

via Certified Mail

Mr. John Zoss  
Cargill, Inc.  
1503 Wabash Avenue  
P. O. Box 119  
Lafayette, IN 47902

Re: A 157-9427  
Modification to CP 157-5397,  
Plt ID 157-00038

Dear Mr. Zoss:

Cargill, Inc. was issued a construction permit on September 26, 1996 for an installation of the boiler identified as S-17, rated at 75 million British thermal units per hour (MMBtu/hr) and removal of an old boiler rated at 23 million British thermal units per hour (MMBtu/hr). A letter requesting the readjustment of NOx emissions at the Boilers identified as S-16 and S-17, rated at 60 million British thermal units per hour (MMBTU/hr) and 75 million British thermal units per hour (MMBTU/hr) respectively, was received on February 2, 1998. The permit shall be amended as follows:

Condition 10 and 11, page 6 of 13, of CP# 157-5397-00038 issued on September 26, 1996 has been revised as follows:

10. Pursuant to PSD minor source status [326 IAC 2-2] [40 CFR 52.21],

- (a) The input of fuel oils no.2, no.4, no. 5 and no.6 to the boiler identified as S-17 rated at maximum capacity of 75 million British thermal units per hour (MMBtu/hr) and the boiler identified as S-16 rated at maximum capacity of 60 million British thermal units per hour (MMBtu/hr) shall be limited to 1042 and 102 Kgal measured as no. 2 fuel oil per 12 month period, rolled on a monthly basis. For compliance purposes, the following equivalencies shall be used:

1 kgal of no. 4 fuel oil	=	1.00 kgal no. 2 fuel oil
1 kgal of no. 5 fuel oil	=	1.16 kgal no. 2 fuel oil
1 kgal of no. 6 fuel oil	=	1.16 kgal no. 2 fuel oil

This usage limit is equivalent to a potential to emit of 39.0 tons of sulfur dioxide per year.

- (b) The input of natural gas and natural gas equivalents to the boiler S-17 rated at a maximum capacity of 75 million British thermal units per hour (MMBtu/hr) and the boiler S-16 rated at a maximum capacity of 60 million British thermal units per hour (MMBTU/hr) shall be limited to 657 MMCF and 314 MMCF of natural gas per 12 month period, rolled on a monthly basis, respectively. For purpose of determining compliance, the following equivalencies shall be used:

1 kgal no. 2 fuel oil	=	0.143 MMCF natural gas
1 kgal no. 4 fuel oil	=	0.143 MMCF natural gas
1 kgal no. 5 fuel oil	=	0.393 MMCF natural gas
1 kgal no. 6 fuel oil	=	0.393 MMCF natural gas

This usage limit is required to limit the potential to emit of nitrogen oxides to less than 46 and 22 tons per year at the boilers identified as S-17 and S-16. During the first 12 months of operation at boiler identified as B-17, the input fuel oil and natural gas usages shall not exceed 86.80 Kgal as no. 2 and 54.75 MMCF per month, respectively.

Compliance with limiting condition (a) and (b) makes the Prevention of Significant Deterioration (PSD) rules (326 IAC 2-2) and 40 CFR 52.21 not applicable.

Because of the change in the permit condition 10 and 11 of the prior issued permit (CP# 157-4620-00038), condition 12 of the issued permit will be renumbered as condition 11 and will be revised to read as follows:

11. That a log of information necessary to document compliance with operation permit condition nos. 8, 9 and 10 shall be maintained. These records shall be kept for at least the past 24-month period and made available upon request to the Office of Air Management (OAM). A quarterly summary of operation permit condition nos. 8, 9b and e, 10 shall be submitted to:

**Compliance Data Section  
Office of Air Management  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015**

within 30 days after the end of the quarter being reported in the formats attached. A quarterly summary of operation permit condition no. 8 shall entail a certification from the fuel supplier on the sulfur content of the fuel oil.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment with the original permit.

