Statement of Basis

Permit to Construct No. P-2019.0041
Project ID 62276

Consolidated Farms - Backwoods Farm
Bonners Ferry, Idaho

Facility ID 021-00009

Final

August 26, 2020
Dan Pitman, PE
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

Btu	British thermal units
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
DEQ	Department of Environmental Quality
HAP	hazardous air pollutants
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
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
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
PSD	Prevention of Significant Deterioration
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
scf	standard cubic feet
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/yr	tons per consecutive 12 calendar month period
TAP	toxic air pollutants
VOC	volatile organic compounds

FACILITY INFORMATION

Description

Consolidated Farms – Backwoods Farm near Bonners Ferry, Idaho. The farm is used for hop farming and processing for use in the brewing industry. Processing consists of cleaning and drying the hops in 16 onsite drying kilns that are propane fired. This permit action is for eight of the drying kilns, the other eight are grandfathered. Hop farming season normally starts in April and runs through October. The processing season is normally 20 to 25 days in late August and mid-September. Processed hops are shipped shortly after the processing is completed. Off-season months are used for equipment maintenance and repair.

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 Permit status is noted as active and in effect (A) or superseded (S).

November 21, 1989	P-0280-0009, New Kiln Building with 6 new propane fired heaters, Permit status (S)
October 17, 1991	P-0280-0009, Addition of 2 new propane fired heaters, Permit status (A, but will become S upon issuance of this permit)

Application Scope

This PTC is for a minor modification at an existing minor facility. EPA emission factors used to obtain the initial permit have changed and Consolidated Farms has requested to amend their permit to reflect these new factors. NO_X, CO and VOC emissions factors have increased. These changes result in an increase of 0.31 pounds per hour of NO_X, 3.42 pounds per hour of CO and 0.59 pounds per hour of VOC from the eight permitted kiln driers combined. There are not any physical or operational changes to the facility and actual emissions do not increase from the facility. The facility has requested to limit emissions by accepting a fuel use limit on the kilns.

Application Chronology

July 31, 2019	DEQ received an application.
August 7, 2019	DEQ received the application fee.
August 13-28, 2019	DEQ provided an opportunity to request a public comment period on the application and proposed permitting action.
September 5, 2019	DEQ determined that the application was incomplete.
January 22, 2020	DEQ received supplemental information from the applicant.
February 21, 2020	DEQ determined that the application was incomplete.
April 10, 2020	DEQ received supplemental information from the applicant.
May 11, 2020	DEQ determined that the application was complete.
July 6, 2020	DEQ made available the draft permit and statement of basis for peer and regional office review.
July 10, 2020	DEQ made available the draft permit and statement of basis for applicant review.
August 17, 2020	DEQ received the PTC processing fee.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 PERMITTED EMISSIONS UNITS AND CONTROL EQUIPMENT INFORMATION

Sources	Control Equipment
Eight Kilns: Manufacturer: Pyronic Model: 485 HLTMB Heat input rating: 9 MMBtu/hr Fuel: Propane	None

Emissions Inventories

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

The following table presents the pre-project potential to emit for the eight kiln burners in Building 2. The pre-project potential to emit is equivalent to the allowable emissions in PTC No. 0280-0009 issued October 17, 1991.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
TAV-17 – TAV-24 (Eight Kilns)	9.51	3.99	0.01	0.005	9.92	4.16	2.48	1.04	0.2	0.027
Pre-Project Totals	**9.51**	**3.99**	**0.01**	**0.01**	**9.92**	**4.16**	**2.48**	**1.04**	**0.20**	**0.03**

a) Controlled average emission rate in pounds per hour is a daily average
b) Controlled emission rate in tons per year as determine each consecutive 12 month period

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

The following table presents the post project Potential to Emit for the eight kiln burners in Building 2 as determined by DEQ staff. See Appendix A for a detailed presentation of the calculations of these emissions for each emissions unit. Appendix A documents the emissions factors that were used.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]	lb/hr[(a)]	T/yr[(b)]
Building 2 (Eight Kilns)	9.51	3.99	0.01	0.01	10.23	3.81	5.90	2.20	0.79	0.29
Post Project Totals	**9.51**	**3.99**	**0.01**	**0.01**	**10.23**	**3.81**	**5.90**	**2.20**	**0.79**	**0.29**

a) Controlled average emission rate in pounds per hour is a daily average
b) Controlled emission rate in tons per year as determine each consecutive 12 month period

