

ATTACHMENT A

VOC Control Technology Plan for Defendants' Soybean Extraction Plants

May, 2006

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1.0 Introduction

This Control Technology Plan (CTP) is Attachment A to a Consent Decree signed by Bunge North America, Inc. (Bunge), Bunge North America (East), L.L.C., Bunge North America (OPD West), Inc., and Bunge Milling, Inc.; the United States, and the States of Louisiana, Indiana, Illinois, Kansas, Ohio, Mississippi, Iowa, and Alabama. As used in the Consent Decree and in this CTP, "Appropriate Defendant" means the entity that owns and operates the plant to which a provision in this CTP applies. This CTP describes portions of the emission reduction program to reduce volatile organic compounds (VOCs) that apply generally to the eleven (11) conventional soybean extraction plants in the United States addressed in the Consent Decree.

2.0 Plants and Emission Units Requiring Process Improvement Equipment

As part of the Consent Decree, the Appropriate Defendant shall implement a schedule of VOC reduction projects and amend existing permits at each of the eleven soybean processing plants and the corn germ extraction plant. Defendants shall achieve VOC emission reductions by, among other things, installing and operating the projects described in plant-specific CTPs (Attachments B through I to the Consent Decree), and by taking any further measures Defendants deem necessary to meet the Final VOC solvent loss ratio (SLR) limits required in this CTP.

The VOC-related projects in the plant-specific CTPs (Attachments B through I to the Consent Decree) have been identified as projects that will result in lower solvent losses at the identified plants. Should an Appropriate Defendant determine that further projects are needed at any of the identified soybean extraction plants to reduce VOC emissions to achieve the required final VOC SLR, each Appropriate Defendant shall first obtain any required permits from the appropriate state or local agency.

Installation and operation of the proposed projects is expected to improve process performance by reducing VOC loading on, or improving effectiveness of, the current solvent recovery system. These process improvement projects will aid each plant in lowering overall VOC emissions.

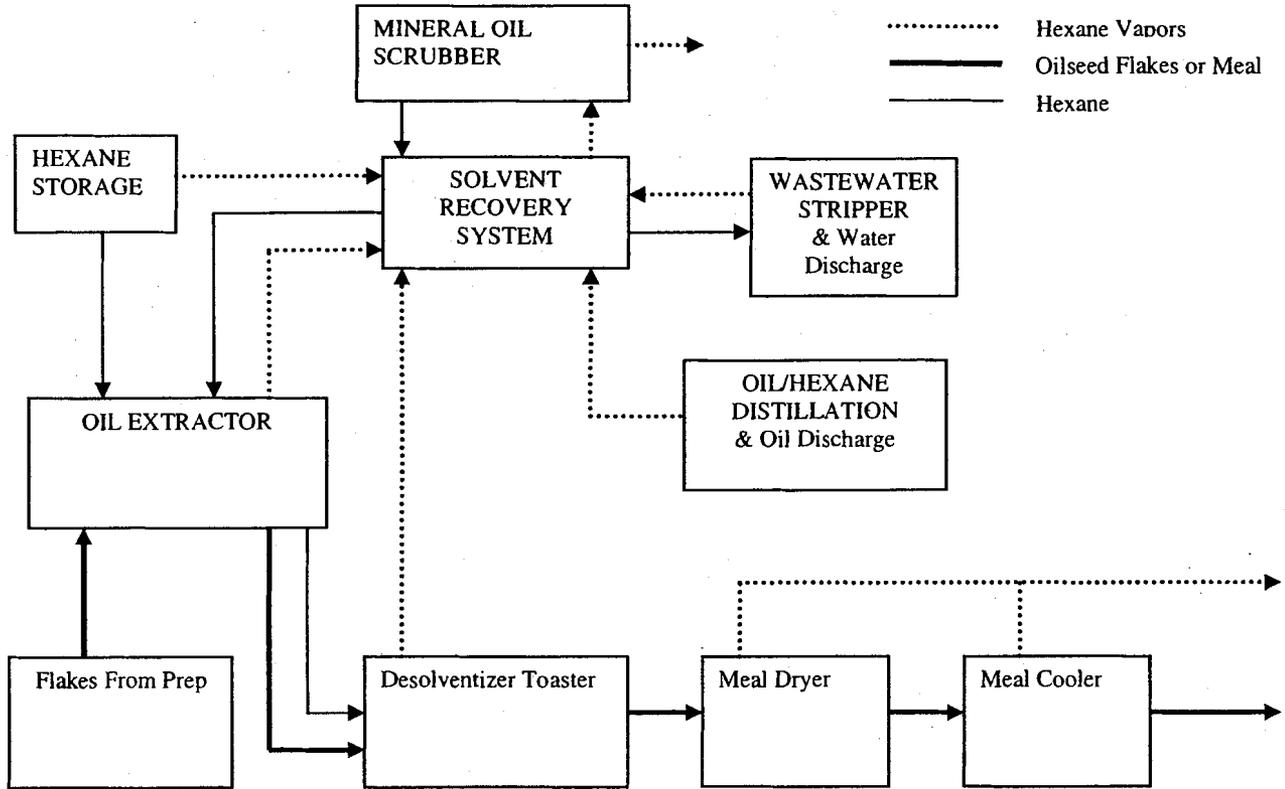
The following eleven soybean extraction plants have been designated as affected units in the Consent Decree for which the Appropriate Defendant will establish Interim and Final VOC SLR limits.¹

