# Statement of Basis

**Permit to Construct No. P-2009.0091**
**Project ID 61051**

**Gavilon Grain LLC, dba Peavey Company**
**Burley, Idaho**

**Facility ID 031-00038**

**Final**

**July 12, 2012**
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**Permit Writer**

The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01.et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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## ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

| | |
|---|---|
| AAC | acceptable ambient concentrations |
| AACC | acceptable ambient concentrations for carcinogens |
| acfm | actual cubic feet per minute |
| Btu | British thermal units |
| CAA | Clean Air Act |
| cfm | cubic feet per minute |
| CFR | Code of Federal Regulations |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| $CO_2e$ | $CO_2$ equivalent emissions |
| DEQ | Department of Environmental Quality |
| dscf | dry standard cubic feet |
| EL | screening emission levels |
| EPA | U.S. Environmental Protection Agency |
| GHG | greenhouse gases |
| gr | grains (1 lb = 7,000 grains) |
| HAP | hazardous air pollutants |
| hr/yr | hours per consecutive 12 calendar month period |
| IDAPA | a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act |
| lb/hr | pounds per hour |
| m | meters |
| MACT | Maximum Achievable Control Technology |
| MMBtu | million British thermal units |
| NAAQS | National Ambient Air Quality Standard |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| $NO_2$ | nitrogen dioxide |
| $NO_x$ | nitrogen oxides |
| NSPS | New Source Performance Standards |
| PC | permit condition |
| PM | particulate matter |
| $PM_{2.5}$ | particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers |
| $PM_{10}$ | particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers |
| ppm | parts per million |
| PSD | Prevention of Significant Deterioration |
| PTC | permit to construct |
| PTC/T2 | permit to construct and Tier II operating permit |
| PTE | potential to emit |
| PW | process weight rate |
| *Rules* | *Rules for the Control of Air Pollution in Idaho* |
| scf | standard cubic feet |
| SCL | significant contribution limits |
| SIP | State Implementation Plan |
| SM | synthetic minor |
| $SO_2$ | sulfur dioxide |
| $SO_x$ | sulfur oxides |
| T/day | tons per calendar day |
| T/hr | tons per hour |
| T/yr | tons per consecutive 12 calendar month period |
| T2 | Tier II operating permit |
| TAP | toxic air pollutants |

| | |
|---|---|
| U.S.C. | United States Code |
| VOC | volatile organic compounds |
| $yd^3$ | cubic yards |
| $\mu g/m^3$ | micrograms per cubic meter |

## FACILITY INFORMATION

### *Description*

The Gavilon Grain, LLC dba Peavey Company (Gavilon) facility in Burley, ID processes whole grains (corn and wheat), dried distillers grain (a byproduct of ethanol extraction), and ground corn in the manufacture of animal feed. The facility consists of six grain receiving pits, four grain distribution legs, five hammermills, sixteen conveyors, nine screw augers, fourteen storage silos, and two temporary storage piles.

Whole grain is primarily received by rail car although some may be received by truck. The grain is offloaded into below-grade pits and then edible mineral oil is applied. The application of mineral oil controls fugitive dust emissions during the handling of grain. From the receiving pits, the grain is transported via drag conveyors to one of four receiving legs and then to various handling destinations within the facility. Five hammermills, which are equipped with cyclones and baghouses for controlling dust emissions, are used for grinding the grain. The processed grain is stored in silos until it is ready for final shipment.

The facility does not operate any fuel-fired combustion devices for heating, powering electrical generators, or powering emergency fire pumps (i.e. boilers or IC engines). Therefore, only $PM_{10}$ emissions are expected to result from the facility's operations. In addition, emissions of toxic air pollutant (TAPs) are not expected at the facility.

### *Permitting History*

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

| | |
|---|---|
| May 28, 2010 | P-2009.0091, Initial PTC, Permit status (A, but will become S upon issuance of this permit) |
| September 26, 2003 | DEQ determined that the facility's grain elevator with a new elevator leg and a throughput of 10 MMbtu/yr was exempt from air quality permitting requirements. |
| April 29, 1997 | DEQ determined that the facility's grain elevator with a throughput of 8 MMbtu/yr was categorically exempt from air quality permitting requirements (in accordance with IDAPA 16.01.01.223.03.i, Rules for the Control of Air Pollution in Idaho). |

### *Application Scope*

This PTC is a revision of an existing PTC. The applicant has proposed to revise the application of mineral oil to high moisture grain.

