



# **Air Quality Permitting Statement of Basis**

**October 19, 2005**

**Permit to Construct No. P-040526**

**GModelo Agriculture, Inc.  
Idaho Falls, ID**

**Facility ID No. 019-00050**

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**FINAL PERMIT**

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## Acronyms, Units, and Chemical Nomenclatures

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
HAPs	Hazardous Air Pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
T/yr	tons per year
µg/m <sup>3</sup>	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

## 1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, for issuing permits to construct.

## 2. FACILITY DESCRIPTION

The GModelo Agriculture (GMA) malt plant is located in Bonneville County, in the city of Idaho Falls at 5005 South 15th West. The plant encompasses approximately 26 acres of a 150-acre property owned by GModelo Agriculture, Inc. The GMA malt plant produces barley malt from barley grains.

## 3. FACILITY / AREA CLASSIFICATION

The GMA facility is classified as SM for AIRS purposes because actual and potential emissions are limited below 100 tons per year of any criteria air pollutant and less than 25 T/yr of aggregate HAPs or less than 10 T/yr of any single HAP. This facility is a designated facility as defined in IDAPA 58.01.01.006.27 because it contains a combination of fossil fuel-fired boilers of more than 250 million Btu's per hour. The general nature of business at this facility is barley malting (SIC code 2083).

The GMA facility is located in Idaho Falls, Idaho, which is classified as attainment or unclassifiable for all federal and state criteria pollutants. There are no Class I areas within 10 kilometers of the facility. The facility is in Bonneville county, AQCR 61, UTM zone 12.

This project does not affect the AIRS information developed in the original PTC for this facility.

## 4. APPLICATION SCOPE

GMA has applied for a modification to PTC No. P-030510, issued February 23, 2004. GMA requests that the language in Permit Condition 2.4 be changed to reflect an enforceable limit on "phosphine," which is a TAP, instead of "Phostoxin," which is a brand name for the tablets and/or pellets containing the phosphine fumigant. GMA also requested that the performance testing requirements on the malt drying kiln vents, K-1 and K-2, be removed from the permit due to technical difficulties of conducting EPA reference method testing on the kiln vents. None of the proposed changes estimated emissions.

### 4.1 *Application Chronology*

December 14, 2004	DEQ received a PTC application from GMA
February 23, 2005	The application was declared complete
April 18, 2005	DEQ received an email from GMA requesting a facility draft PTC.
August 18, 2005	DEQ received an applicability determination from EPA Region 10 regarding performance testing of the malt drying kilns at GMA.

## 5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC action.

### 5.1 *Equipment Listing*

Process equipment and associated air pollution control device(s) is listed in Table 5.1 and has not changed from the list that was analyzed for PTC No. P-030510, that was issued February 23, 2004 .

**Table 5.1 PROCESS EQUIPMENT.**

Emission Unit	Air Pollution Control Device
Barley receiving pit, drag conveyer, and elevator	Baghouse 5101
Barley pre-cleaning system	Baghouse 5102
Barley grading machines	Baghouse 5103
Conveyance to barley storage silos	Baghouse 5103
Conveyance to waste products storage bin	Baghouse 5103
Byproducts loadout	Baghouse 5104
Kiln Drying (6 drying kilns)	None -- vented through 2 roof vents on Malt Building
Conveyance to malt-in-culms storage	Baghouse 5105
Malt-in-culms storage	Baghouse 5105
Conveyance to deculmer systems	Baghouse 5106
Deculmers	Baghouse 5106
Destoners	Baghouse 5107
Final cleaning	Baghouse 5108
Rail and truck loading	Baghouse 5109

## 5.2 Emissions Inventory

Table 5.2 contains the facility-wide emission inventory contained in the statement of basis for issuance, of PTC No. P-030510, that was issued February 23, 2004 and has not changed.

**Table 5.2. FACILITY WIDE EMISSIONS**

Pollutant	Grain & Malt Handling (T/yr)		Kiln (T/yr)		Boilers (T/yr)		Emergency Fire Pump Engine (T/yr)		Total Emissions (T/yr)	
	PTE <sup>1</sup>	Proposed <sup>2</sup>	PTE <sup>1</sup>	Proposed <sup>2</sup>	PTE <sup>1</sup>	Proposed <sup>2</sup>	PTE <sup>1</sup>	Proposed <sup>2</sup>	PTE <sup>1</sup>	Proposed <sup>2</sup>
PM	86,680	34.7	24.6	22.9	9.98	7.49	0.2	0.01	86,715	65.1
PM <sub>10</sub>	86,680	34.7	22.8	21.3	9.98	7.49	0.2	0.01	86,715	65.1
NO <sub>x</sub>					52.6	39.4	7.73	0.44	60.3	39.8
SO <sub>2</sub>					0.8	0.6	0.32	0.02	1.12	0.62
CO					110.4	82.8	0.63	0.04	110.6	82.84
VOCs					7.2	5.42	0.46	0.03	7.66	5.45
Lead					7E-4	5E-4	Neg. <sup>3</sup>	Neg. <sup>3</sup>	7E-4	5E-4

<sup>1</sup>. Potential to emit assuming no air pollution control equipment is used and no restrictions on operations.

