Air Quality Construction Permits
Collection of Air Permits

Plant Number: 70-01-004

Company: Grain Processing Corporation

Contact Person:
Mick Durham
Director of Environmental Services

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1600 Oregon Street
Muscatine, IA 52761

Responsible Party:
Ron Zitzow
Senior Vice President

1600 Oregon Street
Muscatine, IA 52761

Project/Process Description

Maltrin #3 Spray Dryer

Maximum Design Capacity: 3.13 tons of maltrin per hour, dry solid basis

Maximum Natural Gas Firing Rate: 18 MMBtu per hour (Natural gas fuel only)

Equipment Location: 1600 Oregon Street
Muscatine, IA 52761

Project Number: 16-344

Project Description: Remove requirement to modify control equipment and update to CAP

Date: 02/21/17

The permits in this document are issued in accordance with 567 Iowa Administrative Code Chapter 22, and are issued subject to the terms and conditions contained in this document. Issuance of the permits in this document shall not relieve the owner or operator of the responsibility to comply fully with applicable provisions of the State Implementation Plan (SIP), and any other requirements of local, state, and federal law. If any permit contained in this document is modified, superseded, expires, or for any other reason changes or ceases to exist, the status of that permit shall not affect the validity or enforceability of any other permit contained in this document.

Under the Direction of the Director of the
Department of Natural Resources

List of Emission Units, Control Equipment, Emission Points, and Permits

EP#	EU#	Emission Unit Description	CE#	Control Equipment Description	Permit #	Stack Testing
132.1 (East Stack)	EU3111.0, EU3111.1	Maltrin # 3 Spray Dryer with Product Recovery Cyclones, Maltrin #3 Spray Dryer Direct-Fired Burner	CE3111-1	Venturi Scrubber	80-A-149-S6	Yes
132.2 (West Stack)			CE3111-2	Venturi Scrubber	80-A-150-S6	Yes

PERMIT CONDITIONS

1. Emission Limits

The owner or operator is required to report all emissions as required by law, regardless of whether a specific emission limit has been established in any permit contained in this "Collection of Air Permits".

A. The following combined emission limits shall not be exceeded for the following emission points:

EPs	Pollutant	lb/hr[1]	tons/yr[2]	Other Limits	Reference/Basis
EP131.1, EP132.2	Sulfur Dioxide (SO_2)	0.011[3,4]	NA	NA	RACT, 23.3(3)"e"

1. The emission limit is expressed as the average of three (3) runs.
2. The emission limit is based on a twelve (12) month rolling total.
3. The SO_2 limit is established to address the nonattainment designation for a portion of Muscatine County published in the Federal Register (78 FR 47191) on August 5, 2013. The nonattainment designation is for the 1-hour SO_2 primary national ambient air quality standard promulgated by EPA in 2010 (75 FR 35519, June 22, 2010).
4. Combined emission limit for EP132.1 and EP132.2.

B. The following emission limits shall not be exceeded per emission point:

EP	Pollutant	lb/hr[1]	tons/yr[2]	Other Limits	Reference/Basis
132.1, 132.2	Particulate Matter (PM) – State	2.40[3]	NA	0.1 gr/dscf	567 IAC 23.4(7)
	Particulate Matter (PM) – State	NA	NA	0.03 gr/scf	567 IAC 31.20(1)"d", LAER
	PM_{10}	2.40[4]	NA	NA	NAAQS
	$PM_{2.5}$	0.90[5]	NA	NA	NAAQS
	Opacity	NA	NA	40%[6,7]	23.3(2)"d"
	Sulfur Dioxide (SO_2)	NA	NA	*500 ppm_v*	*567 IAC 23.3(3)"e"*

