

**NOTICE OF CONCILIATION  
AND SECRETARY'S ORDER**

Pursuant to *7 Del. C. § 6005*

**Order No. 2006-A-0058**

*PERSONALLY SERVED BY ENVIRONMENTAL  
ENFORCEMENT OFFICER*

**Issued To:**

Claymont Steel Inc.  
Attn: Jeff Bradley, Chairman  
4001 Philadelphia Pike  
Claymont, DE 19703

**Registered Agent:**

Corporation Trust Company  
1209 Orange Street  
Wilmington, DE 19801

Dear Mr. Bradley:

This Notice and Order is to notify Claymont Steel Inc. ("Claymont Steel") that the Secretary of the Department of Natural Resources & Environmental Control ("Secretary" or "Department") has found Claymont Steel in violation of *7 Del. C. § 6003(a)* related to the continuing discharge of the air pollutant Mercury. Claymont Steel operates a steel mini mill located at 4001 Philadelphia Pike, in Claymont, Delaware ("Facility"). By letter dated August 24, 2006, Claymont Steel informed the Department that it had changed the name of its company from CitiSteel to Claymont Steel. Thus, at times applicable to this Notice and Order,

Claymont Steel has been the owner of the Facility. Claymont Steel, among other things, recycles scrap automotive metal at its Facility and some of the scrap materials utilized contain Mercury. The Secretary is issuing this Notice of Conciliation and Secretary's Order pursuant to 7 *Del. C.* § 6005(b)(2) in an attempt to obtain compliance with the statutory requirement that Claymont Steel obtain a permit from the Secretary before emitting the air pollutant Mercury. Claymont Steel has not applied for, or obtained a permit from the Secretary, to emit Mercury from the Facility, and Claymont Steel's continuing emission of Mercury without a permit is a violation that is continuing and threatening to occur.

### **BACKGROUND**

Claymont Steel applied to the Department and acquired several air quality management construction/operating permits for various air pollutants at its Facility. (Slab Scarfer Baghouse: APC-91/0178-CONSTRUCTION (Amendment 2); Cold Cleaning Machines: APC-94/0829-CONSTRUCTION/OPERATION (Amendment 3) (VOC RACT); Electric Arc Furnace: APC-81/0363-OPERATION (Amendment 3)(EAF); Plate Mill Slab Furnace: APC-82/1175-OPERATION (Amendment 1)(NO<sub>x</sub> RACT); Computerized Cutting Table: APC-2005/0204-OPERATION. Claymont Steel also operates under an existing Title V operating program permit: AQM-00300063. While the Title V operating permit has on its terms expired, Claymont Steel made timely application for a renewal and consequently continues to operate under the extended, expired Title V operating permit.

On October 29, 1999, EPA promulgated the final rule on Persistent, Bioaccumulative and Toxic Chemicals (64 FR 58666). The rule modified the reporting requirements for Mercury and Mercury compounds under Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 ("EPCRA"). The reporting threshold for Mercury and the Mercury

compound category was lowered to 10 pounds per year for manufacturing, processing, or otherwise use. Pursuant to EPCRA, Claymont Steel makes yearly reports of its Mercury emissions to the Department in its Toxic Release Inventory (“TRI”), which is also part of its Title V Reporting obligations. It is the Department’s understanding that Claymont Steel has derived the Mercury emissions data that was reported to the Department using calculations from factors derived from EPA’s 2000 “Guidance for Reporting Toxic Chemicals: Mercury and Mercury Compounds Category.” Claymont Steel reported the following TRI data in the years 2000 through 2005: in 2000 emitted 33 pounds per year of Mercury compounds; in 2001 emitted 29 pounds per year of Mercury compounds; in 2002 emitted 28 pounds per year of Mercury compounds; in 2003 emitted 31 pounds per year of Mercury compounds; in 2004 emitted 39 pounds per year of Mercury compounds; and in 2005 emitted 36 pounds per year of Mercury compounds according to its July 2006 submittal.