Cairo, Illinois
Council Bluffs, Iowa
Danville, Illinois
Decatur, Alabama
Decatur, Indiana
Delphos, Ohio
Destrehan, Louisiana
Emporia, Kansas
Marion, Ohio
Marks, Mississippi
Morristown, Indiana

¹ This CTP excludes Bunge Milling's Danville, Illinois Corn Dry Mill Extraction Plant.

3.0 General Process Diagram

The following process block diagram presents a general representation of the solvent extraction process at a typical vegetable oil solvent extraction plant.



4.0 VOC Emission Limits

Each Appropriate Defendant shall comply with emission limits established under the Consent Decree and shall incorporate all final VOC Solvent Loss Ratio (SLR) limits in federally enforceable operating permits for each plant.

4.1 Interim Limits

By no later than the Interim Limit Start Date (as that term is defined in the Consent Decree), each Appropriate Defendant shall begin to account for solvent loss and quantity of oilseeds processed to comply with the following VOC solvent loss ratio (gallon of VOC lost per ton of oilseed processed, hereinafter "SLR") limits at each of the following six (6) soybean extraction plants:

Plant Name	Interim SLR Limit (gal/ton)
Cairo, Illinois	0.16
Council Bluffs, Iowa	0.16
Decatur, Indiana	0.15
Delphos, Ohio	0.20
Destrehan, Louisiana	0.19
Emporia, Kansas	0.16

The first compliance determination with respect to the plant-specific SLR limits above will be based on the first 12 operating months of data collected after the date on which each Appropriate Defendant begins to account for solvent loss under this Paragraph. "Operating month" is defined according to the definition provided in 40 C.F.R. Part 63, Subpart GGGG.

By no later than twelve months after the Interim Limit Start Date, each Appropriate Defendant shall begin to account for solvent loss and quantity of oilseeds processed to comply with the following VOC SLR limits at the following five (5) soybean extraction plants:

Plant Name	Interim SLR Limit (gal/ton)
Danville, Illinois (conventional soybean)	0.19
Decatur, Alabama	0.19
Marion, Ohio	0.20
Marks, Mississippi	0.18
Morristown, Indiana	0.16

The first compliance determination with respect to the plant-specific SLR limits above will be based on the first 12 operating months of data collected after the date on which the Appropriate Defendant begins to account for solvent loss under this Paragraph. "Operating month" is defined according to the definition provided in 40 C.F.R. Part 63, Subpart GGGG.

