



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

September 28, 2011

John Ross
Northern Indiana Public Service Company (NIPSCO)
801 E. 86th Avenue
Merrillville, IN 46410

Re: Approval for a Temporary Operation No.
E 091-30931-00021 to Part 70 operating
No. T 091-6637-00021

Dear Mr. Ross:

On September 16, 2011, NIPSCO - Michigan City Generating Station submitted a letter informing the Office of Air Quality (OAQ) of their intention to conduct a temporary operation.

NIPSCO - Michigan City Generating Station plans to test the effectiveness of a coal additive (CyClean) at Unit 12 boiler.

The uncontrolled emissions from this temporary operation are less than the PSD significant levels of 25 tons per year for PM, 15 tons per year for PM₁₀, 10 tons per year for PM_{2.5}, 100 tons per year for CO, and 40 tons per year, each, for NO_x and SO₂.

Temporary Operations General Information

| | |
|---------------------------------|--------------------------------------------|
| Units | Unit 12 boiler |
| Location of the Operation: | 101 Wabash Street, Michigan City, IN 46360 |
| County: | LaPorte |
| County Status: | Attainment for all criteria pollutants |
| Starting Date of the Operation: | September 26, 2011 |
| Duration of the Operation: | Less than 30 days of total operating time |
| Activity: | Research and Development |

Applicable Requirements

Pursuant to 326 IAC 2-1.1-3(h) (Exemption for Temporary Operations), the above mentioned temporary operations shall satisfy the following requirements:

1. The potential emissions from the operation are less than 25 tons per year for the duration of the operation. [326 IAC 2-1.1-3(h)(3)(A)]
2. The operation is not a major source or modification as defined under 326 IAC 2-2, or 326 IAC 2-7. [326 IAC 2-1.1-3(h)(3)(B)]
3. The purpose of the temporary operation is to:
 - (a) temporarily conduct an operation not considered as part of the normal operation or production of the facility or source. [326 IAC 2-1.1-3(h)(3)(C)(ii)]



4. The duration of the temporary operations is less than 30 days of total operating time. [326 IAC 2-1.1-3(h)(3)(D)]
5. The Permittee shall submit a report containing the following information, at most seven (7) days after the conclusion of the temporary operations: [326 IAC 2-1.1-3(h)(3)(G)]
 - (a) The actual dates of the construction and operation.
 - (b) The duration of the operation.
 - (c) The actual emissions occurring during the operation.
6. The report shall be submitted to:
Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Expiration Date

The approval for the Temporary Operations expires after 30 days of total operating time.

IDEM Contact

If you have any questions regarding this approval, please contact Heath Hartley of my staff at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8217 or toll free at 1-800-451-6027 extension 2-8217.

Sincerely,



Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Enclosure: Temporary Operations Report

cc: File – LaPorte County
LaPorte County Health Department
Compliance and Enforcement Branch
IDEM Northwest Regional Office

Mr. Kelly Carmichael
Northern Indiana Public Service Company (NIPSCO)
801 E. 86th Avenue
Merrillville, IN 46410

Mr. Phillip Pack
Northern Indiana Public Service Company (NIPSCO)
801 E. 86th Avenue
Merrillville, IN 46410

**Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, IN 46204-2251**

Temporary operations Report

Source Name: Northern Indiana Public Service Company (NIPSCO)
Source Location: 101 Wabash Street, Michigan City, IN 46360
County Location: LaPorte
Experimental Operation: 091-30931-00021

| Temporary Operation | |
|------------------------------------------------------------|--|
| Type of unit/operation: | |
| Actual starting date of the construction: | |
| Actual ending date of the construction: | |
| Actual starting date of the operation: | |
| Actual ending date of the operation: | |
| Actual number of days of the operation: | |
| Calculated emissions during the duration of the operation: | |
| Additional Comments: | |

I certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**Appendix A: Emissions Calculations
Temporary Operation**

Company Name: NIPSCO Michigan City
Address City IN Zip: 101 Wabash Street, LaPorte, IN 46360
Part 70 Permit: T091-6637-00021
Reviewer: Heath Hartley
Date: September 16, 2011

**Unit 12 CyClean Additives Project Summary of Emissions:
Potential To Emit (TPY) CyClean**

PM = 0.82
PM10 = 0.26
PM2.5 = 0.05

NIPSCO Michigan City Unit 12 CyClean Additives Project
Unit 12 Heat Input: 4650 MMBtu/hr
Coal Input Rate: 245 Ton/hr (based on 19 MMBtu/ton)
CyClean A Application Rate: 0.1% Design
Hourly CyClean A Input: 0.24 Ton/hour
Annual CyClean A Input: 2,144 Ton/year