### *Application Chronology*

| | |
|---|---|
| May 11, 2012 | DEQ received an application and an application fee. |
| June 4, 2012 | DEQ received supplemental information from the applicant. |
| June 6, 2012 | DEQ determined that the application was complete. |
| June 13, 2012 | DEQ made available the draft permit and statement of basis for applicant review. |
| June 26, 2012 | DEQ received the permit processing fee. |
| July 12, 2012 | DEQ issued the final permit and statement of basis. |

## TECHNICAL ANALYSIS

### *Emissions Units and Control Equipment*

**Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION**

| Source ID No. | Sources | Control Equipment | Emission Point ID No. |
|---|---|---|---|
| Grain Processing Operations | *Grain Receiving*<br><br>North Train Pit<br>South Train Pit<br>North Truck Pit<br>South Truck Pit<br>Shuttle Train (via north conveyor)<br>Shuttle Train (via south conveyor) | Choke-feed & Shroud for Train Unloading<br>Total Control Efficiency: 95%<br><br>Choke-feed for Truck Unloading<br>Control Efficiency: 80%<br><br>Linear Ground Pile for Truck Unloading<br>Control Efficiency: 90% | North & South Train Pits<br>EU ID No.: GR1, GR2<br>Shuttle Train Pits<br>EU ID No.: GR5, GR6<br><br>North & South Truck Pits<br>EU ID No.: GR3, GR4 |
| | *Grain Handling*<br><br>North Leg<br>South Leg | Enclosure & Mineral Oil Application<br>Total Control Efficiency: 100% | North Leg<br>EU ID No.: H1<br><br>South Leg<br>EU ID No.: H2 |
| | *Grain Storage*<br><br>Ten (10) permanent storage bins<br>Two (2) temporary storage piles | Mineral Oil Application<br>Control Efficiency: 90% | Ten (10) permanent storage bins<br>EU ID No.: ST1<br><br>Two (2) temporary storage piles<br>EU ID No.: ST2 |
| | *Grain Milling*<br><br>Hammermill Nos. 1, 2, & 3<br>Mfr.: Bliss<br>Model: unknown<br>Max. Capacity (per hammermill): 1,429 Btu/hr (40 T/yr)<br>Date of Construction: 2007<br><br>Hammermill Nos. 4 & 5<br>Mfr.: Bliss<br>Model: unknown<br>Max. Capacity (per hammermill): 500 Btu/hr (14 T/yr)<br>Date of Construction: 2006 | Mineral Oil Application<br>Control Efficiency: 20%<br><br>Baghouse Nos. 1, 2, & 3 for Hammermill Nos. 1, 2, & 3<br>Mfr.: Air Lanco<br>Model: 49AVS10<br>Type: Pulse Jet Filter<br>Size: 6 inches x 10 ft<br>No. of Bags: 49<br>Air to Cloth Ratio: 6.4:1<br>Control Efficiency: 99%<br>Date of Installation: 2007<br><br>Cyclone Nos. 1 & 2 for Hammermill Nos. 4 & 5<br>Mfr.: Bliss Industries<br>Model: LE 30<br>Type: dry, single<br>Blower: 10 hp<br>Blower Flow Rate: 1,500 scfm<br>Control Efficiency: 50%<br>Date of Installation: 2006<br>Length: 6 ft<br>Diameter: 2.5 ft<br>Inlet and outlet port diameter: 8 inches | Hammermill Nos. 1, 2, 3, 4 & 5<br>EU ID Nos.: M1, M2, M3, M4, & M5 |
| | *Grain Shipping*<br><br>Bin B-A Truck Drop Pipe<br>Bin B-A Truck Drop Pipe<br>South Truck/Rail Loadout<br>North Truck/Rail Loadout<br>Whole Corn Truck Sidedraw<br>Ground Corn Truck Loadout<br>Grinder Leg Truck Loadout | Mineral Oil Application<br>Control Efficiency: 90% | |

### *Emissions Inventories*

There is no proposed increase in emissions. The revision of the requirement to apply mineral oil to high moisture grain will not result in an increase of emissions. High moisture grain essentially has the same dust emissions as dust emissions of grain with mineral oil applied.