<sup>2</sup>. Requested emission rates considering controls and restrictions on operations.

<sup>3</sup>. Negligible

## 5.3 Modeling

No modeling was submitted by the permittee for this permit project. Modeling is not required because estimated emissions rates do not change.

## 5.4 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201 ..... Permit to Construct Required

The application requests the correction of the phosphine emission limit and the removal of the PM and PM<sub>10</sub> performance testing requirements for the malt drying kilns.

## **Phosphine Usage**

The application requests that Permit Condition 2.6 be altered to reflect phosphine usage as the appropriate limitation, rather than Phostoxin. Phostoxin is the trade name of the tablets and pellets that contain phosphine. Permit Condition 2.6 contains the operating requirement for phosphine. The emissions limit for phosphine is specified in Permit Condition 2.4 as follows:

“The total phosphine emissions from all barley and malt silos shall not exceed 11.3 lb/day.”

Based upon review of these permit conditions and the phosphine emission rates used for each of the storage silos in the modeling demonstration, Permit Condition 2.6 was altered to reflect “phosphine” wherever “Phostoxin” was previously listed, as requested.

40 CFR 60.300 ..... Standards of Performance for Grain Elevators

The application requests that the PM and PM<sub>10</sub> performance testing requirements specified by Permit Condition 3.7 for the malt drying kilns be removed from PTC No. P-030510. There was confusion regarding whether the performance tests required by Permit Condition 3.7 were NSPS required tests or if they were state only reasonable permit conditions (i.e. not required by NSPS). EPA Region 10 clarified in an August 18, 2005 letter to GMA that the malt drying kilns are not subject to the emissions standards and testing requirements of 40 CFR 60—Subpart DD. In short, malted barley is not considered grain for this NSPS. This determination is included in Appendix A of this statement of basis. The particulate matter emissions testing required by Permit Condition 3.7 (PTC No. P-030510) is therefore a state only reasonable permit condition and is not required by the NSPS.

40 CFR 60.300 does not apply to any emission unit that handles, stores or processes only malted barley. The permit has been rewritten to clarify this EPA determination.

IDAPA 58.01.01.211.01..... Conditions for Permits to Construct—Reasonable Conditions

## **Malt Kiln PM-10 Testing**

DEQ has found that the particulate matter emissions testing requirements on the malt drying kilns (existing Permit Condition 3.7) continues to be a reasonable permit condition (Permit Condition 2.15 in the new permit) for the following reasons:

- 1) PM-10 ambient impacts from the facility, plus background concentrations, are estimated to be 136 micrograms per cubic meter 24 hour average. Emissions in excess of permitted values may cause an exceedance of the ambient standards.
- 2) Particulate matter emissions estimates from the malt drying kilns are based on an EPA, AP-42 emission factor that is rated E (or poor). Therefore, there is uncertainty whether the emission factor accurately reflects what actual emission will be. Consequently it is reasonable to require a source test to confirm what actual emissions rates are.
- 3) DEQ has required similar source testing on other malt drying kilns<sup>1</sup>.
- 4) GMA did not demonstrate a technical basis for why source testing can not be conducted on the kilns.

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<sup>1</sup> PTC 0260-0025, Busch Agricultural Resources, April 10, 1989, &h PTC 0260-0025, Bush Agricultural Resources, December 29, 1993.

## Utility Boiler Compliance Testing and Emissions Limits

DEQ reviewed the compliance testing requirements for the utility boilers and determined that modifications to the permit conditions containing the emissions limits, the CO emission standard, and the performance testing requirements was necessary. The following changes were made:

- The numbering of permit conditions in the utility boilers section was altered due to merging of the drying kiln and grain handling and storage sections of the permit.
- Language clarifying that the annual emission limits in Permit Condition 4.3 (February 23, 2004 permit) are applied to all four boilers in aggregate was included in this proposed permit at Section 3.3.
- The CO emission standard of 84 lb/MMscf of natural gas contained in Permit Condition 4.4 (February 23, 2004 permit) was deleted because it was redundant. The permit had both pound per day emissions limits and lbs/MMscf emission limits. The pound per day emissions limit is based on an emission factor of 84 pounds of CO per million standard cubic feet.
- Daily emissions limits aggregated for all four boilers were changed to hourly limits for the individual boilers so that emissions testing results for the boilers could be compared to an emission limitation.
- Section 3.12.1 of the permit now contains the NSPS fuel monitoring requirements.

IDAPA 58.01.01.300.....Procedures and Requirements for Tier I Operating Permits

This is not a major Tier I facility because the potential to emit for criteria air pollutants is below 100 tons per year and is below 10 tons per year for any individual HAP or 25 tons per year HAPs in aggregate.

## 5.5 Permit Conditions Review

This section describes only those permit conditions that have been revised, modified or deleted as a result of this permit action.