4.2 Final Permit Limits

- (a) By no later than May 1, 2007, each Appropriate Defendant shall propose in writing to the Appropriate Plaintiffs final VOC SLR limits for each soybean extraction plant that satisfy the requirements of this Subsection 4.2.
- (b) The final VOC SLR limit for the Morristown, Indiana plant shall not exceed 0.16 gallon of solvent loss per ton of soybean crushed (gal/ton).
- (c) For the eleven plants listed above in Section 4.1 of this CTP, the capacity-weighted average of these final VOC SLR limits shall not exceed 0.175 gal/ton.

The capacity weighted average of the final VOC SLR limits is to be calculated using the following equation:

$$\text{Capacity weighted average} = \frac{\sum_{i=1}^n (\text{Seed}_i * \text{SLR}_i)}{\sum_{i=1}^n (\text{Seed}_i)} \leq 0.175 \text{ gal/ton.}$$

Where: Seed *i* = Crush capacity of oilseed plant *i*; and
 SLR *i* = Final VOC SLR Limit for oilseed plant *i*.
 n = Number of soybean extraction plants included in this CTP (11)

- (d) For purposes of this CTP, "Crush capacity" of each oilseed plant shall be based on the design capacity for each plant that has been certified by each Appropriate Defendant as required under Paragraph 31.a. of the Consent Decree. For purposes of the Consent Decree, design capacity is the "maximum permitted crush capacity" that a plant is allowed to process in a given time period under its operating permit; or, if no limit is included in the operating permit, the plant's maximum daily average achieved for any one operating month. This number is expressed as "tons of crush per day."
- (e) Each plant must also simultaneously comply with any applicable limits found in the state or federal operating permits.

5.0 Installation Schedule for Process Improvement Equipment

By no later than the dates set forth in the plant-specific CTPs, each Appropriate Defendant shall upgrade its soybean extraction plants in accordance with the plant-specific CTPs so that all plants are on a schedule to come into compliance with the capacity-weighted average final VOC SLR limit. If a plant is not operating at the date of installation provided in its plant-specific CTP, then the Appropriate Defendant must complete installation by the first day of the plant's first normal operating period thereafter as defined in 40 C.F.R. Part 63, Subpart GGGG. Further, if a plant is not operating on, or ceases operating after, one of the compliance dates provided in Section 4.0 of this CTP, then the Appropriate Defendant must demonstrate compliance with the VOC emission limit as set forth in Section 7.0 of this CTP beginning on the first day of the plant's normal operating period thereafter as defined in 40 C.F.R. Part 63, Subpart GGGG.

6.0 Recordkeeping and Reporting Requirements for VOC Emission Limits

To demonstrate compliance with the final VOC SLR limits at the soybean extraction plants, each Appropriate Defendant shall

- (a) maintain the records required by 40 C.F.R. Part 63, Subpart GGGG on solvent loss and quantity of oilseed processed; and

- (b) maintain the records required by 40 C.F.R. Part 63, Subpart GGGG, for any malfunction period as defined in Section 7.0 below.

VOC Reduction Project Reports. In the semiannual reports due six months after the Interim Limit Start Date (as that term is defined in the Consent Decree), and every six months thereafter, as required by Paragraph 47 of the Consent Decree, or in a separate report if an Appropriate Defendant requests and EPA approves an extension, each Appropriate Defendant shall submit reports to EPA and the appropriate State agency identifying the plants at which VOC reduction projects have been installed since the last reporting period and the Appropriate Defendant's tentative projections for the remaining installations, to demonstrate that the deadlines in each plant-specific CTP have been and will be met. If an Appropriate Defendant undertakes any project for the primary purpose of reducing VOC emissions from any of the above-mentioned plants that is not described in this or any plant-specific CTP, the Appropriate Defendant shall include these projects in the semiannual report for that period.

7.0 Compliance Determination Procedures

7.1 Solvent Loss Ratio (SLR) Limits. Compliance with the interim and final VOC SLR limits in the Consent Decree shall be determined in accordance with 40 C.F.R. Part 63, Subpart GGGG using the following equation. Each Appropriate Defendant shall comply with interim and final VOC SLR limits for their respective individual plants pursuant to Section IV of the Consent Decree.

