



State of Idaho
Department of Environmental Quality
Air Quality Division

**AIR QUALITY PERMIT
STATEMENT OF BASIS**

Permit to Construct No. P-2009.0087

Final

Crop Production Services, Inc.

Roberts, Idaho

Facility ID No. 051-00020

September 15, 2009

Morrie Lewis

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.

Table of Contents

ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE	3
1. FACILITY INFORMATION	4
2. APPLICATION SCOPE AND APPLICATION CHRONOLOGY	4
3. TECHNICAL ANALYSIS	5
4. REGULATORY REVIEW	6
5. PERMIT FEES	8
6. PUBLIC COMMENT	8
APPENDIX A – AIRS INFORMATION	
APPENDIX B – EMISSIONS INVENTORY	

Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CFR	Code of Federal Regulations
CO	carbon monoxide
CPS	Crop Production Services, Inc.
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometers
lb/hr	pounds per hour
m	meters
MACT	Maximum Achievable Control Technology
MMBtu/hr	million British thermal units per hour
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operations and maintenance
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/yr	tons per year
TAP	toxic air pollutant
UTM	Universal Transverse Mercator
VOC	volatile organic compounds

1. FACILITY INFORMATION

1.1 Facility Description

The Roberts facility is a fertilizer manufacturing and retail facility. 10-34-0 ammonium polyphosphate liquid fertilizer is generated or produced in Reactor No. 1 (10-34-0 Reactor). In addition to the 10-34-0 liquid fertilizer, the facility also produces fertilizer mixtures including high potassium fertilizer (0-0-13), ammonium sulfate/urea solution (21-0-0-7), ammonium sulfate solution (8-0-0-9), and ammonium sulfate (21-0-0). Ammonium thiosulfate liquid (12-0-0-26) and urea ammonium nitrate liquid (32-0-0) are not produced at the facility, but are shipped to the facility for retail sale.

1.2 Permitting Action and Facility Permitting History

This permit to construct (PTC) is a revision of an existing PTC. 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).

February 28, 2006	P-050503; initial permit to construct issued. The permit regulated emissions from Reactor No. 1 (10-34-0 reactor) and Boiler No. 1. The reactor and the boiler were constructed at the facility without first obtaining a PTC. The application for this PTC was submitted by the permittee pursuant to the February 15, 2005 Consent Order No. E-030014. (S)
March 30, 2009	P-2009.0013; PTC revision for a change in ownership issued. The name of the facility changed from Western Farm Service to Crop Production Services, Inc. (S)

2. APPLICATION SCOPE AND APPLICATION CHRONOLOGY

2.1 Application Scope

This PTC is a revision for a boiler replacement project.

2.2 Application Chronology

June 11, 2009	DEQ received a PTC application.
June 23, 2009	DEQ received a \$1,000 application fee.
July 8, 2009	DEQ determined that the application was complete.
August 31, 2009	DEQ made available the draft permit and statement of basis for peer and Idaho Falls Regional Office review.
September 1, 2009	DEQ made available the draft permit and statement of basis for facility review.
September 15, 2009	DEQ received a \$1,000 PTC processing fee.
September 15, 2009	DEQ issued the final permit and statement of basis.

3. TECHNICAL ANALYSIS

3.1 Emission Unit and Control Device

Table 3.1 EMISSION UNIT AND CONTROL DEVICE INFORMATION

Emission Unit Description		Control Device Description
<u>Boiler No.1</u>		None
Manufacturer:	Sellers	
Model:	77 Commodore / C-100-W	
Serial Number:	99332	
Construction date:	10/15/06	
Maximum capacity:	4.184 MMBtu/hr or 100 hp	
Maximum production:	1,000 lb steam/hr	
Fuel:	propane	
Fuel consumption:	0.4 gal/hr	

3.2 Emissions Inventory

An emissions inventory was not provided in the application; information provided in the application indicates that actual emissions will not increase as a result of the change from the original boiler to the new boiler. Refer to the statement of basis issued with PTC No. P-050503 for additional information regarding the development of the emission inventory and the ambient air impact analysis associated with the original boiler.