### GENERAL INFORMATION

#### Original PTC

*Facility Contact: Luis Miguel Alvarez, Vice President*

*Facility Contact and Responsible Official Telephone Numbers: 208-403-6383*

*Facility Mailing Address: 151 North Ridge Avenue, Suite 120, Idaho Falls, ID 83402.*

The cover page of the PTC now includes the following information:

*Facility Contact: Victor Villanueva, Environmental Safety & Health*

*Facility Contact and Responsible Official Telephone Numbers: 208-552-5540*

*Facility Mailing Address: 5005 S. 15<sup>th</sup> West, Idaho Falls, ID 83404.*

The facility contact person, contact person phone number, and mailing address were changed to reflect the information listed in the standard PTC application form.

### PHOSPHINE USAGE

Permit Condition 2.6 originally read:

**2.6 Phostoxin Usage Limits**

*The maximum daily usage of Phostoxin shall not exceed 11.3 pounds per day based on a combination of tablets and pellets used per day. Phostoxin shall only be used inside barley or malt storage silos.*

*Permit Condition 2.6 was renumbered due to changes to other permit conditions, and now is Permit Condition 2.8, which reads:*

**2.8 Phosphine Usage Limits**

*The maximum daily usage of phosphine shall not exceed 11.3 pounds per day based on a combination of tablets and pellets used per day. Phosphine shall only be used inside barley or malt storage silos.*

The term phostoxin was changed to phosphine, as requested by the permittee, to correct the phosphine emission limit.

**MALT DRYING KILNS AND GRAIN ELEVATOR NSPS SUBPART DD**

Opacity and particulate matter grain loading emission standards for the facility's grain handling operations were addressed by Permit Condition 2.5 in PTC No. P-030510, issued February 23, 2004, which read:

**2.5 NSPS Standard for Particulate Matter**

*As required by 40 CFR 60, Subpart DD, particulate matter emissions from the truck unloading station, truck loading station, railcar loading station, railcar unloading station, and all grain handling operations shall not exceed any of the following:*

- (1) Contain particulate matter in excess of 0.01 gr/dscf (0.023 g/dscm).*
- (2) Exhibit greater than 0% opacity.*

*As required by 40 CFR 60, Subpart DD, fugitive emissions from:*

- (1) Any truck unloading station, railcar unloading station, or railcar loading station shall not exhibit greater than 5% opacity.*
- (2) Any grain handling operation shall not exhibit greater than 0% opacity.*
- (3) Any truck loading station shall not exhibit greater than 10% opacity.*

Permit Condition 3.4, in PTC No. P-030510, issued February 23, 2004, contained the following NSPS opacity limit for the malt drying kiln vents.

**3.4 NSPS Opacity Limit**

*As required by 40 CFR 60, Subpart DD, on and after the 60th day of achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, emissions from the kiln vents, or any other functionally equivalent opening associated with the malt drying process, shall not exceed 0% opacity.*

Permit Conditions 2.5 and 3.4 were combined and altered to make clear that the NSPS does not apply to emissions units that handle or process only malted barley. Conditions 2.5 and 3.4 now read:

**2.5 NSPS Standards for Particulate Matter (40 CFR 60.302)**

*Affected facilities or emissions units under 40 CFR 60.300 are each truck, barge, ship, or railcar unloading or loading station; each grain dryer; and all grain handling operations. 40 CFR 60.300 does not apply to emissions units handling only malted barley because it is not considered grain.*

*In accordance with 40 CFR 60.302.a, particulate matter emissions from any column or rack dryer shall not exceed greater than 0% opacity.*

*In accordance with 40 CFR 60.302.b, emissions from truck unloading stations, truck loading stations, railcar loading stations, railcar unloading stations and all grain handling operations shall not exceed the following:*

- 1) 0.01 grains of particulate matter per dry standard cubic foot.*
- 2) 0 percent opacity.*

*In accordance 40 CFR 60.302.c the following standards shall apply:*

- (1) Any individual truck unloading station, railcar unloading station, or railcar loading station shall not exhibit greater than 5% opacity.*
- (2) Any grain handling operation shall not exhibit greater than 0% opacity.*
- (3) Any truck loading station shall not exhibit greater than 10% opacity..*

Section 3 of PTC No. P-030510, issued February 23, 2004, covering the malt production processes, was incorporated into Section 2 of the permit. Section 2 of the PTC now contains the grain and malt handling and storage processes and the malt production processes.

Permit Conditions 2.6 and 2.17 were added to the PTC.

