

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

Project Summary for a
Construction Permit Application
from Electro-Motive Diesel
for Modifications to Engine Test Cells 7 and 8
in McCook, Illinois

Site Identification No.: 031174AAA
Application No.: 09120034
Date Received: October 11, 2011

Schedule

Public Comment Period Begins: December 28, 2011
Public Comment Period Closes: January 27, 2012

Illinois EPA Contacts

Permit Analyst: Kevin Smith
Community Relations Coordinator: Brad Frost

I. INTRODUCTION

Electro-Motive Diesel has requested a revised construction permit to modify engine test cells 7 and 8 to increase the permitted utilization and emissions in order to complete development of diesel engines that meet the new USEPA emission standards. The increase in permitted emissions will be accompanied by a contemporaneous decrease in actual emissions of nitrogen oxides (NO_x) from the existing multi-use Test Cells MU-2 and MU-4.

The Illinois EPA has reviewed Electro-Motive Diesel'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

Electro-Motive Diesel, EMD, manufactures locomotive components and diesel engines at its McCook facility. The current project will increase the permitted utilization and emissions of the new Test Cells 7 and 8 which are used for research and development (R&D) and durability testing on diesel engines under development to meet the USEPA Tier 4 emission standards and other emission standards for locomotive and marine engines. EMD requested this revision in order to complete development of engines that meet the new USEPA emission standards. The increase in permitted emissions of Test Cells 7 and 8 will be accompanied by a contemporaneous decrease in actual emissions from the existing multi-use Test Cell MU-2 and a decrease in actual emissions from existing multi-use Test Cell MU-4.

The principal air pollutants emitted from the Test Cells are nitrogen oxides (NO_x), and particulate matter (PM), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), green house gasses (GHGs), and hazardous air pollutants (HAPs) are also emitted in small amounts.

III. PROJECT EMISSIONS

The future annual emissions of the test cells, as would be allowed by the construction permit, are summarized below. Emissions are based on the permitted amount of fuel consumption and the type of engine, Tier 0, 2, or 4 being tested. 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.

Because the increase in NO_x emissions is significant, EMD has elected to contemporaneous reductions in NO_x emissions for two other existing test cells MU-2 and MU-4. Past actual baseline emissions are based on actual emissions from test cell MU-2 from March 2005 through February 2007 and from test cell MU-4 from December 2004 through November 2006.

Change in NO_x Emissions (Tons/Year)

Emissions	NO _x
Future Project Emissions	111.9
Contemporaneous Emission changes*	-105.3
Contemporaneous Increases	33.0
Net Change	39.6
Significant Emission Rate	40

*Shutdown of test cell MU-2 and new limits for test cell MU-4.

IV. APPLICABLE EMISSION STANDARDS

The application shows that the test cells 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.

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 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 engine test cells.

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