1. The emission limit is expressed as the average of three (3) runs.
2. The emission limit is a twelve (12) month rolling total.
3. Requested limits restrict potential PM emissions.
4. The limit for PM_{10} emissions is established to correspond to the emission rate used in the dispersion modeling required by the consent decree entered into between the State of Iowa and Grain Processing Corporation [Law No. CVCV016788, Iowa District Court in and for Muscatine County (July 17, 2006)].
5. The limit for $PM_{2.5}$ emissions is established to address the "Finding of Substantial Inadequacy of Implementation Plan; Call for Iowa SIP Revision" for $PM_{2.5}$ published in the Federal Register (76 FR 9706) on February 22, 2011.
6. The emission limit is a six (6) minute average.
7. An exceedance of the indicator opacity of "No Visible Emissions" will require the owner or operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the Department may require additional proof to demonstrate compliance (e.g., stack testing).

2. Compliance Demonstration(s)

Compliance Demonstration Table

EP	Pollutant	Compliance Methodology	Frequency	Test Run Time	Test Method
EP131.1, EP132.2	PM – State	Performance Testing	Once Every 3 Calendar Years[1]	1 hour	40 CFR 60, Appendix A, Method 5 40 CFR 51 Appendix M Method 202
	PM_{10}[2]	Performance Testing	Once Every 3 Calendar Years[1]	1 hour	40 CFR 51, Appendix M, 201A with 202
	$PM_{2.5}$[2,3]	Performance Testing	Once Every 3 Calendar Years[1]	1 hour	40 CFR 51, Appendix M, 201A with 202
	Opacity	None	NA	1 hour	40 CFR 60, Appendix A, Method 9
	SO_2	None	NA	1 hour	40 CFR 60, Appendix A, Method 6C

[1] Performance testing for PM, PM_{10}, and $PM_{2.5}$ shall be conducted once every 3 calendar years. After completion of three consecutive performance tests that demonstrate compliance with the PM, PM_{10}, and $PM_{2.5}$ emission limits in condition 1, the owner or operator may request to modify the performance testing frequency for PM, PM_{10}, and $PM_{2.5}$.

[2] It is acceptable to test for PM and to assume that all PM emissions are PM_{10} emissions.

[3] If performance testing using methods specified in 40 CFR Part 51, Appendix M, 201A with 202 are not performed due to high moisture content (stack saturation), the owner or operator shall demonstrate compliance with the $PM_{2.5}$ limit as specified in condition 1 by using methods specified in 40 CFR Part 60, Appendix A, Method 5 and 40 CFR Part 51, Appendix M, Method 202. Using Method 5, the *filterable $PM_{2.5}$ fraction shall be determined by conducting internal particle sizing of the dried maltodextrin product (immediately* following the dryer) to determine the $PM_{2.5}$ fraction of the measured total filterable particulate. The entire condensable fraction, measured by using Method 202, shall be considered $PM_{2.5}$.

2. Compliance Demonstration(s) (continued)

For each Emission Point listed in the "Compliance Demonstration Table", initial stack test was completed on 08/02/16. Additional stack testing is required within 3 calendar years from the initial stack test.

If any additional stack testing beyond an initial test (i.e. quarterly, semi-annual, annual, etc.) is required in "Compliance Demonstration Table," the owner or the owner's authorized agent shall demonstrate compliance with the emission limitations contained in condition 1 as specified in the "Compliance Demonstration Table." See Conditions 12.A.(4) and 12.B.(5) for notification and reporting requirements.

If stack testing is required, the owner or the owner's authorized agent shall use the test method and run time listed in the "Compliance Demonstration Table" unless another testing methodology is approved by the Department prior to testing.

Each emissions compliance test must be approved by the Department. Unless otherwise specified by the Department, each test shall consist of three (3) separate runs. The arithmetic mean of three (3) acceptable test runs shall apply for compliance, unless otherwise indicated by the Department.