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

mpatel

cc: File - Tippecanoe County  
Tippecanoe County Health Department  
Air Compliance Section Inspector - Marc Goldman  
Compliance Data Section - Jerri Curless  
Permit Tracking - Janet Mobley

## Indiana Department of Environmental Management Office of Air Management

### Technical Support Document (TSD) for Modification to Construction Permit

#### Source Background and Description

Source Name: Cargill, Inc.  
 Source Location: 1503 Wabash Avenue, Lafayette, IN 47902  
 County: Tippecanoe  
 Modification No.: A 157-9427-00038  
 Modification to: CP 157-5397-00038  
 SIC Code: 2075  
 Permit Reviewer: Manoj P. Patel

The Office of Air Management (OAM) has reviewed a letter from Cargill, Inc. relating to the readjustment of the NO<sub>x</sub> emissions limits for the boilers identified as S-16 & S-17 and requested changes in the operation permit condition Nos. 10, 11 and reporting requirements.

On September 26, 1996, Indiana Department of Environmental Management (IDEM) issued a construction permit (CP# 157-5397-00038) to Cargill, Inc. (Cargill) to construct and operate one (1) 75 million British thermal units (MMBtu/hr) natural gas fired boiler identified as S-17 with fuel oil #2, #4, #5, #6 as available back up fuel oils. The source has one (1) existing 60 million British thermal units per hour (MMBtu/hr) natural gas fired boiler identified as S -16 with #2, #3, #4, #5, #6 back up fuel oils.

#### **Proposed Modification (Original TSD of CP-157-5397-00038):**

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO <sub>2</sub> (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO <sub>x</sub> (ton/yr)
Proposed Modification	5.0	5.0	39.0	0.90	11.50	63.20
Contemporaneous Decreases	n/a	n/a	n/a	n/a	n/a	24.10
Net Emissions	14	14	39	39	99	39.10
PSD or Offset Significant Level	25	15	40	40	100	40

Cargill originally expected that the boiler S-17 would be used almost exclusively, with boiler S -16 being used as an emergency back up. So, the new boiler S-17 was credited NO<sub>x</sub> =63.20 tons/yr (39.10 + 24.1 - portion of S-16's actual NO<sub>x</sub> emissions) and the boiler S-16 limited at 5.0 tons per year.

Recently, Cargill has found that both boilers operate more efficiently if the boiler identified as S-17 runs at 77% capacity and boiler identified as S-16 operates at about 33% capacity. Therefore, Cargill requested a readjustment of the credited NO<sub>x</sub> emissions and the reporting requirements for the fuel used by these boilers.

The prior netting will be superseded with a new netting performed on the next page. Note that the net emission increases will remain unchanged. Therefore, this will not be a relaxation pursuant to 326 IAC 2-2 and 40 CFR 52.21 (r)(4).

**Proposed Modification (Revised TSD of CP-157-5397-00038):**

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO <sub>2</sub> (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO <sub>x</sub> (ton/yr)
Proposed Modification	5.0	5.0	39.0	0.90	11.50	46.2
Contemporaneous Decreases	n/a	n/a	n/a	n/a	n/a	7.1
Net Emissions	5.0	5.0	39.0	0.90	11.50	39.1
PSD or Offset Significant Level	25	15	40	40	100	40

By readjusting the creditable NO<sub>x</sub> emissions, there are no increases in NO<sub>x</sub> or SO<sub>x</sub> emissions above the PSD significance levels. Due to readjusting of NO<sub>x</sub> emissions, the following conditions are revised:

Current

10. That the input of fuel oils no. 2, no. 4, no. 5 and no. 6 to boiler S-17 rated at a maximum capacity of 75 MMBTU/hr shall be limited to 1156 Kgal measured as no. 2 fuel oil/365-day period, rolled on a daily basis. For compliance purposes, the following equivalencies shall be used:

$$\begin{aligned}
 1 \text{ kgal of no. 4 fuel oil} &= 1.00 \text{ kgal no. 2 fuel oil} \\
 1 \text{ kgal of no. 5 fuel oil} &= 1.16 \text{ kgal no. 2 fuel oil} \\
 1 \text{ kgal of no. 6 fuel oil} &= 1.16 \text{ kgal no. 2 fuel oil}
 \end{aligned}$$