Although the Department has been aware that Claymont Steel was both emitting and reporting air emissions of Mercury compounds from its Facility, the Department has not taken previous enforcement action against Claymont Steel for failing to submit an application for an air quality permit to emit those Mercury compounds. Claymont Steel had been ranked behind coal-fired power plants and another, subsequently shut down, industrial facility based on the prior reported emissions. Indeed, to date, the Department has not yet established an emissions limitation for Mercury compounds from facilities like Claymont Steel. Nonetheless, it has come to the attention of the Department that actual emissions from Claymont Steel of Mercury compounds far exceed previously reported numbers. On January 25 and 26, 2006, stack testing was conducted on the EAF Baghouse at the Facility and the data from this stack testing was submitted to the Department by Claymont Steel on June 15, 2006. The purpose of the testing

was to provide the Department with emission rate data for gaseous pollutants (NO<sub>x</sub>, CO, SO<sub>2</sub>, and THC), particulate matter, and multiple metals to include Mercury. The results of the stack testing indicated that emission rates of Mercury were estimated to be at or around 360 pounds per year, with the potential of to reach or exceed 500 pounds per year at full production, far in excess of historically reported Mercury emissions from the Facility. In October 2006, Claymont Steel resubmitted its 2005 TRI numbers based on a January 2006 stack test and reported stack emissions of 356.64 pounds per year and fugitive emissions of 3.88 pounds per year of Mercury compounds.

Mercury is a persistent, bioaccumulative neurotoxin. Mercury can be found in the environment in a variety of forms depending on use, environment and microbial activity. Metallic Mercury can be present in switches (particularly certain automobile switches), thermostats and a variety of medical and industrial applications. Metallic Mercury is a volatile compound that can result in high air concentrations in industrial and occupational settings. Health effects attributed to exposure to high concentrations of metallic Mercury and associated vapors include permanent damage to the brain and kidneys, as well as tremors, changes in vision and hearing and memory problems.

Methylmercury is an organic compound formed when elemental Mercury makes its way into water and soils where microbes convert the Mercury to methylmercury through an anaerobic biochemical reaction. The methylmercury can then bioaccumulate in fish through food chain biomagnification, leading to exposure to significantly higher concentrations of methylmercury through consumption of affected fish. Health effects associated with adult exposure to high concentrations of methylmercury include damage to the kidneys, stomach and large intestine. As with other toxic substances, children and pregnant women are more sensitive to lower dose

exposures of methylmercury during fetal and early childhood development. The effects can range from minor decreases in intelligence to more serious developmental delays to severe brain damage.

The presence of Mercury compounds in the outdoor atmosphere in the amounts indicated by the results of the January 2006 stack testing from Claymont Steel may be of sufficient quantities and of such characteristics and duration as to have the potential to make a significant contribution to accumulated Mercury in the environment, which has the potential to be injurious to human, plant, or animal life or to unreasonably interfere with the enjoyment of life or property. Consequently, the Department believes it is necessary for Claymont Steel to take the following actions in order to progress towards securing compliance with 7 *Del. C.* Chapter 60.

### **FINDINGS**

Based on the above, the Secretary makes the following findings:

1. Recent stack testing conducted at the Claymont Steel Facility on January 25 and 26, 2006, indicates that emission rates of Mercury from the EAF Baghouse are estimated at or around 360 pounds per year with a potential to reach or exceed 500 pounds per year at full plant production capacity. Claymont Steel had reported Mercury emissions ranging from 28 to 39 pounds per year from the Facility over the past five years based on EPA published emission factors.

2. In July 2006, Claymont Steel submitted its 2005 Toxic Release Inventory Report to the Department based on emission factors provided in EPA guidance documents. These emission factors are not representative of the source specific emission rate data for Mercury obtained from the January 25 and 26, 2006 stack testing. The Facility revised its 2005 Toxic

Release Inventory Report in October of 2006, and its revised report shows stack emissions of 356.64 pounds per year and fugitive emissions of 3.88 pounds per year of Mercury compounds.

3. The Mercury emissions from Claymont Steel are emissions of air pollutants within the meaning of 7 *Del. C.* Chapter 60, and Claymont Steel is required by law to obtain a permit from the Secretary before emitting those air pollutants. Claymont Steel has not obtained a permit from the Secretary to emit Mercury compounds from its EAF and has not demonstrated that the emissions of Mercury compounds from its EAF are not endangering the health, safety and welfare of the people and natural resources of the State of Delaware.

