



**Air Quality Permitting
Statement of Basis**

December 8, 2005

**Permit to Construct
No. P-050421**

**The Amalgamated Sugar Company LLC
Mini-Cassia Facility
Paul, Idaho**

Facility ID No. 067-00001

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FINAL

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Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
campaign year	the period starting with the first day of new beet crop processing and ending the day before the start of the next year's beet crop processing
CO	carbon monoxide
cwt	hundred weight (1 cwt = 100 lb)
DEQ	Department of Environmental Quality
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
MACT	Maximum Available Control Technology
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO _x	nitrogen oxides
NSPS	New Source Performance Standards
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
SIC	Standard Industrial Classification
SO ₂	sulfur dioxide
TASCO	The Amalgamated Sugar Company LLC
T/yr	tons per any consecutive 12-month period
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 (PTC).

2. FACILITY DESCRIPTION

This facility is a sugar beet processing plant in which sugar beets are processed into refined sugar.

3. FACILITY / AREA CLASSIFICATION

This facility is classified as a major facility for both Tier I operating permit and the PSD permitting programs because it emits or has the potential to emit SO₂, NO_x, CO, PM₁₀, and PM at major source levels. The AIRS classification is "A" for all the above pollutants and "B" for VOCs and HAPs. (As part of TASCOS's Tier I permit renewal, TASCOS provided documentation demonstrating that the facility is a minor source for HAPs.) The SIC code defining the facility is 2063.

This facility is located within AQCR 63 and UTM zone 12. The facility is located in Minidoka County, which is designated as an attainment or unclassifiable area for all criteria air pollutants.

The AIRS information provided in the Appendix A defines the classification for each regulated air pollutant. This required information is entered into the EPA AIRS database.

4. APPLICATION SCOPE

This permitting action is a permit modification. Specifically, the Amalgamated Sugar Company LLC (TASCOS) requested that 16,550 T/day beet throughput limit established by the previous PTC be replaced by a 19,550 beet throughput limit.

4.1 Application Chronology

September 1, 2005	DEQ receives application and inactivated it due to workload constraints.
September 19, 2005	DEQ activates application.
October 18, 2005	DEQ determines application complete.
November 10, 2005	DEQ e-mailed electronic draft to the facility per their request.
December 6, 2005	DEQ provides draft permit to Twin Falls Regional Office for review

5. PERMIT ANALYSIS

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

5.1 Equipment Listing

The proposed increase in the beet slicing rate involves the following:

- Replacing and reconfiguring the current evaporator system
- Replacing the A-Side Tower Diffuser

- Increasing the capacity of other supporting equipment such as the process slaker and sulfur stoves. The proposed change in equipment improves the overall energy efficiency of the facility, and does not result in an increase in steam production at the facility.

5.2 Emissions Inventory

The pollutants of concern are PM₁₀, SO₂, and NH₃. A summary of PM₁₀, SO₂, and NH₃ emission associated with the 3000 T/day increase is given below in Table 1. A detailed emissions inventory has been included in Appendix B.

Table 1. EMISSIONS INVENTORY

Source Description	PM ₁₀	SO ₂	NH ₃
	lb/hr	lb/hr	lb/hr
Carbonation Tanks			17.8
Drum Filters			9.0
Evaporator Vent			6.7
Process Slaker	0.143		2.2
Irrigation Lagoon			5.2
Cooling Tower Vents			39.4
Sulfur Stoves		0.75	

5.3 Modeling

NH₃ emissions exceed the EL for NH₃ given in IDAPA 58.01.01.585. Therefore, modeling for compliance with the AAC for NH₃ was required. The results of the NH₃ modeling analysis demonstrate to DEQ's satisfaction that the proposed project will not cause or contribute to a violation of any ambient air quality standard.

Table 2. MODELING RESULT SUMMARY

Pollutant	Averaging Period	Ambient Concentration (µg/m ³)	AAC (µg/m ³)	Exceeds the AAC (Y or N)
NH ₃	24hr	181.3	900	N

SO₂ emissions exceed the modeling threshold for that pollutant as given in DEQ guidelines for dispersion modeling. Therefore, a significant impact analysis was performed to determine if the proposed project would exceed three-hr and 24-hr significant contribution levels for SO₂. An analysis of the annual average period was not performed because the proposed project does not increase annual emission of SO₂. The results of the SO₂ modeling analysis demonstrate to DEQ's satisfaction that the proposed project will not cause or contribute to a violation of any ambient air quality standard.

Table 3 SIGNIFICANT IMPACT ANALYSIS RESULTS

Pollutant	Averaging Period	Ambient Concentration (µg/m ³)	Significant Contribution Levels (µg/m ³)	Exceeds the SCL (Y or N)
SO ₂	3-hr	4.09	15.7	N
	24-hour	0.73	3.1	N

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 facility's proposed project does not meet the permit to construct exemption criteria contained in Sections 220 through 223 of the Rules. Therefore, a PTC is required.

IDAPA 58.01.01.203 Permit Requirements for New and Modified Stationary Sources

The applicant has shown to the satisfaction of DEQ that the facility will comply with all applicable emissions standards, ambient air quality standards, and toxic increments.

IDAPA 58.01.01.210 Demonstration of Preconstruction Compliance with Toxic Standards

The applicant has demonstrated preconstruction compliance for all TAPs identified in the permit application.

IDAPA 58.01.01.224 Permit to Construct Application Fee

The applicant satisfied the PTC application fee requirement by submitting a fee of \$1,000.00 at the time the original application was submitted, September 1, 2005.