Per 567 IAC 25.1(7)"a", at the Department's request, a pretest meeting shall be held not later than fifteen (15) days before the owner or operator conducts the compliance demonstration. A testing protocol shall be submitted to the Department no later than fifteen (15) days before the owner or operator conducts the compliance demonstration. Representatives from the Department shall attend this meeting, along with the owner and the testing firm, if any. It shall be the responsibility of the owner to coordinate and schedule the pretest meeting. A representative of the Department shall be allowed to witness the test(s). The Department shall reserve the right to impose additional, different, or more detailed testing requirements.

The owner shall be responsible for the installation and maintenance of test ports. The unit(s) being sampled shall be operated in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which this unit(s) will be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the Department that this unit(s) has been physically altered so that capacity cannot be exceeded, or the Department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the Department to determine whether this unit(s) is in compliance.

3. Emission Point Characteristics

This emission points shall conform to the specifications listed below:

EP ID	Stack Height, Feet	Discharge Style	Stack Opening, inches	Stack Temperature, °F	Exhaust Flowrate, SCFM
132.1	150	Vertical Unobstructed	42 inch Diameter	125	23,000
132.2	150	Vertical Unobstructed	42 inch Diameter	125	24,950

The temperature and flowrate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point characteristics above are different than the values stated, the owner or operator shall submit a request either by electronic mail or written correspondence to the Department within thirty (30) days of the discovery to determine if a permit amendment is required, or submit a permit application requesting to amend the permit.

4. Federal Standards

A. New Source Performance Standards (NSPS):

This emission unit is not subject to any NSPS subparts at this time as there are no applicable subparts for its source category.

B. National Emission Standards for Hazardous Air Pollutants (NESHAP):

This emission unit is not subject to any NESHAP subparts at this time as there are no applicable subparts for its source category.

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5. Operating Requirements and Associated Recordkeeping

Unless specified by a federal regulation, all records as required by these permits shall be kept on-site for a minimum of two (2) years and shall be available for inspection by the Department. Records shall be legible and maintained in an orderly manner. The operating requirements and associated recordkeeping requirements for these permits shall be:

A. Within 90-days after permit issuance, the owner or operator shall install, calibrate and operate equipment to monitor differential pressure drop across Venturi Scrubber (CE3111-1) and Venturi Scrubber (CE3111-2) as specified in conditions 5C and 5E.

   i. *The owner or operator shall maintain a record of installation date and operation commencement date of* equipment to monitor differential pressure drop across Venturi Scrubber (CE3111-1) and Venturi Scrubber (CE3111-2).

B. The total flowrate of the Venturi Scrubber (CE3111-1) liquor shall be maintained at or above 148 gallons per minute.

   i. The owner or operator shall properly operate and maintain equipment to monitor the total liquor flow rate to Venturi Scrubber (CE3111-1). The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

   ii. *The owner or operator shall collect and record the total liquor flow rate to Venturi Scrubber (CE3111-1), in* gallons per minute, at least once per day. If the liquor flow rate to Venturi Scrubber (CE3111-1) falls below the value specified in Condition 5A, the owner or operator shall investigate Venturi Scrubber (CE3111-1) *and make corrections to it. The owner or operator shall maintain a record of all corrective actions taken.* This requirement shall not apply on the days that the Venturi Scrubber (CE3111-1) is not in operation.

C. The differential pressure drop across the Venturi Scrubber (CE3111-1) shall be maintained between 6 and 17 inches of water column.

   i. The owner or operator shall properly operate and maintain equipment to monitor differential pressure drop across the Impingement Venturi Scrubber (CE3111-1). The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

   ii. The owner or operator shall collect and record the pressure drop across Venturi Scrubber (CE3111-1), in inches of water, at least once per day. If the pressure drop across Venturi Scrubber (CE3111-1) falls outside *the range specified in Condition 5 B., the owner or operator shall investigate Venturi Scrubber (CE3111-1)* and make corrections to it. The owner or operator shall maintain a record of all corrective actions taken. This requirement shall not apply on the days that Venturi Scrubber (CE3111-1) is not in operation.