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	$PM_{10}/PM_{2.5}$		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Pre-Project Potential to Emit	9.51	3.99	0.01	0.005	9.92	4.16	2.48	1.04	0.2	0.027
Post Project Potential to Emit	9.51	3.99	0.01	0.01	10.23	3.81	5.90	2.20	0.79	0.29
Changes in Potential to Emit	**0.00**	**0.00**	**0.00**	**0.01**	**0.31**	**-0.35**	**3.42**	**1.16**	**0.59**	**0.26**

Tap and HAP Emissions

The permittee is not proposing to increase the allowable amount of TAP and HAP that may be emitted. The permittee may have legally emitted TAP and HAP at the fuel consumption rate which would have resulted in compliance with the $PM_{10}/PM_{2.5}$ and SO_2 emission rate limits in the existing permit. The existing permit does not expressly limit fuel consumption through it is inherently limited by the fuel rate that would cause emissions to be in compliance with $PM_{10}/PM_{2.5}$ and SO_2 emission rate limits in the existing permit. Therefore, since by this metric there is not an increase in allowable TAP emissions, DEQ made a determination that a TAP analysis was not required to be conducted. HAP emissions remain well below the major facility thresholds.

Ambient Air Quality Impact Analyses

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in Boundary 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

The AIRS/AFS facility classification codes are as follows:

For HAPs (Hazardous Air Pollutants) Only:

A = Use when any one HAP has permitted emissions > 10 T/yr or if the aggregate of all HAPS (Total HAPs) has permitted emissions > 25 T/yr.

SM80 = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits > 8 T/yr of a single HAP or ≥ 20 T/yr of Total HAPs.

SM = Use if a synthetic minor (uncontrolled HAPs emissions are > 10 T/yr or if the aggregate of all uncontrolled HAPs (Total HAPs) emissions are > 25 T/yr and permitted emissions fall below applicable major source thresholds) and the permit sets limits < 8 T/yr of a single HAP and/or < 20 T/yr of Total HAPs.

B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 10 and 25 T/yr HAP major source thresholds.

UNK = Class is unknown.

For All Other Pollutants:

A = Use when permitted emissions of a pollutant are > 100 T/yr.

SM80 = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are ≥ 80 T/yr.

SM = Use if a synthetic minor for the applicable pollutant (uncontrolled emissions are > 100 T/yr and permitted emissions fall below 100 T/yr) and permitted emissions of the pollutant are < 80 T/yr.

B = Use when the potential to emit (i.e. uncontrolled emissions and permitted emissions) are below the 100 T/yr major source threshold.

UNK = Class is unknown.

Table 5 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM	<100	3.99	**100**	B
PM_{10}	<100	3.99	**100**	B
$PM_{2.5}$	<100	3.99	**100**	B
SO_2	<100	0.01	**100**	B
NO_X	<100	3.81	**100**	B
CO	<100	2.20	**100**	B
VOC	<100	0.29	**100**	B
HAP (single)	<10	<10	**10**	B
Total HAPs	<25	<25	**25**	B

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 change in allowable emission rates. 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 facility is not subject to IDAPA 58.01.01.300-399, and the applicant did not apply for a Tier II operating permit in accordance with IDAPA 58.01.01.401.

Other Rules and Regulations

The proposed change to allowable emissions rates does not affect the applicability of any State Rule or Federal Regulation. The facility is not proposing a physical or operational change to any equipment.

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 for PM_{10}, SO_2, NO_X, CO, and VOC or 10 tons per year for any one HAP or 25 tons per year for all HAP combined as demonstrated previously in the Emissions Inventories Section of this analysis. 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 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.

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.

Existing Permit Conditions 2.1 and 2.2

These permit conditions limited criteria pollutant emissions to the values in Appendix A of the permit. These conditions have been deleted from the permit as has Appendix A of the permit. Emission rate limits are not needed to limit emissions sufficiently to protect ambient standards. Emissions are now inherently limited by a fuel use limitation which the applicant requested to be included in the permit.

Existing Permit Condition 2.3

This limits opacity to 20% as required the Rules and remains in the permit.

Revised Permit Condition 2.4

As requested by the applicant annual fuel use is limited in order to inherently limit emissions from the kilns. Hourly fuel use limits are not needed as the emission inventory and model include emissions resulting from firing the kiln dryers at design capacity.

New Permit Condition 2.5

This permit condition requires monitoring each month the amount fuel used over the previous 12 consecutive month period.

PUBLIC REVIEW

Public Comment Opportunity

An opportunity for public comment period on the application was provided in accordance with IDAPA 58.01.01.209.01.c or IDAPA 58.01.01.404.01.c. During this time, there was not a request for a public comment period on DEQ's proposed action. Refer to the chronology for public comment opportunity dates.

APPENDIX A – EMISSIONS INVENTORIES

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

APPENDIX C – PROCESSING FEE