IDAPA 58.01.01.225 Permit to Construct Processing Fee

The total emissions from the proposed new facility are between 1 and 10 T/yr; therefore, the associated processing fee is \$500.00. No permit to construct can be issued without first paying the required processing fee.

6. PERMIT CONDITIONS

This section lists only those permit conditions that have changed or have been deleted as a result of this permit revision. All other permit conditions remain unchanged. Permit conditions related to the revised permit are identified as Revised Permit Conditions. Permit conditions related to the existing permit are identified as Existing Permit Conditions.

- 6.1 Existing Permit Condition 2.3 limits beet slice throughput to 16,550 T/day.
- 6.2 Revised Permit Condition 2.3 limits beet slice throughput to 19,550 T/day.

7. FEES

TASCO paid the required PTC application fee of \$1,000.00 on January 5, 2005. In accordance with IDAPA 58.01.01.225, a permit to construct processing fee of \$500.00 was received on December 7, 2005.

8. PERMIT REVIEW

8.1 Regional Review of Draft Permit

A draft copy of the permit was provided to the Twin Falls Regional Office on December 6, 2005.

8.2 Facility Review of Draft Permit

At the request of the facility, an electronic copy of the draft permit was sent to the facility on November 10, 2005.

8.3 Public Comment

In accordance with IDAPA 58.01.01.209.04, an opportunity for public comment is not required because there are no emissions increases above previous permitted levels.

9. RECOMMENDATION

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue final PTC No. P-050421 to the Amalgamated Sugar Company LLC. No public comment period is required in accordance with IDAPA 58.01.01.209.04.

ABC/sd Permit No. P-050421

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Appendix A

AIRS Information

P-050421

Facility Name: The Amalgamated Sugar Co. LLC
Facility Location: MiniCassia Facility
AIRS Number: 067-00001

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION
								A-Attainment U-Unclassified N- Nonattainment
SO ₂	A	A					A	
NO _x	A	A					A	
CO	A	A					A	
PM ₁₀	A	A					A	
PT (Particulate)	A	A						
VOC	B	B					B	
THAP (Total HAPs)							B	
			APPLICABLE SUBPART					
			Db					

^a Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

^b AIRS/AFS Classification Codes:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

APPENDIX B

EMMISSION INVENTORY

P-050421

Attachment C
Process Slaker & Sulfur Stoves
Short Term Net Emissions Increases
Increased Daily Slice to 19,550 tons/d
Mini Cassia Facility

3000 = slice increase from 16550 to 19550 tons per day (tons/day)

Process Slaker

0.021 = tons CaO per ton beet slice from supplemental lime (tons/tons)

63 = tons additional lime per day thru process slaker (tons/day)

2.63 = tons additional lime per hour thru process slaker (tons/hour)

0.03 = lbs PM per ton CaO (lbs/ton)

0.08 = lbs PM per hour net increase from process slaker (lbs/hour)

0.024 = lbs PM10 per ton CaO (lbs/ton)

0.063 = lbs PM10 per hour net increase from process slaker (lbs/hour)

Sulfur Stove

0.13 = lbs sulfur per ton beet slice (lbs/tons)

0.0081 = tons additional sulfur per hour thru sulfur stoves (tons/hour)

0.006 = lbs SO2 per ton beets (lbs/ton)

0.75 = lbs SO2 per hour net increase from sulfur stoves (lbs/hour)

**Attachment C
Ammonia Estimates
Main Mill Sources
The Amalgamated Sugar Co. LLC - Mini Cassia Facility**

Source	Percent of Total	Percent of Source	Overall	Ammonia Emissions ¹ 80.3 (lbs/h)
Carbonation Tanks	22.22%			
- 1st Carbonation Vent (PK1/2A)		50.00%	11.11%	8.9
- 2nd Carbonation Vent (PK1/2B)		50.00%	11.11%	8.9
Drum Filters	11.11%			
- Filters Vent #1 (PF1)		14.29%	1.59%	1.3
- Filters Vent #2 (PF2)		14.29%	1.59%	1.3
- Filters Vent #3 (PF3)		35.71%	3.97%	3.2
- Filter Vent #4 (PF4)		35.71%	3.97%	3.2
Evaporator Vent (EVAP)	8.33%	100.00%	8.33%	6.7
Process Slaker	2.78%	100.00%	2.78%	2.2
Irrigation Lagoon & Cooling Towers	55.56%			
- Lagoon (ASF)		11.60%	6.44%	5.2
- Cooling Tower #1 Vent #1(PC1)		7.86%	4.37%	3.5
- Cooling Tower #1 Vent #2(PC2)		7.86%	4.37%	3.5
- Cooling Tower #2 Vent #1(PC3)		8.65%	4.81%	3.9
- Cooling Tower #2 Vent #2(PC4)		8.65%	4.81%	3.9
- Cooling Tower #3 Vent #1(PC5)		22.99%	12.77%	10.2
- Cooling Tower #3 Vent #2(PC6)		22.99%	12.77%	10.2
- Cooling Tower #4 Vent #1(PC7)		4.70%	2.61%	2.1
- Cooling Tower #4 Vent #2(PC8)		4.70%	2.61%	2.1

¹ From Appendix B & Appendix C of the August 16, 2002 Permit to Construct Application for the No. 6 Evaporator and updated based on the November 25, 2002 Drum Filter PT Exemption Analysis Report and April 23, 2004 Cooling Tower TAP Exemption Report.