

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
1021 N. Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Project Summary for a
Construction Permit Application from
United States Steel Corporation for a
Coke Conveyance System at its
Granite City Works

United States Steel, Granite City Works

Site Identification No.: 119813AAI

Application No.: 06070088

Date Received: July 11, 2006

Schedule

Public Comment Period Begins: September 23, 2007

Public Hearing: November 8, 2007

Public Comment Period Closes: December 8, 2007

Illinois EPA Contacts

Permit Analyst: Jason Schnepf

Community Relations Coordinator: Brad Frost

I. INTRODUCTION

United States Steel Corporation (US Steel) has submitted an application to construct a coke conveyance system at its Granite City Works in Granite City. The Granite City Works is an integrated iron and steel mill producing flat rolled steel products. The coke conveyance system would handle coke from a new heat recovery coke plant that Gateway Energy and Coke is proposing to develop in Granite City adjacent to US Steel's operations. The emissions units at this proposed plant are the subject of a separate application submitted by Gateway Energy and Coke Company, which is also pending before the Illinois EPA (ID No. 119040ATN, Application No. 06070020). The Illinois EPA has prepared a separate project summary that addresses its review of that application and the overall project, i.e., the combination of the proposed heat recovery coke plant and coke conveyance system.

The Illinois EPA has reviewed US Steel's application for the proposed coke conveyance system and made a preliminary determination that the application meets applicable requirements. While the new system would not be a major project if considered by itself, the system becomes a major project when properly considered with the new coke plant proposed by Gateway. Accordingly, the public comment period being held by the Illinois EPA for the proposed coke plant also addresses the proposed coke conveyance system that would be constructed and operated by US Steel. The purpose of this comment period is to receive comments on the proposed issuance of permits for this proposed coke plant and this related conveyance system and on the terms and conditions of the draft permits that the Illinois EPA has prepared for these facilities. This comment period will include a public hearing so that oral comments can be provided in this matter.

II. PROJECT DESCRIPTION

US Steel is proposing to construct a conveyance system to handle coke from a new heat recovery coke plant that Gateway Energy and Coke is proposing to develop at the Granite City Works. The coke conveyance system will transfer coke from Gateway to US Steel to be used in the two existing blast furnaces at the Granite City Works. The system will include conveyors and daybins as well as the ability to pile coke on the ground and then transfer the coke to a reclaim hopper using front end loaders or other equipment. Other parts of the system will include vibratory feeders, a transfer tower for truck loading and a highline loading conveyor and feed hopper. Conveyors will be enclosed/covered to minimize particulate emissions. Water spraying or other comparable measures will also be used to minimize emissions during loading and unloading activities at the emergency coke pile and during transfer of the coke from the conveyor to the emergency coke pile.

III. PROJECT EMISSIONS

The proposed coke conveyance system would be a source of emissions of particulate matter (PM). The potential emissions of this system, by itself, as allowed by the draft permit would be less than 1.0 tons/year, which would not be considered significant under state or federal New Source Review rules. The system's actual PM emissions would be

less than its potential emissions to the extent that the system would operate at less than its maximum capacity and normally operate to achieve emission rates that are lower than the applicable limitations.

The potential emissions from the overall project, i.e., the combination of the proposed conveyance system and the heat recovery coke plant, are summarized in Attachment 1 of the draft permit prepared by the Illinois EPA for the proposed conveyance system, as well as in Attachment 1 of the draft permit for the coke plant (ID No. 119040ATN, Application No. 06070020). The overall project would be significant for emissions of PM, nitrogen oxides (NO_x), carbon monoxide (CO) and sulfur dioxide (SO₂), and sulfuric acid mist. However, the project would be accompanied by contemporaneous emissions decreases from existing units so that the net increases in emissions of New Source Review pollutants other than PM would not be significant. This is further addressed in the Project Summary prepared by the Illinois EPA to accompany the draft permit for the proposed coke plant.

IV. APPLICABLE EMISSION STANDARDS

All emission units in Illinois must comply with the Illinois Pollution Control Board's emission standards and certain federal emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The application shows that the PM emissions of the proposed coke conveyance system would comply with the applicable Board standards.

The proposed system would not have any emission units that would be subject to any standards under the federal New Source Performance Standards (NSPS) at 40 CFR Part 60. The system also would not have emission units that are subject to federal National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR Part 61 or 63. The system would also not be subject to a case-by-case determination of Maximum Achievable Control Technology (MACT) pursuant to Section 112(g) of the Clean Air Act. This is because the system would not be a major source of emission of hazardous air pollutants when appropriately considered by itself as a new process or production unit.

