11.12-2 dated June 2006. The uncontrolled emission factor for particulate emissions from the process of pneumatically unloading cement to an elevated storage silo (SCC 3-05-011-07) is 0.36 lb PM/ton. The entire series of control devices in this source have a combined total control efficiency of 99.9% and are considered BACT for this source.

The maximum loading of the ash silo is 8 tons/hr or 70,080 tons/yr (8 tons/hr x 8,760 hr/yr). The uncontrolled emission rate from this process is calculated as follows:

8 tons/hr x 0.36 lb PM/ton = 2.88 lb/hr

Taking into account the control efficiency of 99.9% for the control device system, the controlled emission rate is calculated as follows:

2.88 lb/hr x (1- 0.999) = 0.00288 lb/hr

The uncontrolled emissions on a yearly basis are calculated as follows:

(2.88 lb/hr) x (8,760 hr/yr) / (2,000 lb/ton) = 12.6 ton/yr. The uncontrolled emissions are less than 100 ton/yr and therefore CAM is not applicable to this process.

9.2 Monitoring Requirements

The applicant shall follow the monitoring and recordkeeping requirements for visible emissions in Section **V.1.2.1**.

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 applicant 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: an annual internal inspection of each of the control device's structural integrity; and a monthly visual inspection of the system ductwork, and material collection unit for leaks.

9.3 Recordkeeping Requirements

The results of all inspections and maintenance performed as required in Section **IV.9.2** above shall be recorded in a log (written or electronic form). The log shall be maintained on site and shall contain the following records: the date and time of actions recorded; the results of each inspection; and the results of any maintenance performed on the control devices.

9.4 Reporting Requirements

The applicant shall submit a summary report of the monitoring requirements specified in Section **IV.9.2** to this Office by January 30th and July 30th for the preceding six-month period.

9.5 Alternative Operating Scenario

There is no alternative operating scenario for this equipment.

9.6 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

10.0 *ES-WHS, Wood Handling System, Uncontrolled*

10.0.1 Description

The wood handling system supplies wood to the boilers, ES-62C and ES-62F. The wood handling system will be fed by a front-end loader to a live bottom fuel feed hopper with a capacity of 80 tons per hour. Wood fuel for ES-62F will be transferred to the boiler via 80 tons per hour covered conveyor system. No controls are associated with this system and therefore, CAM does not apply to this source.

10.*0.2 Applicable Regulatory Requirements*

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	**Applicable Standard**	**Applicable Regulation**
Particulate Matter (Fugitives)	Fugitive dust emissions from the wood fuel conveyors shall be minimized by use of covered conveyors	Sec. 3D-0530 - PSD

10.1 Sec. 3D-0530 - PSD (Particulate Matter)

The purpose of this rule is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166. This facility is a PSD permitted facility due to the particulate matter emissions from ES-62F being greater than the PSD significance level of 25 ton/year.

10.1.1 Regulatory Analysis

The applicant proposed that no controls other than the covered conveyors be required as BACT for the wood storage pile and transfer operations due to the insignificance of these emissions. This BACT analysis review was conducted in 1997. This Office concurred with this determination and the EPA indicated that these work practice standards represented BACT at that time.

10.2 Monitoring Requirements

There are no monitoring requirements for this source.

10.3 Recordkeeping Requirements

There are no recordkeeping requirements for this source.

10.4 Reporting Requirements

Emissions estimates from this source shall be included in the annual emissions inventory.

10.5 Alternative Operating Scenario

There is no alternate operating scenario for this equipment.

10.6 Other Specific Conditions

Excess emissions reporting and malfunctions shall be reported in accordance with Sec. 3D-0535 - *Excess Emissions Reporting and Malfunctions*.

V. FACILITY-WIDE EMISSION SOURCE CONDITIONS

1.0 Sec. *3D-0521 - Control of Visible Emissions*

This rule was promulgated for the prevention, abatement, and control of emissions generated from fuel burning operations and other industrial processes where an emissions can be reasonably expected to occur, except during startups, shutdowns or malfunctions made in accordance with other conditions in the Title V Operating Permit.

