

Mr. David Boggs  
GE Plastics Mt. Vernon, Inc.  
One Lexan Lane  
Mount Vernon, Indiana 47670-9384

Re: A129-13689-00002  
Administrative Amendment to  
Construction Permit PC (65) 1813  
Plt ID-129-00002

Dear Mr. Boggs:

GE Plastics Mt. Vernon, Inc. was issued a permit, PC (65) 1813 on December 21, 1989 for the phenol manufacturing process. An application relating to the request for an amendment to this permit was received on January 2, 2001 to incorporate the 12 million British Thermal Units per hour (mmBtu/hr) natural gas-fired Thermal Catalytic Unit (TCU), vented to stack S/V 03-107 that GE has installed at the Phenol Plant. The permit is amended to add the following conditions and in accordance with the attached Technical Support Document as follows:

8. Emissions Limit  
The rate of ammonia addition to the phenol manufacturing oxidation process shall be limited to 210,240 pounds per 365-day period, rolled on daily basis. This ammonia usage limit will restrict the oxides of nitrogen (NOx) emissions to less than 40 tons per 365-day period, rolled on a daily basis. Compliance with this limit shall make 326 IAC 2-2, Prevention of Significant Deterioration and 40 CFR 52.21 not applicable.
9. Thermal Catalytic Unit (TCU) Operation  
Notwithstanding that compliance with the source's emissions averaging implementation plan under the HON (40 CFR 63, Subpart F and G) may not require the Thermal Catalytic Unit (TCU) to operate full-time, the source shall operate the TCU full-time to reduce VOC emissions from the F-235 A/B/C/D carbon beds process vent, subject to the startup/shutdown/malfunction provisions of the HON. This provision shall not be federally enforceable, but shall only be enforceable by the State of Indiana.
10. NOx Offsets
  - (a) The source shall offset the 36.9 tons per year of NOx emissions from the TCU with 36.9 tons per year of VOC emission reductions from the F-235 A/B/C/D carbon beds process vent due to the operation of the TCU. Only those emissions reductions that are not required to comply with the source's HON emissions averaging

implementation plan shall be available to be used as VOC emission reductions to comply with this requirement. This provision shall not be federally enforceable, but shall only be enforceable by the State of Indiana.

- (b) VOC emission reductions used to offset the TCU's NOx emissions shall not be available for contemporaneous emissions netting under state and federal PSD rules or for offsets under the state and federal nonattainment new source review rules.

11. Minimum Operating Period

Beginning April 22, 2010, the requirements in Conditions 9 and 10(a) shall no longer be applicable if (a) GE provides data to IDEM, OAQ showing that the Detox wastewater stream no longer is a HON Group I wastewater stream, and (b) after reviewing the data, IDEM, OAQ agrees. This provision shall not be federally enforceable, but shall only be enforceable by the State of Indiana.

12. Record Keeping Requirements

- (a) To comply with Condition No. 8, the source shall monitor and record the rate of ammonia addition to the phenol manufacturing oxidation process at least two (2) times each hour; and
- (b) The source shall calculate the amount, based upon the source's calculations of emissions debits and credits pursuant to the source's HON emissions averaging implementation plan, and maintain records of the VOC emissions reductions generated each day at the F-235 A/B/C/D carbon beds process vent to demonstrate that (i) on a calendar year basis, sufficient VOC reductions were generated to offset the TCU's NOx emissions of 36.9 tons per year, and (ii) the VOC emissions reductions used to offset the NOx emissions were not needed to comply with the source's HON emissions averaging implementation plan. This provision shall not be federally enforceable, but shall only be enforceable by the State of Indiana.

13. Reporting Requirements

A quarterly summary of the information to document compliance with Condition No. 8 shall be submitted to:

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

using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The first quarterly reporting period shall consist of the portion of the calendar quarter beginning on the effective date of this amendment and ending on the last day of the calendar quarter during which such effective date occurred.

## Indiana Department of Environmental Management Office of Air Quality Compliance Data Section

Company Name: GE Plastics Mt. Vernon, Inc.  
Location: 1 Lexan Lane, Mt. Vernon, Indiana  
Permit No.: PC (65) 1813 Issuance Date: December 21, 1989  
Source/Facility: Thermal Catalytic Unit (TCU), vented to stack S/V 03-107  
Pollutant: NOx  
Limit: 210,240 pounds ammonia usage per 365-day period, rolled on a daily basis. This usage limit shall restrict the NOx emissions below 40 tons per 365-day period.

Month: \_\_\_\_\_ Year: \_\_\_\_\_

Day	Usage in Pounds This Day	Usage in Pounds for the Last 365 - Day Period	Day	Usage in Pounds This Day	Usage in Pounds for the Last 365 - Day Period
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16					

Submitted by: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

All 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

APD

cc: File - Posey County  
Posey County Health Department  
Air Compliance Section Inspector - Scott Anslinger  
Southwest Regional Office  
Compliance Data Section - Karen Nowak  
Permit Tracking - Janet Mobley  
Air Programs Section - Michelle Boner

**Indiana Department of Environmental Management (IDEM)  
Office of Air Quality**

**Technical Support Document (TSD) for an Administrative Amendment to  
Issued Construction Permit**

**Source Background and Description**

Source Name:	GE Plastics Mt. Vernon, Inc.	
Source Location:	1 Lexan Lane, Mt. Vernon, Indiana 47620	
County:	Posey	
Construction Permit No.:	PC (65) 1813	Issued Date: December 21, 1989
Amendment No.:	129-13689-00002	
Operation Permit:	Pending	
Permit Reviewer:	Aida De Guzman	

The Office of Air Quality (OAQ) has reviewed an application from GE Plastics Mt. Vernon, Inc. relating to the request for an amendment to construction permit, PC (65) 1813 issued on December 21, 1989, to incorporate the 12 million British Thermal Units per hour (mmBtu/hr) natural gas-fired Thermal Catalytic Unit (TCU), vented to stack S/V 03-107 that GE has installed at the Phenol Plant.