4. It is in the best interest of Claymont Steel, the Department and the people of the State of Delaware for Claymont Steel to take immediate actions to abate the Mercury emissions from its Facility and to develop a plan for long term emissions reductions.

### **REGULATORY AND STATUTORY PROVISIONS**

Seven *Del. C.* § 6003(a)(1) states:

“No person shall, without first having obtained a permit from the Secretary, undertake any activity in a way which may cause or contribute to the discharge of an air contaminant.”

Regulation No. 1102, Section 11.6 states in pertinent part:

“No permit shall be issued by the Department unless the applicant shows to the satisfaction of the Department that the equipment, facility, or air contaminant control device is designed to operate or is operating without causing a violation of the State Implementation Plan, or any rule or regulation of the Department, and without interfering with the attainment or maintenance of National and state ambient air quality standards, and without endangering the health, safety and welfare of the people of the State of Delaware....”

Regulation No. 1102, Section 11.8 states in pertinent part:

“The following emissions rates and/or standards for each air contaminant emitted from any equipment, facility or air contaminant control device shall be specified in each permit issued pursuant to this regulation:

11.8.2 The rate that was shown under Section 11.6 as not interfering with the attainment and maintenance of any National and State ambient air quality standard, and not endangering the health, safety, and welfare of the people of the State of Delaware.”

### **CONCLUSION**

Claymont Steel is violating 7 *Del. C.* § 6003(a)(1) and Regulation No. 1102 by failing to have acquired a permit to emit Mercury compounds from the EAF at its Facility.

### **NOTICE OF CONCILIATION AND ORDER**

It is the desire of the Department that Claymont Steel take actions to cease unpermitted Mercury emissions from the Facility and to reduce Mercury emissions from the Facility to a level that does not endanger the health, safety and welfare of the people and natural resources of the State of Delaware. Therefore, in consideration of the foregoing findings,

IT IS HEREBY ORDERED that Claymont Steel shall take the following actions:

1. Claymont Steel shall begin immediately a program of quarterly testing for Mercury emissions from the EAF Baghouse and conduct the next test no later than December 15, 2006. Each subsequent quarterly testing shall be conducted no later than March 31<sup>st</sup>, June 30<sup>th</sup>, September 30<sup>th</sup>, and December 31<sup>st</sup> of each year. Test results shall be submitted to the Department within 60 days of test completion. Claymont Steel shall continue this testing program for as long as Claymont Steel operates the EAF or until approval for a changed testing program is granted in writing by the Department.

2. Claymont Steel shall undertake immediately a pollution prevention program to reduce the amount of Mercury contained in the feed to the EAF. The plan shall include the following provisions at a minimum:

(a) Claymont Steel shall cease immediately using any municipal solid waste scrap that may contain Mercury as a raw material for the EAF; and

- (b) Claymont Steel shall continue to work with all necessary parties to minimize the Mercury in the raw material scrap feed to the EAF, including continued participation in programs to remove Mercury switches from vehicles before they are shredded and to maximize the Mercury-free scrap used; and
- (c) Claymont Steel shall report to the Department in a timely manner any operational changes that may affect the amount of Mercury in the raw material scrap feed to the EAF.

3. Claymont Steel shall immediately undertake one of the following actions to reduce the emissions of Mercury to the atmosphere by utilizing one of the following options.

- (a) design and implement an enhanced pollution prevention program (beyond section 2(a) through 2(c) above) to further reduce the amount of Mercury in the feed to the EAF, to control emissions of Mercury to permissible levels. Claymont Steel must have this option designed and in operation as soon as practicable, but no later than December 31, 2008; or
- (b) take steps to install and operate an activated carbon injection system (“Carbon System”) in order to control the emissions of Mercury to permissible levels. Claymont Steel must acquire appropriate permits and have this option designed, and equipment procured, installed and operated as soon as practicable, but no later than December 31, 2008; or
- (c) take the same steps to install and operate an alternative pollution control system that is at least as effective as a Carbon System in terms of Mercury reduction, to control emissions of Mercury to permissible levels, if it believes such controls exist (“Other System”). Claymont Steel must acquire

appropriate permits and have this option designed, and equipment procured, installed and operated as soon as practicable, but no later than December 31, 2008; or

(d) design and implement a hybrid program utilizing options 2(a) through 2(c) and 3(a) through 3(c) above to control emissions of Mercury to permittable levels. Claymont Steel must acquire appropriate permits and have this option designed, and equipment procured, installed and operated as soon as practicable, but no later than December 31, 2008; or

(e) immediately cease operating the EAF.