**2.6 Kiln Vent Opacity Limit (IDAPA 58.01.01.625)**

*Emissions from the kiln vents, or any other functionally equivalent opening associated with the malt drying process, shall comply with the following requirements:*

*Emissions from any stack, vent, or other functionally equivalent opening shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required in IDAPA 58.01.01.625. Opacity shall be determined using the procedures contained in IDAPA 58.01.01.625. Compliance with this limitation shall be determined using the methods and procedures contained in Permit Condition 2.17.*

The compliance demonstration for the state opacity limit is contained in Permit Condition 2.17, which reads:

## **2.17 Opacity Monitoring (IDAPA 58.01.01.625)**

*The permittee shall conduct a monthly inspection of each emissions point during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in its annual compliance certification and in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each monthly visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.*

### **Kiln Throughput Limit**

Permit Condition 3.6 originally read:

#### **3.6 Throughput Limits**

*The maximum hourly throughput of the drying kilns shall not exceed a total of 484 short tons of malt per 24-hour period. The maximum annual throughput of the drying kilns shall not exceed 165,000 tons per any consecutive 12-month period.*

The permit has been reorganized and renumbered and this requirement now reads:

#### **2.13 Throughput Limits**

*The maximum daily throughput of the drying kilns shall not exceed a total of 484 short tons of malt per day. The maximum annual throughput of the drying kilns shall not exceed 165,000 tons per any consecutive 12-month period.*

The language in Permit Condition 2.13 was changed from hourly to daily. The original PTC limited the malt throughput to "484 short tons per 24-hour period." This is a daily limitation rather than hourly.

### **Kiln and Grain Handling and Storage NSPS Performance Testing**

The kiln performance testing requirement in Permit Condition 3.7 of the original PTC No. P-030510, issued February 23, 2004, was a combination of NSPS and State-only enforceable testing. In this permitting action the NSPS and state-only enforceable testing requirements have been clearly separated. In short, the NSPS testing requirements are now listed in Permit Condition 2.14 and the state only testing requirements are listed in Permit Condition 2.15.

Performance testing of grain handling and storage processes, which were referred to as the baghouses in PTC No. P-030510, issued February 23, 2004, are now included in the same permit condition as the drying kilns. Testing must be conducted in accordance with NSPS requirements as applicable.

## **2.14 NSPS Performance Testing**

*Performance tests shall be conducted on each affected unit under 40 CFR 60.300 (emissions units handling or processing only malted barley are not affected) to demonstrate compliance with the particulate matter standards of 40 CFR 60.302 in accordance with 40 CFR 60.303, IDAPA 58.01.01.157 and the following:*

- *Visible emissions shall be observed during each performance test run using the methods specified by IDAPA 58.01.01.625 and EPA Reference Method 9 and 40 CFR 60.11.*
- *If testing is conducted on a baghouse, the static pressure drop across the baghouse shall be monitored and recorded during each performance test. The pressure drop shall be recorded a minimum of four times per run at evenly spaced intervals.*
- *The throughput to each process shall be recorded in pounds per hour or tons per hour during each performance test. The throughput shall be recorded a minimum of four times per run at evenly spaced intervals.*

## **PM<sub>10</sub> Compliance Testing**

A state only PM<sub>10</sub> performance test requirement remains in place for the malt drying kilns in part because particulate matter emissions estimates from the malt drying kilns are based on an EPA, AP-42 emission factor that is rated E (or poor). Therefore, there is uncertainty of the validity of the emission factor.

Condition 2.15 is listed below:

## **2.15 Malt Kiln PM<sub>10</sub> Performance Test**

*Within 60 days after achieving the maximum production rate at which the source will operate, but not later than 180 days after initial startup, the permittee shall conduct performance tests to measure PM<sub>10</sub> emissions from the kiln vents K-1 and K-2 using EPA Reference Methods 5 and 20, or DEQ approved alternative. The total PM catch (filterable and condensable) shall be considered PM<sub>10</sub> unless the permittee chooses to also conduct tests using EPA Methods 201 and 202. This initial compliance test, and any subsequent compliance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 58.01.01.157, General Provision 2 of this permit, and the following requirements:*

- *Visible emissions shall be observed during each compliance test run using the methods specified in IDAPA 58.01.01.625 and EPA Method 9.*
- *Emissions from vents K-1 and K-2 shall be tested simultaneously.*
- *The throughput of malt to the kilns shall be recorded in pounds per hour or tons per hour during each performance test.*

## **UTILITY BOILER SECTION**

### **Emission Limits**

The original PTC emission limits for the utility boilers read:

**4.3 Boiler Emissions Limits**

*The PM, PM<sub>10</sub>, NO<sub>x</sub>, and CO emissions from the B-8040, B-8045, B-8050, B-8055 in aggregate shall not exceed any corresponding emissions rates limits in Table 3.2. The ENG-1 stack shall not exceed any corresponding emissions rate limits listed in Table 5.3.*

**Table 5.3 UTILITIES OPERATIONS EMISSIONS LIMITS**

Source Description	PM		PM <sub>10</sub>		NO <sub>x</sub>		CO	
	lb/day	T/yr	lb/day	T/yr	lb/day	T/yr	lb/day	T/yr
B-8040	55	7.5	55	7.5	288	39.4	605	82.8
B-8045								
B-8050								
B-8055								
ENG-1		0.01				0.44		0.04

Daily emissions limits aggregated for all four boilers were change to hourly limits for the individual boilers so that emissions testing results for the boilers could be compared to an emission limitation.