This production limitation is equivalent to SO<sub>2</sub> emissions of 39 tons/365-day period, rolled on a daily basis. During the first 12 months of operation, the input material usage shall not exceed 3.25 tons of SO<sub>2</sub>/month. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

11. That the input of natural gas and fuel oils no. 2, no. 4, no. 5 and no. 6 to boiler S-16 rated at a maximum capacity of 60 MMBTU/hr shall be limited to 71.4 MMCF of natural gas/365-day period, rolled on a daily basis. For compliance purposes, the following equivalencies shall be used:

$$\begin{aligned}
 1 \text{ kgal no. 2 fuel oil} &= 0.143 \text{ MMCF natural gas} \\
 1 \text{ kgal no. 4 fuel oil} &= 0.143 \text{ MMCF natural gas} \\
 1 \text{ kgal no. 5 fuel oil} &= 0.393 \text{ MMCF natural gas} \\
 1 \text{ kgal no. 6 fuel oil} &= 0.393 \text{ MMCF natural gas}
 \end{aligned}$$

This production limitation is equivalent to NO<sub>x</sub> emissions of 5 tons/365-day period, rolled on a daily basis. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

Condition nos. 10 and 11 have been combined into a new Condition 10.

New

**10. Pursuant to PSD minor source status [326 IAC 2-2] [40 CFR 52.21],**

- (a) The input of fuel oils no.2, no.4, no. 5 and no.6 to the boiler identified as S-17 rated at maximum capacity of 75 million British thermal units per hour (MMBtu/hr) and the boiler identified as S-16 rated at maximum capacity of 60 million British thermal units per hour (MMBtu/hr) shall be limited to 1042 and 102 Kgal measured as no. 2 fuel oil per 12 month period, rolled on a monthly basis. For compliance purposes, the following equivalencies shall be used:

1 kgal of no. 4 fuel oil = 1.00 kgal no. 2 fuel oil  
1 kgal of no. 5 fuel oil = 1.16 kgal no. 2 fuel oil  
1 kgal of no. 6 fuel oil = 1.16 kgal no. 2 fuel oil

This usage limit is equivalent to a potential to emit of 39.0 tons of sulfur dioxide per year.

- (b) The input of natural gas and natural gas equivalents to the boiler S-17 rated at a maximum capacity of 75 million British thermal units per hour (MMBtu/hr) and the boiler S-16 rated at a maximum capacity of 60 million British thermal units per hour (MMBtu/hr) shall be limited to 657 MMCF and 314 MMCF of natural gas per 12 month period, rolled on a monthly basis, respectively. For purpose of determining compliance, the following equivalencies shall be used:

1 kgal no. 2 fuel oil = 0.143 MMCF natural gas  
1 kgal no. 4 fuel oil = 0.143 MMCF natural gas  
1 kgal no. 5 fuel oil = 0.393 MMCF natural gas  
1 kgal no. 6 fuel oil = 0.393 MMCF natural gas

This usage limit is required to limit the potential to emit of nitrogen oxides to less than 46 and 22 tons per year at the boilers identified as S-17 and S-16. During the first 12 months of operation at boiler identified as B-17, the input fuel oil and natural gas usages shall not exceed 86.80 Kgal as no. 2 and 54.75 MMCF per month, respectively.

Compliance with limiting condition (a) and (b) makes the Prevention of Significant Deterioration (PSD) rules (326 IAC 2-2) and 40 CFR 52.21 not applicable.

Because of the change in the permit condition 10 and 11 of the prior issued permit (CP# 157-4620-00038), condition 12 of the issued permit will be renumbered as condition 11 and will be revised.

Current

12. That a log of information necessary to document compliance with operation permit condition nos. 8, 9, 10 and 11 shall be maintained. These records shall be kept for at least the past 24 month period and made available upon request to the Office of Air Management (OAM). A quarterly summary of operation permit condition nos. 8, 9b and e, 10 and 11 shall be submitted to:

**Compliance Data Section  
Office of Air Management  
100 North Senate Avenue  
P.O. Box 6015  
Indianapolis, Indiana 46206-6015**

Within 30 days after the end of the quarter being reported in the formats attached. A quarterly summary of operation permit condition no. 8 shall entail a certification from the fuel supplier on the sulfur content of the fuel oil.