4. No later than January 31, 2007, Claymont Steel shall either notify the Department that it has ceased operating the EAF or identify which other alternative option it intends to undertake. In the event Claymont Steel indicates that it has chosen options 3(a), 3(b), 3(c) or 3(d), Claymont Steel shall submit a Plan to the Department for the Department's approval. The Plan must identify major activities with associated milestones and must include life cycle impacts from subsequent disposition of EAF baghouse dust, such as secondary vaporization of Mercury. The Plan shall also include a proposed limit for future direct and indirect Mercury emissions from the EAF process that does not endanger the health, safety and welfare of the people and natural resources of the State of Delaware and the actions it intends to take to reach those limits including design, fabrication, pilot tests and dates to issue purchase orders and any necessary construction schedule, in addition to timetables by which Claymont Steel will apply for permits in accordance with the Plan. The Department currently anticipates, based on reductions required at comparable facilities, that the proposed limit for future emissions of Mercury shall not exceed 35.0 mg/ton (milligram of Mercury emissions per ton of steel

production) (equivalent to emissions of 42 pounds per year at full production), based on the annual weighted average of all valid stack emission tests performed for four consecutive quarters weighted for the production each quarter. Should the Plan propose a limit that does not demonstrate comparable or more stringent Mercury reductions, Claymont Steel must justify the limit it requests and demonstrate, to the Department's satisfaction, why its proposed limits should be applicable. The Plan shall also include performance measures to determine the effectiveness of Mercury reduction and abatement actions, including feasibility analysis for installation of continuous emissions monitors for Mercury and a timetable for installation if found feasible. The Plan shall include a timetable to apply for a Regulation No. 1102 permit from the Air Quality Management Section to permit the Facility to emit Mercury compounds and/or for incorporation of applicable limits into Claymont Steel's Title V permit.

5. Claymont Steel shall submit to the Department semi-annual reports, due June 30<sup>th</sup> and December 31<sup>st</sup> of each year and beginning June 30, 2007, detailing progress made in implementing the Mercury reduction Plan. These reports shall include information detailing progress made towards completion of each step in comparison to the schedule established in the plan, an analysis of the effectiveness of Mercury reduction efforts implemented as of that date and a forecast showing how the permissible level will be reached by the deadline, the steps remaining and resulting Mercury emissions reductions from each step. In the event that the reports demonstrate insufficient progress through the implementation of Claymont Steel's proposed strategy, the Department reserves the right to require implementation of an alternative approach.

6. Claymont Steel shall submit a detailed inventory of all Mercury sources contributing to Mercury emissions at the Facility for the purpose of developing programs to

remove Mercury sources prior to delivery to Claymont Steel. The detailed inventory shall be part of the Plan submitted to the Department by January 31, 2007. Claymont Steel shall cooperate with Mercury reduction programs in Delaware, including but not limited to, continued sharing of updated information on Mercury sources.

**PUBLIC HEARING**

This Notice and Order shall become effective and final unless the Secretary receives from Claymont Steel, no later than 30 days from receipt of this Notice, a written request for a public hearing on these matters as provided in 7 *Del. C.* § 6005(b)(3) and (c). In the event Claymont Steel requests a hearing, the Secretary reserves the right to withdraw this Notice and Order and to take additional enforcement actions regarding these and other violations at Claymont Steel's Facility, including but not limited to, the imposition of civil penalties and recovery of the Department's costs and attorney's fees. The Department does not otherwise intend to convene a public hearing on these matters, but reserves the right to do so at its discretion.

If you have any questions, please contact James D. Werner at (302) 739-9400 or Paul Foster at (302) 323-4542.

11/29/2006  
Date

/s/ John A. Hughes  
John A. Hughes, Secretary

cc: David Small, Deputy Secretary  
James D. Werner, Director  
Marjorie Crofts, Deputy Principal Assistant  
Kevin Donnelly, Director, Water Resources Division  
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Dover File