**3.3 Boiler Emissions Limits**

*The PM, PM<sub>10</sub>, NO<sub>x</sub>, and CO emissions from the B-8040, B-8045, B-8050, B-8055 stacks shall not exceed any corresponding emissions rates limits in Table 3.2. Annual emissions limits for the boilers are aggregated. Hourly emission limits are for individual boilers. The ENG-1 stack shall not exceed any corresponding emissions rate limits listed in Table 3.2.*

**Table 3.2 UTILITIES OPERATIONS EMISSIONS LIMITS**

Source Description	PM		PM <sub>10</sub>		NO <sub>x</sub>		CO	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
B-8040	0.57	7.5	0.57	7.5	3.00	39.4	6.30	82.8
B-8045	0.57		0.57		3.00		6.30	
B-8050	0.57		0.57		3.00		6.30	
B-8055	0.57		0.57		3.00		6.30	
ENG-1		0.01				0.44		0.04

**BOILER CO EMISSION STANDARD**

Permit Condition 3.4 of the original PTC was deleted from the PTC. Deleted Permit Condition 3.4 read:

**3.4 Boiler CO Emission Standard**

*Emissions from boilers B-8040, B-8045, B-8050, and B-8055 shall not exceed 84 pounds of CO per million cubic feet of natural gas combusted.*

This permit condition was deleted because the permit had both a short term emission rate limit and an emission standard (84 pounds of CO per million cubic feet of natural gas combusted). An emission rate limit is all that is needed, therefore the emission standard was redundant and deleted.

**BOILER CO COMPLIANCE TESTING**

Permit Condition 4.12 of the original PTC required CO performance testing on two of the four boilers, and read:

#### **4.12 Performance Test**

*Within 60 days after achieving the maximum production rate at which the source will operate, but not later than 180 days after initial startup, the permittee shall conduct performance tests to measure carbon monoxide emissions from boilers B-8040 and B-8050 using EPA Reference Method 10. The compliance tests shall be used to demonstrate that the actual CO emissions from the natural gas-fired boilers are less than or equal to the emissions limits in Permit Condition 4.3. The hourly emission rate measured during the compliance tests shall be multiplied by 24 to determine compliance with the daily emissions limit. Compliance with the annual emissions limit and the CO emissions standard in Permit Condition 4.4 shall be determined by verifying through the source test that CO emissions are less than or equal to 84 lb/MMscf of natural gas combusted. These initial performance tests, and any subsequent performance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 58.01.01.157, General Provision 2 of this permit, and the following requirements:*

- *Visible emissions shall be observed during each compliance test run using the methods specified in IDAPA 58.01.01.625.*
- *The throughput of natural gas to the boilers shall be recorded in standard cubic feet per hour during each performance test.*

Permit Condition 4.12 was altered and is listed as Permit Condition 3.11 in PTC No. P-040526, and now reads:

#### **3.11 Performance Test**

*Within 60 days after achieving the maximum production rate at which the source will operate, but not later than 180 days after initial startup, the permittee shall conduct performance tests to measure carbon monoxide emissions from boilers B-8040 and B-8050 using EPA Reference Method 10. The compliance tests shall be used to demonstrate that the actual CO emissions from the natural gas-fired boilers are less than or equal to the hourly CO emissions limits in Permit Condition 3.3.*

*These initial performance tests, and any subsequent performance tests conducted to demonstrate compliance, shall be performed in accordance with IDAPA 58.01.01.157, General Provision 2 of this permit, and the following requirements:*

- *Visible emissions shall be observed during each compliance test run using the methods specified in IDAPA 58.01.01.625.*
- *The throughput of natural gas to each boiler shall be monitored, or calculated, and recorded in standard cubic feet per hour during each performance test.*

Permit Condition 4.12 of the original PTC was altered to clarify the compliance demonstration method for the utility boiler CO emissions standard and daily and annual emission limits. The permittee is now only required to demonstrate compliance with the pound per hour CO emission limits in Permit Condition 3.3 since the emissions standard (84 lb or CO per million standard cubic feet) has been removed. The testing requirement has been altered to require that the natural gas throughput be monitored, or calculated, individually for Boilers B-8040 and B-8050 during each performance test.

### **NATURAL GAS CONSUMPTION MONITORING AND RECORDKEEPING**

Monitoring and recordkeeping of natural gas consumption in the boilers for the original PTC read:

#### **4.13 Monitor Operating Parameters**

*A compilation of the most recent two years of records shall be kept onsite and shall be made available to DEQ representatives upon request. The permittee shall monitor and record the following information:*

- *The throughput of natural gas to the boilers in million cubic feet per day and million cubic feet per any consecutive 12-month period. Natural gas usage shall be monitored daily and the total usage for the previous consecutive 12-month period shall be updated monthly.*
- *The hours of operation of the emergency firewater pump in hours per month and hours per any consecutive 12-month period.*

Permit Condition 4.13 was modified to read:

#### **3.12 Monitor Operating Parameters**

*A compilation of the most recent two years of records shall be kept onsite and shall be made available to DEQ representatives upon request. The permittee shall monitor and record the following:*