1.1 Regulatory Requirements

Sec. 3D-0521(d) states - For sources established after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period except that six-minute periods averaging no more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24 hour period.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Visible Emissions	20% opacity	Facility-wide, except for emission sources subject to NSPS or NESHAP regulations (ES-62C and ES-62F)	Sec. 3D-0521(d)

All of the emission sources meet the allowable particulate matter standard in Sec. 3D-0515 without the use of their control devices except the Carbon Silo (EP-N) of ES-83, the Filter Aid Silo (ES-G) of ES-85, and the Starch Dryers (EP-I and EP-J) of ES-31.

Therefore, the applicant is required to perform more stringent monitoring of these sources to ensure compliance. Emissions from the Railcar Transport Blower (EP-AO) of ES-25, Carbon Storage Silo (EP-N), and the Filter Aid Silo (EP-G) are each controlled by a fabric filter. These emission sources are used infrequently so, a qualitative visible observation shall be performed each time the tank or silos are loaded. The applicant may also use the monthly preventative maintenance inspections to demonstrate compliance in lieu of the qualitative visible observations. The Starch Dryers (EP-I and EP-J) are controlled by a wet scrubber and subject to CAM and additional monitoring is included in the permit to ensure compliance with their allowable emissions limit.

1.2 Monitoring and Recordkeeping Requirements

1.2.1 Monitoring and recordkeeping requirements for all emission sources

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.

The qualitative observations of the stacks/vents were previously required to be conducted on a daily basis. However, they were changed to a monthly observation during a previous renewal of the permit in 2006. They were changed to monthly because the facility had been conducting daily observations for 8 years since the TV permit was first issued and the applicant hadn't observed many instances of visible emissions during the checks. Also, the majority of the emission sources covered by this requirement meet the allowable particulate limit without the use of their control devices. As noted above, qualitative visible observations of the stacks AO, N, and G are required once per day for each day the source is in operation. For stacks I and J, they must conduct the monthly visible observations in addition to the CAM requirements. These requirements are noted in above in Section **II 3.2.1**. For these reasons, in 2006, the daily observations were relaxed to the monthly observations.

1.3 Reporting Requirements

The applicant shall submit a summary report of the visible observation records as described in Section **V.1.2** above, to this Office by January 30th for the period July through December and by July 30th for the period January through June.

2.0 Sec. *3D-0530 - PSD (Sulfur dioxide)*

The purpose of this rule is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166. This facility is a PSD permitted

facility due to the emissions from ES-62C and ES-62F. During a modification of the facility in 1995, the applicant revised an earlier PSD NAAQS and Increment modeling demonstration to account for SO2 emission increases resulting from a new source and process improvements including debottlenecking. This demonstration resulted in emission limits for some specific sources described above, as well as facility wide processing limits. Taking in to account these new limitations, the emission increases from the modification were shown to be less than the 40 tpy PSD significant increase threshold. In addition to Sec. 3D-0530 cited as the applicable regulation for the limits established under PSD, Sec. 3Q-0317 is cited as the applicable regulation to establish an enforceable limit to avoid PSD review for the 1995 modification.

2.1 Regulatory Requirements

A federally enforceable permit condition has been established in the permit limiting the emission of sulfur dioxide from the emission units at the facility by limiting the process throughput to no more than 80,000 bushels/day of corn determined as a three day rolling total and 29,200,000 bushels/year of corn determined as a 365 day rolling total. Compliance with these limits protect ambient air and ensure the sulfur dioxide emissions remain below the PSD significance level of 40 tons/year. The applicant has shown continuous compliance with these limits through recordkeeping and reporting requirements.

The following provides a summary of the limits and/or standards for the emission source(s) described above. A review of the information in the application was performed to ensure the appropriate limits and associated calculations used to show compliance were correct.

Regulated Pollutant	Applicable Standard	ES-#	Applicable Regulation
Sulfur Dioxide	Process Throughput not to exceed 80,000 bushels/day determined as a three day rolling total and 29,200,000 bushels/year determined as a 365 day rolling total.	Facility-wide	Sec. 3D-0530 - PSD and Sec. 3Q-0317 - Avoidance Conditions

The requirement is written facility-wide emission source conditions section and reads as follows:

> 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 requirements of Sec. 3D-0530.