Table 3.2 UNCONTROLLED EMISSIONS ESTIMATES OF CRITERIA POLLUTANTS

Emissions Unit	PM ₁₀		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
Boiler (4.184 MMBtu/hr)	0.03	0.14	0.00	0.01	0.59	2.60	0.34	1.50	0.05	0.20

In accordance with IDAPA 58.01.01.220.01, no permit to construct is required for a source that satisfies all of the following criteria, in addition to the criteria set forth at IDAPA 58.01.01.222;

- The maximum capacity of a source to emit an air pollutant under its physical and operational design without consideration of limitations on emission such as air pollution control equipment, restrictions on hours of operation and restrictions on the type and amount of material combusted, stored or processed would not:
 - Equal or exceed one hundred (100) tons per year of any regulated air pollutant.
 - Cause an increase in the emissions of a major facility that equals or exceeds the significant emissions rates set out in the definition of significant at IDAPA 58.01.01.006.
 - Combination. The source is not part of a proposed new major facility or part of a proposed major modification.

Because the existing boiler does not have specific limitations required in the permit to demonstrate or ensure compliance with ambient air quality standards, and because the new boiler emissions are expected to meet the above criteria (without consideration of limitations), no additional preconstruction compliance demonstration was required.

An estimate of criteria pollutant emissions based on AP-42, Section 1.5, Table 1.5-1 has been provided in Appendix B to illustrate that emissions are not expected to exceed 100 tons per year of any regulated pollutant. The other criteria for exemption are not applicable because the facility is not classified as a major facility; refer to Section 4.4 for additional information.

In accordance with IDAPA 58.01.01.222.02.c (Category II Exemption), no permit to construct is required for a source that satisfies the criteria set forth in IDAPA 58.01.01.220 and that is fuel burning equipment for indirect heating using natural gas, propane gas, liquified petroleum gas, or natural liquified petroleum gas with a capacity of less than 50 MMBtu/hr input. The new boiler is considered fuel-burning equipment with a heat input capacity of 4.184 MMBtu/hr, and is limited to the use of propane fuel in Permit Condition 3.5.

3.3 Ambient Air Quality Impact Analysis

The permittee has demonstrated preconstruction compliance to DEQ's satisfaction that emissions from the new boiler and the facility will not cause or significantly contribute to a violation of any ambient air quality standard. The permittee has also demonstrated preconstruction compliance to DEQ's satisfaction that emissions from the new boiler and the facility will not exceed any AAC or AACC for TAP.

Refer to the statement of basis issued with PTC No. P-050503 for additional information regarding the development of the emission inventory and the ambient air impact analysis associated with the original boiler.

Because the existing boiler does not have specific limitations required to demonstrate or ensure compliance with ambient air quality standards, and because the new boiler emissions would be expected to meet the permit to construct exemption criteria provided in IDAPA 58.01.01.220.01 and 222, no additional preconstruction compliance demonstration was required.

4. REGULATORY REVIEW

4.1 Attainment Designation (40 CFR 81.313)

The facility is located in Jefferson County, which is designated as attainment or unclassifiable for PM₁₀, PM_{2.5}, CO, NO₂, SO_x, and Ozone. Reference 40 CFR 81.313.

4.2 Permit to Construct (IDAPA 58.01.01.201)

Although the replacement boiler described in Section 3.1 may meet the permit to construct exemption criteria in IDAPA 58.01.01.220-223, a permit revision has been requested by the permittee to account for the removal of the existing boiler referenced in the permit and its replacement with the new boiler. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

4.3 Tier II Operating Permit (IDAPA 58.01.01.401)

The application was submitted as a revision to a permit to construct in accordance with IDAPA 58.01.01.201. Therefore the procedures of IDAPA 58.01.01.401 are not applicable to this project.

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

The facility is classified as a synthetic minor facility for Title V purposes, because without limits on the potential to emit, HAP emissions have the potential to exceed the major source thresholds defined in IDAPA 58.01.01.008.10.

4.5 PSD Classification (40 CFR 52.21)

The facility is classified as a minor facility for PSD purposes, because without limits on the potential to emit, the emissions of all regulated pollutants are less than major source thresholds.

4.6 NSPS Applicability (40 CFR 60)

The facility is not subject to NSPS.

The boiler is not subject to 40 CFR 60, Subpart Dc – Standards of Performance for Small Industrial Commercial Institutional Steam Generating Units because the fossil-fuel-fired steam generating unit has a maximum design heat input capacity of less than 10 MMBtu/hr (4.184 MMBtu/hr).