##### **3.12.1 Standard NSPS Fuel Usage Monitoring and Recordkeeping**

- *In accordance with 40 CFR 60.48c(g), or EPA approved alternative, the owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day. If an EPA approved alternative is used the permittee shall send a copy of the EPA approval to DEQ.*
- *In accordance with 40 CFR 60.48c(i), or EPA approved alternative, the owner or operator of the affected facility shall maintain all records for a period of two years following the date of such record. If an EPA approved alternative is used the permittee shall send a copy of the EPA approval to DEQ.*

##### **3.12.2 Natural Gas Throughput Limitation Compliance Demonstration**

*The permittee shall use the natural gas throughput information required in Permit Condition 3.12.1 and shall record the throughput of natural gas to the boilers in million cubic feet per day and million cubic feet per any consecutive 12-month period to demonstrate compliance with Permit Condition 3.6. The total fuel usage for the previous consecutive 12-month period shall be updated and recorded monthly.*

##### **3.12.3 Emergency Firewater Pump Operating Hours**

*The hours of operation of the emergency firewater pump in hours per month and hours per any consecutive 12-month period.*

Permit Condition 3.12.1 was modified to include the standard NSPS monitoring and recordkeeping requirements for natural gas consumption by **each** of the four boilers that are subject to NSPS—Subpart DD. The NSPS requires monitoring and recordkeeping of fuel consumption for the individual boilers, not aggregated consumption. The permit is also written to allow for an EPA approved alternative monitoring.

## SUBMITTAL OF REPORTS

PTC No. 030510, issued February 23, 2004 read:

### **3.12 Reporting Procedures**

*All reports required by this permit, i.e. performance test reports, test protocols, O&M manuals, etc., shall be certified by the facility responsible official and submitted to the DEQ regional office at the following address:*

*Air Quality Permit Compliance  
Department of Environmental Quality  
Pocatello Regional Office  
444 Hospital Way, #300  
Pocatello, ID 83201*

Permit Condition 3.12 has been altered and renumbered to read:

### **2.24 Reporting Procedures**

*All reports required by this permit, i.e. performance test reports, test protocols, O&M manuals, etc., shall be certified by the facility responsible official and submitted to the DEQ regional office at the following address:*

*Air Quality Permit Compliance  
Department of Environmental Quality  
Idaho Falls Regional Office  
900 N. Skyline, Suite B  
Idaho Falls, Idaho 83402*

Reports that are required to be sent to DEQ should be sent to the Idaho Falls Regional Office. The mailing address listed in the original PTC was for the Pocatello Regional Office.

Permit condition numbering and references to other permit conditions were altered to accommodate the new permit conditions and revised formatting.

All other permit conditions remain unchanged.

## **6. PERMIT FEES**

A PTC application fee was not received with the PTC application. An application fee delinquency notice was sent to GMA on December 30, 2004. The permittee submitted the \$1000.00 application fee on January 24, 2005.

The PTC processing fee is required by IDAPA 58.01.01.225. This project required no engineering analysis and did not result in an increase in emissions; therefore, a processing fee of \$250.00 is required to issue this PTC modification. The processing fee was received on September 26, 2005.

This is not a major Tier I source. The processing fee is listed in Table 6.1.

**Table 6.1 PTC PROCESSING FEE TABLE**

<b>Emissions Inventory</b>			
<b>Pollutant</b>	<b>Annual Emissions Increase (T/yr)</b>	<b>Annual Emissions Reduction (T/yr)</b>	<b>Annual Emissions Change (T/yr)</b>
NO <sub>x</sub>	0.0	0	0.0
SO <sub>2</sub>	0.0	0	0.0
CO	0.0	0	0.0
PM <sub>10</sub>	0.0	0	0.0
VOC	0.0	0	0.0
TAPS/HAPS	0.0	0	0.0
Total:	0.0	0	0.0
Fee Due	<b>\$ 250.00</b>		

## **7. PERMIT REVIEW**

### **7.1 Regional Review of Draft Permit**

A facility draft was provided to the Idaho Falls Regional Office on April 19, 2005.

On April 21, 2005, the Idaho Falls Regional Office stated they had no comments on the draft permit package.

### **7.2 Facility Review of Draft Permit**

A draft PTC was issued to GModelo on June 24, 2005. The facility did not submit any comments on the draft permit and statement of basis.

The following changes have been made to the draft permit that the facility reviewed. The changes do not impose any new restrictions but do offer clarity and flexibility in complying with the permit.

- The NSPS requirements of Section 2.5 and 2.14 were modified to clarify that the NSPS does not apply to any emissions unit that involves only malted barely.
- The carbon monoxide source testing requirements of Section 3.11 was modified to allow the facility to calculate the amount of natural gas combusted during the source rather than having to monitor it.
- NSPS boiler fuel monitoring requirements of Section 3.12.1 were modified to include a statement that EPA approved alternative fuel monitoring is acceptable provided the EPA approved alternative is sent to DEQ.
- The performance test required to be conducted on the kilns described in Section 2.15 of the permit was modified to allow DEQ to approve an alternative to the source testing methods prescribed by the permit.

### **7.3 Public Comment**

An opportunity for public comment period on the PTC application was provided from March 15, 2005 to April 14, 2005 in accordance with IDAPA 58.01.01.209.01.c. During this time, there were no comments on the application and no requests for a public comment period on DEQ's proposed action.