New

11. **That a log of information necessary to document compliance with operation permit condition nos. 8, 9 and 10 shall be maintained. These records shall be kept for at least the past 24-month period and made available upon request to the Office of Air Management (OAM). A quarterly summary of operation permit condition nos. 8, 9b and e, 10 shall be submitted to:**

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**Within 30 days after the end of the quarter being reported in the formats attached. A quarterly summary of operation permit condition no. 8 shall entail a certification from the fuel supplier on the sulfur content of the fuel oil.**

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT

### COMPLIANCE DATA SECTION

#### Quarterly Report

Source Name: Cargill, Inc.  
Source Address: 1503 Wabash Avenue, Lafayette, Indiana 47902  
Permit No.: A157-9427-00038 for CP #157-5397-00038  
Facility: Boiler S-17  
Pollutant: SO<sub>2</sub>  
Limit: 1042 kgal as No.2 fuel oil/ year; based on a 12-month rolling average  
First Year Limit: 86.8 Kgal as No. 2 fuel oil/month

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	total fuel usages as No. 2 fuel oil (Kgal/month)	total fuel usages as No. 2 fuel oil (Kgal/previous 11 Months)	12 Month Total
Month 1			
Month 2			
Month 3			

Conversion: 1 Kgal no. 4 fuel oil = 1.00 Kgal no. 2 fuel oil  
1 Kgal no. 5 fuel oil = 1.16 Kgal no. 2 fuel oil  
1 Kgal no. 6 fuel oil = 1.16 Kgal no. 2 fuel oil

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT

### COMPLIANCE DATA SECTION

#### Quarterly Report

Source Name: Cargill, Inc.  
Source Address: 1503 Wabash Avenue, Lafayette, Indiana 47902  
Permit No.: A157-9427-00038 for CP #157-5397-00038  
Facility: Boiler S-16  
Pollutant: SO<sub>2</sub>  
Limit: 102 Kgal as No.2 fuel oil/ year; based on a 12-month rolling average

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	total fuel usages as No. 2 fuel oil (Kgal/month)	total fuel usages as No. 2 fuel oil (Kgal/previous 11 Months)	12 Month Total
Month 1			
Month 2			
Month 3			

Conversion: 1 Kgal no. 4 fuel oil = 1.00 Kgal no. 2 fuel oil  
1 Kgal no. 5 fuel oil = 1.16 Kgal no. 2 fuel oil  
1 Kgal no. 6 fuel oil = 1.16 Kgal no. 2 fuel oil

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT

### COMPLIANCE DATA SECTION

#### Quarterly Report

Source Name: Cargill, Inc.  
Source Address: 1503 Wabash Avenue, Lafayette, Indiana 47902  
Permit No.: A157-9427-00038 for CP #157-5397-00038  
Facility: Boiler S-17  
Pollutant: NOx  
Limit: 657 MMCF/ year; based on a 12-month rolling average  
First Year Limit: 54.75 MMCF/month

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	total Natural Gas usages (MMCF/month)	total Natural Gas usages(MMCF) in previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR MANAGEMENT

### COMPLIANCE DATA SECTION

#### Quarterly Report

Source Name: Cargill, Inc.  
Source Address: 1503 Wabash Avenue, Lafayette, Indiana 47902  
Permit No.: A157-9427-00038 for CP #157-5397-00038  
Facility: Boiler S-17  
Pollutant: NOx  
Limit: 314 MMCF/ year; based on a 12-month rolling average

YEAR: \_\_\_\_\_

Month	Column 1	Column 2	Column 1 + Column 2
	total Natural Gas usages (MMCF/month)	total Natural Gas usages(MMCF) in previous 11 Months)	12 Month Total
Month 1			
Month 2			
Month 3			

Submitted by: \_\_\_\_\_  
Title / Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_  
Phone: \_\_\_\_\_