

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
Springfield, Illinois

Project Summary for a
Construction Permit Application
from Caterpillar, Inc.
for Modifications to Casting Lines 7 and 7b
in Mapleton, Illinois

Site Identification No.: 143805AAB
Application No.: 06020017
Date Received: December 29, 2009

Schedule

Public Comment Period Begins: June 23, 2010
Public Comment Period Closes: July 23, 2010

Illinois EPA Contacts

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I. INTRODUCTION

Caterpillar, Inc. has requested a revised construction permit to modify its molding and casting lines 7 and 7b by merging the lines into a single manufacturing department, the Large Casting Area. Cat has made a series of changes to this area to enhance flexibility and be able to respond to changing markets for castings. This revised permit also addresses the construction of new dust control equipment on a mobile sand system and allows additional time to commence construction of new natural gas-fired core wash dryer.

The Illinois EPA has reviewed Caterpillar's application and made a preliminary determination that the application for the proposed project meets applicable requirements. Accordingly, the Illinois EPA has prepared a draft of the construction permit that it would propose to issue for the proposed construction and modifications. However, before issuing the permit, the Illinois EPA is holding a public comment period to receive comments on the proposed issuance of the permit and the terms and conditions of the draft permit.

II. PROJECT DESCRIPTION

On lines 7 and 7b Caterpillar's Mapleton plant produces iron castings for large engine blocks, heads and other various parts for both internal customers, i.e. other Caterpillar plants, and for external customers. Merging these lines into a single department, the Large Casting Area will enhance operational flexibility enabling Caterpillar to respond to changing markets for large castings. The Large Casting Area will now have overall production and emission limits governing the area. This revised permit also covers the construction of new dust control equipment on the mobile sand system and allows additional time to commence construction of the natural gas-fired core wash dryer, addressed in a previous permit.

The resultant increase in operational efficiency will increase potential annual production emissions over past actual production and emissions.

The principal air pollutants emitted from the Large Casting Area are particulate matter (PM), particulate matter 10 microns (PM10), particulate matter 2.5 microns (PM2.5) carbon monoxide (CO), and volatile organic material (VOM); Nitrogen oxides (NOx) and sulfur dioxide (SO2) are also emitted in small amounts.

III. PROJECT EMISSIONS

The future annual emissions of the large casting area, as would be allowed by the construction permit, are summarized below. Actual emissions would be less than the permitted emissions as the facility would typically operate at less than its maximum capacity and control equipment normally operates to achieve emission rates that are lower than the applicable standards and limitations.

Downstream emissions are based on the amount of metal poured, natural gas consumption and VOM based release agents used in molds. Past actual

baseline emissions are based on actual emissions from lines 7 and 7b from April 2007 through March 2009.

Emissions of the Large Casting Area (Tons/Year)

Emissions	PM	PM10	PM2.5	VOM	CO	NOx	SOx
Past Actual	12.77	11.15	8.00	10.69	25.26	0.05	0.10
Future Potential	35.73	24.51	17.84	49.64	54.48	1.36	0.22
Net Change	22.97	13.35	9.84	38.94	29.22	1.31	0.12
Significant Modification Rate	25	15	10	40	100	40	40

IV. APPLICABLE EMISSION STANDARDS

The application shows that the large casting area will readily comply with applicable emission standards, including applicable state emission standards (35 Ill. Adm. Code: Subtitle B, Subchapter c) and applicable federal emission standards adopted by the United States EPA (40 CFR Part 60).

VI. PERMIT CONDITIONS

The conditions of the permit set forth the air pollution control requirements that the facility must meet. These requirements include the applicable emission standards that apply to the units at the facility. They also include the measures that must be used and the emission limits that must be met by emission units as BACT for emissions of SO₂, and CO.

The permit also establishes enforceable limitations on the amount of emissions for which the project 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. As previously noted, actual emissions associated with the project would be less than the permitted emissions to the extent that the facility operates at less than capacity and control equipment normally operates to achieve emission rates that are lower than the applicable standards and limitations.

The permit also establishes appropriate compliance procedures for the ongoing operation of the facility, including requirements for emission testing, required work practices, operational monitoring, recordkeeping, and reporting. These measures are imposed to assure that the operation and emissions of the facility are appropriately tracked to confirm compliance with the various limitations and requirements established for individual emission units.

VII. REQUEST FOR COMMENTS

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

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