### *Ambient Air Quality Impact Analyses*

Because there is no requested increase in emissions or change to any modeling parameters, no air dispersion modeling is required.

## REGULATORY ANALYSIS

### *Attainment Designation (40 CFR 81.313)*

The facility is located in Cassia County, which is designated as attainment or unclassifiable for $PM_{2.5}$, $PM_{10}$, $SO_2$, $NO_2$, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

### *Facility Classification*

As determined in the previous permitting action, the facility's uncontrolled potential to emit for $PM_{10}$ emissions are less than the Major Source thresholds of 100 T/yr. In addition, the facility has no uncontrolled potential HAP emissions. Therefore, this facility is not designated as a Synthetic Minor facility.

### *Permit to Construct (IDAPA 58.01.01.201)*

IDAPA 58.01.01.201..... Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the modified emissions source. Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

### *Tier II Operating Permit (IDAPA 58.01.01.401)*

IDAPA 58.01.01.401..... Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

### *Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)*

IDAPA 58.01.01.301..... Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility do not have a potential to emit greater than 100 tons per year $PM_{10}$, SO2, NOx, CO, or VOC nor 10 tons per year for any one HAP or 25 tons per year for all HAP combined as determined in PTC P-2009.0091, issued on May 28, 2010. This PTC action did not result in the facility triggering the major source thresholds. Therefore, the facility is not a Tier I source in accordance with IDAPA 58.01.01.006 and the requirements of IDAPA 58.01.01.301 do not apply.

## *PSD Classification (40 CFR 52.21)*

40 CFR 52.21 ..... Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is/is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

## *NSPS Applicability (40 CFR 60)*

The facility is not subject to any NSPS requirements in 40 CFR Part 60.

## *NESHAP Applicability (40 CFR 61)*

The facility is not subject to any NESHAP requirements in 40 CFR 61.

## *MACT Applicability (40 CFR 63)*

The facility is not subject to any MACT standards in 40 CFR Part 63.

## *Permit Conditions Review*

This section describes the permit conditions for this initial permit or only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action. Also, the permit conditions have been renumbered to accommodate the revised PTC template.

Existing Permit Condition 8

*The permittee shall apply a minimum of 1.0 gallon of mineral oil per thousand bushels of grain received..*

Revised Permit Condition 2.6

*The permittee shall apply a minimum of 1.0 gallon of mineral oil per thousand bushels of grain received except for corn with a moisture content over 18% and wheat with a moisture content over 14%, in which case no mineral oil is required to be applied.*

This permit condition has been revised to exclude the application of mineral oil to grain with a moisture content over 18% for corn and 14% for wheat. The Applicant provided a paper from the Office of Technology Assessment entitled "Technology and Policy for Suppressing Grain Dust Explosions in Storage Facilities", which describes dust control using the addition of 1% water provides 60 to 75% dust control. High moisture grain essentially has the same dust emissions of grain with mineral oil applied.

Existing Permit Condition 17

*To demonstrate compliance with the Application of Mineral Oil Permit Condition, the permittee shall monitor and record the following information on a daily basis:*

- *The amount of mineral oil, in gallons, applied during grain receiving.*
- *The amount of grain, in thousands of bushels, received per day.*
- *The corresponding amount of mineral oil, in gallons, applied per thousand bushels of grain received.*

Revised Permit Condition 2.15

*To demonstrate compliance with the Application of Mineral Oil Permit Condition, the permittee shall monitor and record the following information on a daily basis:*

- *The amount of mineral oil, in gallons, applied during grain receiving.*
- *The amount of grain, in thousands of bushels, received per day.*

- *The amount of grain, in thousands of bushels, received per day with a moisture content below 18% for corn and 14% for wheat.*
- *The corresponding amount of mineral oil, in gallons, applied per thousand bushels of grain received with a moisture content below 18% for corn and 14% for wheat.*

This permit condition has been revised to monitor and record the amount of grain and corresponding amount of mineral oil with a moisture content below 18% for corn and 14% for wheat.

## PUBLIC REVIEW

### *Public Comment Opportunity*

Because this permitting action does not authorize an increase in emissions, an opportunity for public comment period was not required or provided in accordance with IDAPA 58.01.01.209.04 or IDAPA 58.01.01.404.04.

# APPENDIX A – FACILITY DRAFT COMMENTS

**No comments were received from the facility on June 15, 2012.**

# APPENDIX B – PROCESSING FEE