Plant Compliance Ratio = Plant Actual Solvent Loss (gal) / Allowable Solvent Loss (gal)

Where:

Plant Actual Solvent Loss	=	Gallons of solvent loss during previous 12 operating months at plant "i"
Allowable Solvent Loss	=	Oilseed _i • SLR _i
Oilseed _i	=	Tons of each oilseed processed at plant "i" during the previous 12 operating months
SLR _i	=	Interim or Final solvent loss ratio (SLR) limit, as defined in this CTP, for plant "i"

The Appropriate Defendant is in compliance with the SLR limit if the Plant Compliance Ratio is less than or equal to one. Compliance with the interim and final VOC SLR limits for the soybean extraction plants shall be determined in accordance with 40 C.F.R. Part 63, Subpart GGGG, with the following exceptions: (1) provisions pertaining to HAP content shall not apply; (2) monitoring and recordkeeping of solvent losses at each plant shall be conducted daily; (3) solvent losses and quantities of oilseed processed during startup and shutdown periods shall not be excluded in determining solvent losses; and (4) records shall be kept in a similar format as the table in Section 7.3., below, that show total solvent losses, solvent losses during malfunction periods, and adjusted solvent losses (i.e., total solvent losses minus malfunction losses) monthly and on a 12-month rolling basis.

7.2 Malfunctions. For purposes of calculating SLR limits in accordance with this CTP and the Consent Decree, the Appropriate Defendant may apply the provisions of 40 C.F.R. Part 63, Subpart GGGG, pertaining to malfunction periods at a particular plant only when both of the conditions in subparagraphs (i) and (ii) are met:

(i) The malfunction results in a total plant shutdown. For purposes of this CTP, a "total plant shutdown" means a shutdown of the solvent extraction system; and

(ii) The total amount of solvent loss to which the provisions of 40 C.F.R. Part 63 Subpart GGGG relating to malfunctions is applied in a rolling 12-month period does not exceed the Allowable Malfunction Volume as defined below. The Allowable Malfunction Volume in gallons for a given plant is equal to the plant's 12-month Crush capacity times its interim or final VOC SLR limit (as defined in this CTP) times 0.024, as follows:

Allowable Malfunction Volume (gal) =
 12-month Crush capacity (tons) * Interim or Final VOC SLR limit (gal/ton) * 0.024

Once Final VOC SLR limits are established as set forth in Section 4.2 of this CTP, the Allowable Solvent Loss volume, as defined in Section 7.1 of this CTP, will be calculated using the Final VOC SLR limits instead of the Interim VOC SLR limits.

Except as set forth in this Section 7.2, each Appropriate Defendant must include all solvent losses when determining compliance with its interim or final VOC SLR limits at each plant. The total solvent loss corresponding to a malfunction period will be calculated as the difference in the solvent inventory, as defined in 40 C.F.R. § 63.2862(c)(1), for the day before the malfunction period began and the solvent inventory on the day the plant resumes normal operation.

During a malfunction period, the Appropriate Defendant shall comply with the Startup, Shutdown, Malfunction (“SSM”) Plan as required under Subpart GGGG for the plant.

7.3 Solvent Loss Record Table

Date	Total Crush (tons)		Total Solvent Loss (gallons)		Malfunction Period Solvent Loss (gallons)		Adjusted Solvent Loss ^a (gallons)		SLR ^b (gal/ton)	Plant Compliance Ratio ^c
	Monthly	12-Month Rolling	Monthly	12-Month Rolling	Monthly	12-Month Rolling	Monthly	12-Month Rolling	12-Month Rolling	
Month -Year										

^a - Adjusted Solvent Loss is equal to Total Solvent Loss minus Malfunction Period Solvent Loss.
^b - Solvent Loss Ratio is equal to 12-month rolling Adjusted Solvent Loss divided by 12-Month Rolling Total Crush. Compliance determination for each plant is based on 12-Month Rolling SLR value compared to Interim or Final VOC SLR Limit.
^c - As defined in Section 7.1.