## **8. RECOMMENDATION**

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend that GModelo Agriculture, Inc., be issued PTC No. P-040526. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

DAM/sd            Permit No. P-040526

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# **Appendix A**

## **EPA REGION 10 NSPS—SUBPART DD APPLICABILITY DETERMINATION FOR GRAIN ELEVATORS**

**P-040526**



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 10**  
1200 Sixth Avenue  
Seattle, WA 98101

Reply To  
Attn Of: AWT - 107

**18 AUG 2005**

Mr. Luis Miguel Alvarez  
Grupo Modelo, S.A. de C.V.  
Gmodelo Agriculture, Inc.  
5005 South 15<sup>th</sup> West  
Idaho Falls, Idaho 83402

**Re: Applicability and Kiln Performance Testing under NSPS Subpart DD Standards of Performance for Grain Elevators**

Dear Mr. Alvarez:

This determination is in response to your initial request dated April 26, 2005, which was clarified in a letter dated June 10, 2005, regarding the Grupo-Modelo Agriculture, Inc. (GMA) new malting plant facility in Idaho Falls, Idaho. GMA has requested that the Environmental Protection Agency Region 10 (EPA) concur that NSPS Subpart DD Standards of Performance for Grain Elevators (Subpart DD) applies to GMA's Idaho Falls facility, but only to the unmalted barley grain portion of the operation. EPA has concluded that Subpart DD applies to the unmalted barley grain portion of their operation but does not apply to the malting processes.

Subpart DD applies to the storage of grains (corn, wheat, sorghum, rice, rye, oats, barley, and soybeans) at a facility which has a permanent capacity to store more than 88,100 cubic meters of grain. At GMA's Idaho Falls facility the unloading, conveying, cleaning, storage, and sorting of unmalted barley comprises the grain handling portion of the operation that is subject to the specific provisions of Subpart DD. The second part of the operations at the malting plant consists of transforming the barley into malt. The barley is soaked in steeping vessels and conveyed to the germination tanks where it is allowed to sprout. This germinated material, now called green malt, is then dried in kilns. The dried product, malt, is stored and shipped.

**Applicability**

To determine applicability, the permanent storage capacity for the portion of the plant that handles barley grain is summed to determine if it meets or exceeds 88,100 cubic meters. Any reject hulls, grain fragments or dirt that are handled and stored separately, as well as malted barley and malting byproducts are not considered grain and are therefore not counted towards the applicability. The basis for this is described in more detail below. GMA will have a barley grain permanent storage capacity of 154,807 cubic meters, based on the design volume capacity of 18 concrete silos and 6 steel storage silos. Therefore, Subpart DD clearly applies to the barley grain handling and storage portion of the facility. The affected facilities or emission units under Subpart DD are each truck, barge, ship, or railcar unloading or loading station; each grain dryer; and all grain handling operations. Subpart DD does not apply to malted barley because it is not considered a grain as described further below.

The initial request from GMA questioned whether EPA would waive the performance testing on two kiln vents. Because EPA has determined that Subpart DD does not apply to processes that involve only malt, the kiln vents K-1 and K-2 are not subject to Subpart DD or furthermore, the requirement to performance test according to Subpart DD, provided that the kilns are used only to dry green malt that has been transformed from barley as has been stated.

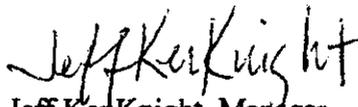
**Basis for Determination**

In previous applicability determinations (see attached determination from EPA Region 5 dated February 15, 1996) for similar operations, EPA has determined that Subpart DD does not apply to operations that involve only malt at a grain elevator for the following reasons. It has been determined that Subpart DD should not apply to operations involving malt because this industry was not investigated and, therefore, EPA did not have the necessary information to determine what the standard should be for the processes that involve malt.

Subpart DD addresses emissions resulting from the five primary functions that take place in an elevator, which are receiving, handling, cleaning, drying, and shipping. All of these are material handling processes rather than processes which effect a chemical or physical change in the product. The standards in Subpart DD are based on data that was collected only from handling processes and not processes which effect a chemical or physical change in the product. Therefore, it has been determined that only the handling of unprocessed grain is subject to the standards. Furthermore, in 40 CFR § 60.301(a) grain is defined as "corn, wheat, sorghum, rice, rye, oats, barley, and soybeans". Malt is not considered to be a grain according to the definition, given that malt has undergone a chemical transformation and is no longer barley.

Therefore, EPA concludes that Subpart DD only applies to the unmalted barley grain portion of their operation. If you have any further questions or concerns, please contact Heather Valdez of the Region 10 Office of Air, Waste and Toxics at (206) 553-6220 or [valdez.heather@epa.gov](mailto:valdez.heather@epa.gov).