2.2 Monitoring Requirements

The grind rates are obtained on a daily basis from the amount of corn being put into the steeps (ES-14). These daily figures are rough estimates of the grind rate and they are

adjusted monthly. The adjustments usually result in a number higher than recorded on a daily basis.

2.3 Recordkeeping Requirements

A record of the grind rate in bushels of corn per day shall be recorded and maintained in a log (written or electronic format). These readings are obtained from the corn being put into the steeps (ES-14). 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. The log shall include the daily grind rate based on a three day average, and the 365 day rolling total grind rate.

2.4 Reporting Requirements

The applicant shall submit the grind rate records as described in Section **V.2.3** above, to this Office by January 30th for the period July through December and by July 30th for the period January through June. The applicant 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.

VI. LOCAL ONLY ENFORCEMENT

The requirements in this section are subject to local enforcement only and are not federally enforceable.

1.1 Sec. 3D-1100 - Control of Toxic Air Pollutants

The provisions of this rule apply to the entire facility (facility-wide) for each toxic air pollutant (TAP) that has been triggered and reviewed for comparison with the acceptable ambient levels (AAL) set forth in this section of the code. Ingredion Incorporated submitted an application to modify the burner size for the Starch Dryer (ES-31) on February 4, 2008 which did require that an evaluation be performed due to the potential increase in TAP emissions from the combustion of natural gas in the replacement dryer.

The TAPs reviewed at that time were; benzene, benzo(a)pyrene, formaldehyde, n-hexane, and toluene. The only other sources at the facility that emit these TAPs are the boilers (ES-62C, ES-62E, and ES-62F) but they were exempt from conducting a TAP evaluation pursuant to Sec. 3Q-0702(a)(18). The boilers are now exempt from the TAP program because they are subject to a MACT.

Since the only source of these TAP emissions at the facility during the past review was the replacement burner of the Starch Drying process, the TAP evaluation was for these pollutants alone. All five of the TAPs were reviewed by this Office were found to be

below the de minimis levels in Sec. 3Q-0711. A modeling demonstration was not required to demonstrate compliance and the permit identifies these pollutants along with their respective de minimis levels. No extra monitoring or recordkeeping, other than the basic requirements, is required because the emissions are below the de minimis levels.

This Office did however conduct an informal review of the toxic air pollutants from the fuels of the boilers (ES-62 (replaced with Temporary Boiler ES-62G), ES-62C, and ES-62F) in September, 2008 to determine if the facility should be called by the Director to perform a facility-wide air toxics evaluation. The products of combustion in this case are coal, wood, and the corn cleanings as identified in each boiler description above. The TAP emissions and stack data used for the determination was from the applicant's annual emissions inventory. Initially, a SCREEN model was run for the boiler stacks with a standard emission rate and worst-case meteorology. The results of the SCREEN model showed non-compliance with the AALs for various pollutants. This Office then conducted an AERMOD modeling analysis for the pollutants with the highest SCREEN concentrations (chromium, hydrogen chloride, and mercury compounds) in each regulated averaging period (i.e., annual, daily, and hourly standard).

The refined modeling for these three "worst-case" TAPs showed compliance with the AALs. The highest concentration of the three pollutants was only at 1% of the AAL. Since these pollutants were determined to be the "worst-case" for each averaging period, this Office made the conclusion that all other pollutants associated with the combustion process also achieve compliance with the applicable AAL. No further modeling was required at the time, and this Office will not be requiring the facility to provide a formal demonstration of compliance. The results of the modeling analysis will not be included in the renewal permit since a Director's call was not made under Sec. 3Q-0712.

2.0 Sec. 3D-0522 - Control and Prohibition of Odorous Emissions

2.0.1 Description

This regulation applies to all facilities and prohibits the emissions of odors beyond the property lines that 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.

2.0.1 Regulatory Analysis

Violation of this regulation is determined by EAP upon investigation of a complaint. There is not currently a requirement for the permittee to perform any monitoring/recordkeeping/reporting activities for this rule. Any future requirements will only be in response to complaints received by this Office.

This facility has had complaints lodged against it in the past with regard to odor. When a new complaint is received, a visit to the area of the complainant is conducted and if the complaint is validated, a telephone call is made to the permittee to determine if there are any malfunctions or plant upsets that may be the source of the odor. No odor complaints were received concerning this facility during the previous permit term.