BASIS: CyClean System

Emissions for CyClean A drop points
use AP-42 Chapter 13.2.4

KP= 0.74
U= 10.2 mph
M= 0.25 % lowest range for equation

Fugitive PM EF:
$$=(KP*0.0032)*((U/5)^{1.3})/(M/2)^{1.4}$$

0.10996 lb/ton

| Emission point | Max Throughput tons/hour | Max Throughput tons/year | PM Emissions tons/year |
|------------------------------------|--------------------------------|--------------------------------|---------------------------|
| drop from Truck to Stockpile | 25.00 | 2,144 | 0.118 |
| drop from Frontend Loader to Hoppe | 8.00 | 2,144 | 0.118 |
| drop from Hopper to Conveyor | 0.24 | 2,144 | 0.118 |
| | | PM = | 0.35 |
| | | PM10 = | 0.167 |
| | | PM2.5 = | 0.025 |

**Appendix A: Emissions Calculations
Temporary Operation**

Company Name: NIPSCO Michigan City
Address City IN Zip: 101 Wabash Street, LaPorte, IN 46360
Part 70 Permit: T091-6637-00021
Reviewer: Heath Hartley
Date: September 16, 2011

NIPSCO Michigan City Unit 12 CyClean Additives Project

1. Emission Factors: AP-42

According to AP-42, Chapter 13.2.1 - Paved Roads (1/11), the PM/PM10 emission factors for paved roads can be estimated from the following equation:

$$E = k \times (sL)^a \times (w)^b$$

where:

| | |
|------------------------------------------------------|-------------------------|
| E = emission factor (lb/vehicle mile traveled) | |
| sL = road surface silt loading (g/m ²) = | 7.0 (g/m ²) |
| empty vehicle weight (tons) = | 15.0 tons |
| loaded vehicle weight (tons) = | 40.0 tons |
| w = mean vehicle weight (tons) = | 27.5 tons |
| k = empirical constant for PM-30= | 0.011 lb/VMT |
| k = empirical constant for PM-10= | 0.0022 lb/VMT |
| k = empirical constant for PM-2.5= | 0.00054 lb/VMT |
| a = empirical constant = | 0.91 |
| b = empirical constant = | 1.02 |

| | | |
|------------------------------------------|------------------------------------------------------------|----------------------|
| PM Emission Factor (trucks) = | 0.011 x (7.0) ^{0.91} x (24.6) ^{1.02} = | 1.90 lbs/mile |
| PM10 Emission Factor (trucks) = | 0.0022 x (7.0) ^{0.91} x (24.6) ^{1.02} = | 0.38 lbs/mile |
| PM2.5 Emission Factor (trucks) = | 0.00054 x (7.0) ^{0.91} x (24.6) ^{1.02} = | 0.09 lbs/mile |
| Length of Paved Roads in One Direction = | | 1.42 miles |

2. Potential to Emit (PTE) of PM/PM10 Before Control from Paved Roads:

CyClean A - Maximum Yearly Thro 2,144 tons/year

| Vehicle Type | Maximum Trucks Per Year | Average Vehicle Weight | Total Trip Number | Vehicle Mile Traveled Return Trips(VMT) | PTE of PM | PTE of PM10 | PTE of PM2.5 |
|-------------------------------------------------------------|-------------------------|------------------------|-------------------|-----------------------------------------|-------------|-------------|--------------|
| | | (tons) | (trips/yr) | (miles/yr) | (tons/yr) | (tons/yr) | (tons/yr) |
| Covered Trucks | 86 | 25.0 | 86 | 244 | 0.23 | 0.05 | 0.01 |
| Total Assuming Double the Trips for CyClean A and CyClean B | | | | | 0.46 | 0.09 | 0.02 |

Methodology

Average Vehicle Weight (ton) = (Weight of Unloaded Vehicles + Weight of Loaded Vehicles) / 2

Total Trip Number (trips/yr) = Maximum Yearly Throughput / 25 tons per load

VMT (miles/yr) = Length of Paved Roads in One Direction (miles) x 2 x Total Trip Number (trips/yr)

PTE of PM/PM10 (tons/yr) = VMT (miles/yr) x Emission Factor (lbs/mile) x 1 tons/ 2000 lbs

Mail Code 61-53

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| IDEM Staff | LPOGOST 9/28/2011 NIPSCO - Michigan City 091 - 30931 - 00021 final) | | Type of Mail: CERTIFICATE OF MAILING ONLY | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
| Name and address of Sender |  | Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204 | | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee | Remarks |
|------|----------------|---------------------------------------------------------------------------------------------------------------------|---------|-----------------|----------------------------|---------------|-----------------|----------|----------|----------|----------------|---------|
| 1 | | Kelly R Carmichael NIPSCO - Michigan City 801 E 86th Ave Merrillville IN 46410 (Source CAATS) | | | | | | | | | | |
| 2 | | Philip W Pack Sr VP Generation - Interim NIPSCO - Michigan City 801 E 86th Ave Merrillville IN 46410 (RO CAATS) | | | | | | | | | | |
| 3 | | LaPorte County Commissioners 555 Michigan Avenue # 202 LaPorte IN 46350 (Local Official) | | | | | | | | | | |
| 4 | | LaPorte County Health Department County Complex, 4th Floor, 809 State St. LaPorte IN 46350-3329 (Health Department) | | | | | | | | | | |
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