Sincerely,



Jeff KenKnight, Manager  
Federal and Delegated Air Programs Unit  
Office of Air, Waste and Toxics

cc: Darrin Mehr, Idaho Department of Environmental Quality, Boise



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

(AE-17J)

FEB 15 1996

Kirby J. Kraft  
Busch Agricultural Resources, Inc.  
1010 Market Street, 20th Floor  
St. Louis, Missouri 63101

Dear Mr. Kraft:

Thank you for your letter dated January 22, 1996, requesting a determination as to whether a grain terminal elevator at your company's Manitowoc, Wisconsin, malt plant is subject to the Subpart DD of the New Source Performance Standards (NSPS). Assuming that the Manitowoc modernization project could trigger NSPS requirements as a modification or reconstruction (see 40 CFR §§ 60.14 and 60.15, respectively), it is the United States Environmental Protection Agency's (USEPA) determination that Subpart DD will apply to the grain terminal elevator.

In your letter you suggested that your proposed grain elevator system modernization project unit will not be an affected facility under Subpart DD. At issue here is whether grain terminal elevators at malt plants have been exempted by the definition for "grain terminal elevator" found at 40 CFR § 60.301(c). In your letter you quoted Jack Farmer, of USEPA, who stated in his September 8, 1978, letter to Anheuser-Busch, Incorporated, that:

"Malting plants are not covered by the standard because we did not investigate the industry and, therefore, do not have the necessary information to determine what the standard should be."

Here, Mr. Farmer was maintaining the distinction Subpart DD draws between facilities that store and handle grain, and facilities that convert grain to a grain product by means of chemical or physical changes. Emissions characteristics of processed grain, such as malt, may differ from the emissions characteristics of grain. For this reason, USEPA cannot conclude, without further study, that the emissions standards of Subpart DD are appropriately applicable to grain processing facilities such as malt plants. Nevertheless, the exemption for grain processing does not apply to grain terminal elevators.

We have consulted with USEPA's Office of Enforcement and Compliance Assurance, and Office of Air Quality Planning and Standards. USEPA chose to regulate only the grain terminal elevators at grain processors. The associated grain processing operations were excluded from coverage of this regulation. Grain terminal elevators tend to be the same regardless of industrial processes served. So, evaluating grain terminal elevators was easier than evaluating

other processes, such as malt plants, even though the malt product still has a "grain-like" appearance and is handled and stored like grain. The 1978 letter was intended, therefore, to clarify that operations such as malting would not be subject to Subpart DD. It was not intended to exempt grain terminal elevators at such plants.

USEPA's 1983 review of Subpart DD confirmed this approach. The review document, *Review of New Source Performance Standards (Preliminary Draft)*, states at p. 2-3 that "Plants, which process grain in-house, also use elevators to receive and store grain. These plants process grain into food or food intermediates for human and animal consumption. All of the same functions are performed at storage elevators owned by the processors as a country or terminal elevator." At pp 2-5 and 2-6, the review document clarifies that Subpart DD addresses emissions resulting from the five primary functions that take place in an elevator: "...receiving, handling, cleaning, drying, and shipping. All of these are materials handling processes rather than processes which effect a chemical or physical change in the product." At the close of the review document, USEPA restates, "The NSPS regulates only PM [particulate matter] emissions from grain elevators. As all the functions in grain elevators are grain handling processes, no chemical changes are made in the product." Although we have taken these quotations from a draft document, they are useful background to understanding the issues.

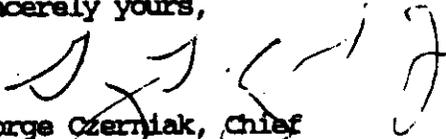
In our May 24, 1995, determination regarding the applicability of Subpart DD to soybean meal handling operations, we found that only the handling of unprocessed grain is subject to the standards. This was a case in which processing operations caused a chemical change to the product, and thus, are not subject to the standard. This is consistent with USEPA's position that the standards do not apply to grain processing operations, but only to the affected facilities identified at 40 CFR § 60.300(a). We believe that the malt industry entails the same situation.

In your letter you asked for studies or related information regarding USEPA's determination that Subpart DD applies to the malting industry. We are not aware that any evaluation specific to the malting process has been conducted by USEPA. When the standards were reviewed in 1984 (Fed. Reg., March 27, 1984), the issue of malt plants per se did not come up. Nevertheless, we are not making a determination that the malting process is subject to the standards.

Since we have determined that the grain terminal elevator may become subject to Subpart DD, we also wish to clarify what is meant by "grain." At Manitowoc, your operation handles barley, which is clearly a grain as listed at 40 CFR § 60.301(a). We do not consider "malt" to be a grain according to this definition, given that malt has undergone a chemical transformation, and is no longer barley.

If you have any further questions, please feel free to contact Jeff Gahris, of my staff, at (312) 886-6794.

Sincerely yours,

A handwritten signature in black ink, appearing to read "G. Czerniak". The signature is written in a cursive style with some loops and flourishes.

George Czerniak, Chief  
Air Enforcement and Compliance Assurance Branch

cc: Jim Crawford, Air Management Engineer  
Lake Michigan District  
Wisconsin Department of Natural Resources

Dean Packard, Supervisor  
Compliance Section  
Wisconsin Department of Natural Resources