The applicant has routed all of the vapors from their feed dryers to the boiler to control odors as described in this statement of basis and this Office has determined that the applicant has done all they could to minimize odors at this facility. This Office may require the facility to demonstrate maximum feasible control technology and install additional odor controls if additional complaints and investigations by this Office determine an analysis is necessary.

VII. MACT APPLICABILITY AND REQUIREMENTS

Based on the current HAP emissions, this facility is a Title V source with respect to HAP emissions. Therefore, it is subject to any applicable MACT standards.

The applicant has submitted notification to this Office that the boilers ES-62C, and ES-62F are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD.

This MACT was originally promulgated on September 13, 2004 in the Federal Register. The compliance date for the existing affected sources was September 13, 2007. However, the United States Court of Appeals for the District of Columbia Circuit vacated the Boiler MACT rule on July 30, 2007. In June of 2010, the EPA proposed a new version of the Boiler MACT. This version also went through some challenges and delays. The final rule for the Major Source boilers was published in the Federal Register on January 31, 2013. Applicable permit requirements are noted in Section III above for the individual boilers. The applicant is currently in compliance with these regulations.

VIII. PERMIT SHIELD (INCLUDING NON-APPLICABLE REQUIREMENTS)

In accordance with Sec. 3Q-0512, general condition **2.7** of the Title V Operating Permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield.

IX. GENERAL CONDITIONS

The General Conditions section of the Title V Operating Permit lists additional applicable rule

requirements that the permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, submission of documents, inspections and entry procedures, reopen for cause, severability, etc. In addition, conditions in this section of the permit include the general conditions specific to the NSPS, CAM, and the NESHAP rules. These conditions are not necessarily common to all Title V facilities, only those facilities with sources subject to the NSPS, CAM, and the NESHAP regulations.

X. INSIGNIFICANT ACTIVITIES

The insignificant activities listed in the application have been reviewed and verified. Although each activity is not listed in the Title V Operating Permit, a general condition is placed in the permit stating that all insignificant activities shall comply with the applicable requirements. A list of the insignificant activities will be included as an Attachment to the permit.

XI. PUBLIC NOTICE

This Office will post a notice on our web page concerning the renewal of this permit. The notice will provide for a 30 day comment period, with an opportunity for a public hearing if one is requested. Concurrent with the 30 day public comment period, the draft permit will be emailed to EPA Region IV for their review. The EPA review period is for 45 days. Concurrent review by the public and the EPA is known as parallel processing.

XII. EAP COMMENTS/RECOMMENDATIONS

The agency recommends the renewal Title V Operating Permit (#00732-TV-16) be issued as written.

Changes made to the permit as part of this renewal process:

- Removed Section 1.1 “Operating Conditions Not Covered Under the Permit Shield” because these conditions are fully incorporated into the permit and under the permit shield due to this permit action. The change was for the addition of a temporary boiler to the facility. This Section was also removed from the Table of Contents. This was removed because the entire permit is shielded now that it is undergoing a renewal and review by the U.S. EPA.

- Updated the permit number from TV-15 to TV-16;

- Deleted PART II AIR QUALITY CONSTRUCTION PERMIT as the Temporary Boiler Modification Project has been completed and the unit has been added to PART I of the permit.

- Updated the conditions in SECTION 2 FACILITY GENERAL ADMINISTRATIVE CONDITIONS to conform with recent changes in the Forsyth County Air Quality Technical Code. Added general permit condition **2.41** NESHAP - National Emission Standard for Asbestos <40 CFR Part 61, Subpart M> [Sec. 3D-1110] to the permit and renumbered the general conditions that follow this condition (old **2.41** becomes **2.42** and so on).

- Changed the Emission Point ID number for the Fiber Dewatering equipment in ES-15 from AC to AL as the result of an approved Section 502(b)(10) change in accordance with Sec. 3Q-0523.

- Updated the maker of two fabric filters in ES-11B and one fabric filter each in ES-83 and ES-85 as the result of previously approved Section 502(b)(10) changes in accordance with Sec. 3Q-0523.