5. Operating Requirements and Associated Recordkeeping (continued)

D. The total flowrate of the Venturi Scrubber (CE3111-2) liquor shall be maintained at or above 154 gallons per minute.

iii. The owner or operator shall properly operate and maintain equipment to monitor the total liquor flow rate to Venturi Scrubber (CE3111-2). The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

iv. The owner or operator shall collect and record the total liquor flow rate to Venturi Scrubber (CE3111-2), in gallons per minute, at least once per day. If the liquor flow rate to Venturi Scrubber (CE3111-2) falls below the value specified in Condition 5C, the owner or operator shall investigate Venturi Scrubber (CE3111-2) and make corrections to it. The owner or operator shall maintain a record of all corrective actions taken. This requirement shall not apply on the days that the Venturi Scrubber (CE3111-2) is not in operation.

E. The differential pressure drop across the Venturi Scrubber (CE3111-2) shall be maintained between 6 and 17 inches of water column.

iii. The owner or operator shall properly operate and maintain equipment to monitor differential pressure drop across the Impingement Venturi Scrubber (CE3111-2). The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals or per written facility specific operation and maintenance plan.

iv. The owner or operator shall collect and record the pressure drop across Venturi Scrubber (CE3111-2), in inches of water, at least once per day. If the pressure drop across Venturi Scrubber (CE3111-2) falls outside the range specified in Condition 5D, the owner or operator shall investigate Venturi Scrubber (CE3111-2) and make corrections to it. The owner or operator shall maintain a record of all corrective actions taken. This requirement shall not apply on the days that Venturi Scrubber (CE3111-2) is not in operation.

F. The owner or operator shall develop an operating and maintenance plan for Venturi Scrubber (CE3111-1) and Venturi Scrubber (CE3111-2), including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

i. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Venturi Scrubber (CE3111-1) and the monitoring devices.

ii. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of Venturi Scrubber (CE3111-2) and the monitoring devices.

G. The owner or operator shall maintain Product Recovery Cyclones in manner to ensure proper operation.

i. The owner or operator shall maintain a record of all inspections and maintenance and any action resulting from the inspection and maintenance of the Product Recovery Cyclones.

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6. Continuous Emission Monitoring

Continuous emission monitoring is not required by these permits at this time.

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7. Department Review

These permits are issued under the authority of 567 Iowa Administrative Code (IAC) 22.3. The proposed equipment has been evaluated for conformance with Iowa Code Chapter 455B; 567 IAC Chapters 20 – 35; and 40 Code of Federal Regulations (CFR) Parts 51, 52, 60, 61, and 63 and has the potential to comply. These permits are issued based on information submitted by the applicant. Any misinformation, false statements or misrepresentations by the applicant or by the applicant's representative(s) shall cause the affected permit or permits to be void.

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. The Department assumes no liability, directly or indirectly, for any loss due to damage to persons or property caused by, resulting from, or arising out of the design, installation, maintenance or operation of the proposed equipment.

8. Owner and Operator Responsibility

These permits are for the construction and operation of specific emission unit(s), control equipment, and emission point(s) as described in these permits and in the applications for these permits. The permit holder, owner, and operator of the facility shall assure that the installation of the equipment listed in these permits conform to the design in the application (i.e. type, maximum rated capacity, etc.). No person shall construct, install, reconstruct or alter any of the emission unit(s), or emission point(s), or the associated control equipment without the required amended permit(s).

Any owner or operator of the specified emission unit(s), emission point(s), or associated control equipment, including any person who becomes an owner or operator subsequent to the issuance date of the affected permit(s), is responsible for assuring that the installation, operation, and maintenance of the equipment listed in the permit(s) is in compliance with the provisions of the permit(s) and all other applicable requirements and that adequate operation and maintenance is provided to ensure that no condition of air pollution is created.