V. NONATTAINMENT NEW SOURCE REVIEW (NA NSR)

The proposed coke conveyance system is part of a project that is major for emissions of particulate matter measured as PM_{2.5} and that is located in an area that is designated nonattainment for PM_{2.5} air quality. Accordingly, this proposed system is subject to Illinois' rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203 for its PM emissions. (For further explanation, refer to the Project Summary prepared by the Illinois EPA to accompany the draft permit for the proposed coke plant).

The first requirement for a major project subject to MSSCAM, is control of emissions to the Lowest Achievable Emission Rate (LAER). LAER must be established for emissions of PM from the various units in the coke conveyance system. The PM emissions from

the coke conveyance system can be readily controlled by work practices, enclosure of the conveyor and other units, and use of add-on control devices. Control of PM emissions is facilitated because Gateway will screen finished coke before it is provided to US Steel. This is done to remove fines, which are not desirable in coke being fed to blast furnaces.

The second requirement for a major project subject to MSSCAM is that it be accompanied by emission offsets. That is, the emissions of the project must be accompanied by decreases in emissions from existing sources in an amount equal to the permitted increase in emissions from the project. For this project, 267.77 tons/year of emission reductions must be provided as these are the permitted emissions of the project. The majority of these reductions will be provided by improved control of fugitive dust from roadways, including vacuum sweeping of various segments of public roads in the vicinity of the Granite City Works (236.03 tons/year). This is expected to be of particular benefit to local air quality for PM as it involves control of emissions that would otherwise be released at ground level. The remainder of the required emissions offsets (31.74 tons/year) are planned to be provided by the installation and operation of a system at the Granite City Works for desulfurization of coke oven gas. This system will also reduce the PM emissions associated with the subsequent use of coke oven gas as fuel. The requirement related to emission offsets will be generally addressed in both the permit for the coke plant and the permit for coke conveyance system. The permit for the coke conveyance system would be used as a means to set forth specific requirements related to vacuum sweeping of public roadways, as US Steel will expand its current road sweeping program to address these road segments.

The third requirement for a major project subject to MSSCAM is “existing source compliance.” The owner or operator of a proposed major project must demonstrate that all existing major sources that such person controls (or that are under common control of such person) that are located in the state in which the project would occur are in compliance or on a schedule for compliance with all applicable emission limitations and emissions standards pursuant to the Clean Air Act. US Steel has determined that this requirement has been satisfied except for certain matters involving the Granite City Works that are currently at the Office of the Illinois Attorney General. These matters would have to be resolved before a construction permit could be issued for the proposed project, either by US Steel coming into compliance, by entry of a judicial consent order or decree that establishes a compliance schedule, or by establishment of a schedule for compliance by other enforceable means. The construction permit for the coke conveyance system would be used, as appropriate, to recognize any compliance schedule that is established for US Steel and to generally facilitate fulfillment of this requirement.

The final requirement for a major project subject to MSSCAM is an analysis of alternatives demonstrating that the benefits of a proposed project significantly outweigh its social and environmental costs. The fulfillment of this requirement is addressed in the Project Summary prepared for the draft permit for the coke plant.

VI. PREVENTION OF SIGNIFICANT DETERIORATION (PSD)

The proposed coke conveyance system is part of a project that is major for emissions of PM10 and that is located in an area that is designated attainment for PM10 air quality. Accordingly, this proposed system is subject to the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. (For further explanation, refer to the Project Summary prepared by the Illinois EPA to accompany the draft permit for the proposed coke plant).

The first requirement for a major project subject to PSD is control of emissions with Best Available Control Technology (BACT). BACT is established for emissions of PM from the various units in the coke conveyance system as these units are subject to LAER.

The other requirement for a major project subject to PSD is completion of an air quality analysis and certain other analyses to address the potential impacts of a project. These analyses are addressed in the Project Summary prepared for the draft permit for the proposed coke plant, which also address the proposed coke conveyance system.

VII. PERMIT CONDITIONS

The conditions of the permit would set forth the air pollution control requirements that the coke conveyance system and US Steel must meet. These requirements include the applicable emission standards that apply to this system and LAER/BACT requirements. The permit also establishes enforceable limitations on the amount of emissions for which the system is permitted. In addition to annual limitations on emissions, the permit includes short-term emission limitations and operational limitations, as needed to provide practical enforceability of the annual emission limitations.

The permit would also establish appropriate compliance procedures for the ongoing operation of the proposed system, including requirements for emission testing, monitoring, recordkeeping, and reporting. These measures are imposed to assure that the operation and emissions from the new units are appropriately tracked to confirm compliance with the various limitations and requirements established in the permit.

VIII. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the application for the coke conveyance system meets applicable state and federal air pollution control requirements. The Illinois EPA is therefore proposing to issue a construction permit for the project.

Comments are requested on this proposed action by the Illinois EPA and the conditions of the draft permit.