4.7 NESHAP Applicability (40 CFR 61)

The facility is not subject to NESHAP.

4.8 MACT Applicability (40 CFR 63)

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

The boiler is not subject to 40 CFR 63, Subpart DDDDD – National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters because the boiler is not located at, and is not part of, a major source of HAP as defined in §63.2. The facility is below the major source thresholds of 10 tons per year for each HAP and 25 tons per year for any combination of HAP, and the permittee has not proposed to install or operate affected area sources.

4.9 CAM Applicability (40 CFR 64)

The facility is classified as a synthetic minor facility, and is therefore not subject to CAM requirements. Refer to Section 4.4 for additional information regarding the synthetic minor classification.

4.10 Permit Conditions Review

This section describes only those permit conditions that have been revised as a result of this permitting action.

Existing Permit Condition 1.3

Table 1.1 lists all sources of regulated emissions in this PTC.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Section	Source Description	Emissions Controls
2	<i>Reactor No.1 (10-34-0 reactor)</i>	<i>The wet scrubber (a packed bed) and the stainless-steel demister pads are part of the reactor design. While recovering the product and reducing the temperature, they also reduce the emissions.</i>
3	<i>Boiler No.1 (Propane-fired 3.35 MMBtu/hr boiler)</i>	<i>None</i>

Revised Permit Condition 1.4

Table 1.1 lists all sources of regulated emissions in this PTC.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Section	Source Description	Emissions Controls
2	Reactor No.1 (10-34-0 reactor)	The wet scrubber (a packed bed) and the stainless-steel demister pads are part of the reactor design. While recovering the product and reducing the temperature, they also reduce the emissions.
3	<u>Boiler No.1</u> Manufacturer: Sellers Model: 77 Commodore / C-100-W Construction date: 10/15/06 Maximum capacity: 4.184 MMBtu/hr or 100 hp Fuel: propane	None

This permit condition has been revised to remove the information for the existing boiler and to include the information for the new 4.184 MMBtu/hr boiler.

Existing Permit Condition 3.1

The 3.35 MMBtu/hr propane-fired boiler is used during the production of the 10-34-0 ammonium polyphosphate liquid fertilizer and for other heating purposes at the facility.

Revised Permit Condition 3.1

The boiler is used during the production of the 10-34-0 ammonium polyphosphate liquid fertilizer and for other heating purposes at the facility.

This permit condition has been revised to remove the reference to the heat input capacity and the fuel type of the boiler. Because there is only one boiler regulated in the permit, and because this information is provided in Table 1.1 of Permit Condition 1.4, it was considered redundant to restate this information.

5. PERMIT FEES

The facility is subject to a PTC processing fee of \$1,000 in accordance with IDAPA 58.01.01.225, because the addition of the new boiler results in an increase of emissions of less than one (1) ton per year. Refer to the chronology in Section 2.2 for fee receipt dates.

6. PUBLIC COMMENT

An opportunity for public comment period was not required or provided because this permit revision does not authorize in an emissions increase, in accordance with IDAPA 58.01.01.209.04.

Appendix A – AIRS Information



AIRS/AFS Facility-wide Classification – Data Form

Facility Name: Crop Production Services, Inc.
Facility Location: Roberts
Facility ID: 051-00020 Date: 09/01/2009
Project/Permit No.: P-2009.0087 Completed By: Morrie Lewis

Check if there are no changes to the facility-wide classification resulting from this action. (compare to form with last permit)

Yes, this facility is an SM80 source.

Appendix B – Emissions Inventory

Estimate of potential emissions

(based on boiler heat input capacity, unlimited operation using propane, and emission factors from AP-42 Section 1.5, Table 1.5-1)

	Commercial Boilers (SCC 1-03-010-02) Emission Factor lb/10 ³ gal	Propane heat content MMBtu/10 ³ gal	Emission Factor lb/MMBtu	New Boiler MMBtu/hr	Estimated Emissions lb/hr	Estimated Emissions T/yr
PM, Total	0.7	91.5	0.008	4.184	0.032	0.14
SO ₂	0.05	91.5	0.001	4.184	0.002	0.01
NO _x	13	91.5	0.142	4.184	0.594	2.60
CO	7.5	91.5	0.082	4.184	0.343	1.50
TOC	1	91.5	0.011	4.184	0.046	0.20