9. Transferability

Unless the equipment is portable, these permit(s) are not transferable from one location to another or from one piece of equipment to another. See Condition 12.A.(2) for notification requirements for relocating portable equipment (567 IAC 22.3(3)"f").

10. Construction

A. General Requirements:
It is the owner's responsibility to ensure that construction conforms to the final plans and specifications as submitted.

In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. If a proposed project is not timely completed, the owner or operator shall seek a permit amendment in order to revert back to the most recent previous version of the permit. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

The permit or amendment shall become void if any one of the following conditions occurs:
(1) the construction or implementation of the proposed project, as it affects each emission point permitted herein, is not initiated within eighteen (18) months after the permit issuance date; or
(2) the construction or implementation of the proposed project, as it affects each emission point permitted herein, is not completed within thirty-six (36) months after the permit issuance date; or
(3) the construction or implementation of the proposed project, as it affects each emission point permitted herein, is not completed within a time period specified elsewhere in the permit.

B. Changes to Plans and Specifications:
The owner or operator shall amend the permit or amendment prior to startup of the equipment if:
(1) Any changes are made to the final plans and specifications submitted for the proposed project; or
(2) The permit becomes void.

Changes to the final plans and specification shall include changes to plans and specifications for permitted equipment and control equipment and the specified operation thereof.

10. Construction (continued)

C. Amended Permits:
The owner or operator may continue to act under the provisions of the previous permit for the affected emission unit(s) and emission point, together with any previous amendment to the permit, until one of the following conditions occurs:
(1) The proposed project authorized by this amendment is completed as it affects the emission unit(s) and emission point permitted herein; or
(2) This current amendment becomes void.

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11. Excess Emissions

Per 567 IAC 24.1(1), excess emissions during a period of startup, shutdown, or cleaning of control equipment are not a violation of the emission standard if it is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions except when another regulation applicable to the unit or process provides otherwise. Cleaning of control equipment, which does not require the shutdown of process equipment, shall be limited to one (1) six-minute period per one (1) hour period.

An incident of excess emissions other than the above is a violation and may be subject to criminal penalties according to Iowa Code 455B.146A. If excess emissions are occurring, either the control equipment causing the excess shall be repaired in an expeditious manner, or the process generating the emissions shall be shutdown within a reasonable period of time, as specified in 567 IAC 24.1.

An incident of excess emissions shall be orally reported by telephone, electronic mail or in person to the appropriate field office within eight (8) hours of, or at the start of, the first working day following the onset of the incident (See Permit Condition 12.B.1). A written report of an incident of excess emissions shall be submitted as a follow-up to all required initial reports within seven (7) days of the onset of the upset condition (See Permit Condition 12.B.2).

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12. Notification, Reporting, and Recordkeeping

These requirements shall apply to each permit included in this "Collection of Air Permits."

A. The owner or operator shall furnish the Department the following written notifications:
(1) Per 567 IAC 22.3(3)"b":
(a) The date construction, installation, or alteration is initiated postmarked within thirty (30) days following initiation of construction, installation, or alteration.
(b) The actual date of startup, postmarked within fifteen (15) days following the start of operation.
(2) Per 567 IAC 22.3(3)"f," when portable equipment for which a permit has been issued is to be transferred from one location to another, the Department shall be notified:
(a) At least fourteen (14) days before equipment relocation if the equipment will be located in a nonattainment area for the National Ambient Air Quality Standards (NAAQS) or a maintenance area for the NAAQS.
(b) At least seven (7) days before equipment relocation.
(3) Per 567 IAC 22.3(8), a new owner shall notify the Department of the transfer of equipment ownership within thirty (30) days of the occurrence. The notification shall include the following information:
- The date of ownership change; the name, address, and telephone number of the responsible official, the contact person, and the owner of the equipment both before and after the ownership change; and the construction permit number(s) of the equipment changing ownership.