The TCU was installed in connection with the HON (Hazardous Organic NESHAP) emissions averaging implementation plan, which EPA approved on September 24, 1999. The emissions averaging implementation plan allows GE to comply with the HON's wastewater provisions that apply to a Group 1 wastewater stream at the Phenol Plant (Detox wastewater stream) by controlling a Group 2 process vent (F-235 A/B/C/D carbon beds process vent, which PC (65) 1813 permitted to emit through S/V 03-001) at the Phenol Plant with the TCU. The deadline to comply with the HON's wastewater provisions for the Detox wastewater stream, as extended by IDEM, was April 22, 2000. The TCU has been operating since that date.

A performance test was conducted on the TCU pursuant to the HON in August 2000. In conjunction with that testing, a separate performance testing showed that, operating at 8760 hours per year, the TCU would emit 36.9 tons per year of NO<sub>x</sub>. The majority of the NO<sub>x</sub> is formed by the oxidation of ammonia in the TCU. Ammonia is used in the phenol manufacturing oxidation process.

**Emission Calculations:**

- (1) The 36.9 tons of NO<sub>x</sub> per year determined from the stack tests come from the TCU combustion and the oxidation of ammonia by the TCU.

In order that the TCU's NO<sub>x</sub> emissions would not exceed the PSD major significant threshold of 40 tons per year, GE proposed to limit the ammonia usage to 24 pounds per hour, the same rate used in the testing that resulted in the total NO<sub>x</sub> emissions of 36.9 tons/year.

$$\begin{aligned}\text{Ammonia Usage Limit} &= 24 \text{ lbs/hr} * 8760 \text{ hrs/yr} \\ &= 210,240 \text{ lbs/yr}\end{aligned}$$

Based on the above explanation, construction permit, PC (65) 1813 issued on December 21, 1989, will be amended to incorporate the installed Thermal Catalytic Unit (TCU).

In addition, the permit amendment will address the agreement between GE and IDEM regarding IDEM's approval of the extension of the HON compliance deadline. The agreement covered the following matters:

- (1) GE was to operate the TCU on a full-time basis, subject to the HON's startup/shutdown/malfunction provisions (to be a state-only enforceable provision, not federally enforceable);
- (2) GE would offset the TCU's NOx emissions with a reduction of either NOx or VOC at a 1:1 ratio (see October 5, 1998 letter from David Boggs to Janet McCabe and October 7, 1998 letter from Janet McCabe to David Boggs) (to be a state-only enforceable provision, not federally enforceable); and
- (3) The TCU would be operated for a minimum of 10 years after initial startup date, after which time GE would no longer be required to operate the TCU or offset the TCU's NOx emissions upon demonstrating that Detox wastewater stream was no longer a HON group 1 wastewater stream (to be a state-only enforceable provision, not federally enforceable);

**Note: To make the changes in the Permit (other than the three described above) federally enforceable, this amendment will require public notification. However, IDEM and GE intend that the three changes described above not be federally enforceable, but enforceable only by the State of Indiana. EPA agreed with this approach as part of its approval of the emissions averaging implementation plan.**

Based on this explanation, construction permit PC (65) 1813 is hereby amended to add the following conditions and be numbered as follows:

8. Emissions Limit  
The rate of ammonia addition to the phenol manufacturing oxidation process shall be limited to 210,240 pounds per 365-day period, rolled on a daily basis. This ammonia usage limit will restrict the oxides of nitrogen (NOx) emissions to less than 40 tons per 365-day period, rolled on a daily basis. Compliance with this limit shall make 326 IAC 2-2, Prevention of Significant Deterioration and 40 CFR 52.21 not applicable.
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  - (b) VOC emission reductions used to offset the TCU's NOx emissions shall not be available for contemporaneous emissions netting under state and federal PSD rules or for offsets under the state and federal nonattainment new source review rules.

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  - (b) The source shall calculate the amount, based upon the source's calculations of emissions debits and credits pursuant to the source's HON emissions averaging implementation plan, and maintain records of the VOC emissions reductions generated each day at the F-235 A/B/C/D carbon beds process vent to demonstrate that (i) on a calendar year basis, sufficient VOC reductions were generated to offset the TCU's NOx emissions of 36.9 tons per year, and (ii) the VOC emissions reductions used to offset the Nox emissions were not needed to comply with the source's HON emissions averaging implementation plan. This provision shall not be federally enforceable, but shall only be enforceable by the State of Indiana.
  
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Submitted by: \_\_\_\_\_  
Title/Position: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_