(4) Unless specified per a federal regulation, the owner or the owner's authorized agent shall notify the Department in writing not less than thirty (30) days before a required test or performance evaluation of a continuous emission monitor [567 IAC 25.1(7)]. The notification shall include:
- The time; the place; the name of the person who will conduct the tests; and other information as required by the Department.

If the owner or operator does not provide timely notice to the Department, the Department shall not consider the test results or performance evaluation results to be a valid demonstration of compliance with the applicable rules or permit conditions. Upon written request, the Department may allow a notification period of less than thirty (30) days.

B. The owner or operator shall furnish the Department with the following reports:
   (1) Per 567 IAC 24.1(2), an incident of excess emissions as defined in 567 IAC 20.2 shall be reported within eight (8) hours or at the start of the first working day following the onset of the incident. The report may be made by electronic mail, in person or by telephone.
   (2) Per 567 IAC 24.1(3), a written report of an incident of excess emissions as defined in 567 IAC 20.2 shall be submitted as a follow-up to all required initial reports to the Department within seven (7) days of the onset of the upset condition.
   (3) Operation of this emission unit(s) or control equipment outside of those operating parameters specified in Permit Condition 5 in accordance to the schedule set forth in 567 IAC 24.1.
   (4) Per 567 IAC 25.1(6), the owner or operator of any facility required to install a continuous monitoring system or systems shall provide quarterly reports to the Director, no later than thirty (30) calendar days following the end of the calendar quarter, on forms provided by the Director.
   (5) Per 567 IAC 25.1(7), a written compliance demonstration report for each compliance testing event, whether successful or not, postmarked not later than six (6) weeks after the completion of the test period unless other regulations provide for other notification requirements. In that case, the more stringent reporting requirement shall be met.

C. All data, records, reports, documentation, construction plans, and calculations required under each permit in this "Collection of Air Permits" shall be available at the plant during normal business hours for inspection and copying by federal, state, or local air pollution regulatory agencies and their authorized representatives, for a minimum of two (2) years from the date of recording unless otherwise required by another applicable law (i.e. NSPS, NESHAP, etc.)

D. Information regarding any permit in this "Collection of Air Permits" shall be sent to the attention of the following individuals based on the type of information being submitted: change in ownership (Air Quality Bureau Records Center), permit correspondence (Construction Permit Supervisor), stack testing correspondence (Stack Test Coordinator), and reports and notifications (Compliance Unit Supervisor and DNR Field Office). The addresses are:

Air Quality Bureau Iowa Department of Natural Resources 7900 Hickman Road, Suite 1 Windsor Heights, IA 50324 Telephone: (515) 725-9549 Fax: (515) 725-9502	DNR Field Office 6 1023 West Madison Washington, IA 52353 Telephone: (319) 653-2135 Fax: (319) 653-2856

13. Appeal Rights

All conditions within an original permit may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. Amended conditions within a permit amendment may be appealed, subject to the appeal rights set forth in 561 IAC Chapter 7. In permit amendments, all provisions of the original permit remain in full force and effect unless they are specifically changed by the permit amendment. The previous, unchanged permit provisions are included in the amendment for your convenience only and are unappealable.

14. Permit History

Project No.	Permit No.	Description	Date
80-210	80-A-149 80-A-150	Original Permit	09/24/80
----------	80-A-149-S1 80-A-150-S1	Amended PM LAER Limit based on compliance testing	02/14/84
01-467	80-A-149-S2 80-A-150-S2	Increased airflow through the dryer by about 10% (as-built)	10/15/02
03-072	80-A-149-S3 80-A-150-S3	Amended PM & PM_{10} allowables	02/07/02
03-113	80-A-149-S4 80-A-150-S4	Amended PM_{10} allowable	06/24/03
15-050	80-A-149-S5 80-A-150-S5	Increase Stack Height, Modify Scrubber, Decrease PM_{10} Emission Limit and Add $PM_{2.5}$ and SO_2 Emission Limits.	12/10/15

END OF PERMIT