



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

May 2, 2016

Mr. Robert Kaplan
Acting Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3950

Re: Technical Addendum for Revisions to
the Indiana State Implementation Plan
for Sulfur Dioxide and the Final 1-Hour
Sulfur Dioxide Attainment
Demonstration and Technical Support
Document for Central, West Central,
and Southwest Indiana Nonattainment
Areas

Dear Mr. Kaplan:

Enclosed is an addendum to the revisions to the *Indiana State Implementation Plan (SIP) for Sulfur Dioxide and the Final 1-Hour Sulfur Dioxide Attainment Demonstration and Technical Support Document for Central, West Central, and Southwest Indiana Nonattainment Areas*. These documents were submitted to the United States Environmental Protection Agency (U.S. EPA) for review and approval on October 2, 2015. On February 25, 2016, the Indiana Department of Environmental Management (IDEM) received a finding of completeness letter from U.S. EPA in which U.S. EPA determined the SIP submittal satisfied its completeness criteria. IDEM has prepared this technical addendum for revisions to the Indiana SIP for Sulfur Dioxide (SO₂) and the 2010 1-hour primary SO₂ National Ambient Air Quality Standards (NAAQS) attainment demonstration to incorporate changes to an affected facility within the Marion County nonattainment area. IDEM has reviewed the changes and determined it does not adversely impact the 1-hour SO₂ attainment demonstration.

IDEM received an air permit application from the Rolls Royce Corporation on December 21, 2015, requesting a significant source and significant permit modification under the Title V permitting rules. As part of an overall modernization project, the proposed Significant Source Modification (SSM) and Significant Permit Modification (SPM) will include the construction and installation of some new emission units and the permanent shutdown and removal of several existing emission units at Rolls Royce Plant 5 and Plant 8 facilities. Rolls Royce facilities were included in the Marion County attainment demonstration for the 1-hour SO₂ NAAQS, which established 1-hour SO₂

emission limits for a number of emission units at Plants 5 and 8. Therefore, an air quality impact analysis was conducted to evaluate the proposed changes in accordance with the applicable air quality model, data bases, and other requirements specified in 40 CFR Part 51, Appendix W. The same technical elements described in the 1-Hour SO₂ Attainment Demonstration Technical Support Document submitted by Indiana in October were used to perform the air quality impact modeling analysis.

Furthermore, the same emission units were included and the same worst case scenario was modeled as described in the Marion County section of the attainment demonstration for the Rolls Royce Corporation with the addition of the proposed new SO₂ emitting units (Unit ID 0070-91, 0070-92, 0700-N14 and 0700-N40) listed in the table below to evaluate the impact of SO₂ emissions from these units on the Marion County nonattainment area. The space heaters, machining units and emergency generators are considered intermittent and were not included in the modeling. The proposed new emission units were modeled using the same emission limits listed in the revised Sulfur Dioxide Rules in Title 326 of the Indiana Administrative Code (IAC), Article 7 (326 IAC 7) and the 1-Hour SO₂ Attainment Demonstration Technical Support Document. A copy of the final rule was included in Appendix F of the original SIP submittal. There is a pound (lb) per million British thermal unit (mmBtu) limit for engine test cells at each of the Rolls Royce facilities (Plants 5 and 8) according to 326 IAC 7-4-2.1. The proposed new engine test cells will be limited to 0.05 lb/mmBtu, which is the emission limit for engine test cells at Plant 5 and location where the new units will be constructed.

The modeling results for the air quality impact analyses showed that there were no increases to either the Rolls Royce or overall Marion County 4th high 1-hour maximum daily SO₂ concentrations. The Rolls Royce Corporation modeled 185.6 micrograms per cubic meter (µg/m³) and Marion County modeled 191.1 µg/m³ compared to 185.6 µg/m³ and 191.1 µg/m³ respectively, modeled for the 1-hour SO₂ attainment demonstration analyses. These figures include the SO₂ background concentration for Marion County. The 2010 1-hour SO₂ NAAQS is 196.2 µg/m³; therefore, Rolls Royce and Marion County will model attainment with the proposed new emission units added.

In addition to the existing emission units to be removed listed in the table below, all six (6) of the existing oil- and gas-fired boilers; seven (7) additional engine test cells; two (2) paint booths; three (3) vapor degreasers; several mineral spirits cold cleaners and spray booths; wood working activities; several sand blasting units; emergency generators; and a powder coating operation will be permanently decommissioned as part of Rolls Royce's overall modernization project. However, all SO₂ emitting units and limits included in the modeling analysis conducted for the 1-Hour SO₂ attainment demonstration for the original SIP submittal were also included in the air quality impact modeling analysis.

DETAILS OF THE MODIFICATION (SSM 097-36646-00311/SPM 097-36661-00311)

Proposed New Units					
Unit Id	Description	Capacity	Fuel Type	Stack	Date to be Constructed/Permitted
0070-91	Natural Gas Boiler	210 MMBtu/hr	Natural Gas	8-91	2016
0070-92	Natural Gas Boiler	210 MMBtu/hr	Natural Gas	8-92	2016
0700-N14	Engine Test Stand Cell	2300 hp	Jet Fuel	SN14	2016
0700-N40	Engine Test Stand Cell	2300 hp	Jet Fuel	SN40	2016
	Natural Gas Space Heating Units	52.6 MMBtu/hr	Natural Gas		2016
0070-93 A through N	14 Integrated Machining Units				2016
0070-94	Emergency Generator	134 hp	Diesel		2016
0070-95	Emergency Generator	110 hp	Diesel		2016
0070-96	Emergency Generator	201 hp	Diesel		2016
Existing Units to be Removed					
0700-N16	Engine Test Stand Cell	1500 hp	Jet Fuel	SN16	2016
0700-N18	Engine Test Stand Cell	800 hp	Jet Fuel	SN18	2016
Existing Units to be Replaced					
0070-94	Emergency Generator	150 hp	Diesel		Prior to 1977
0070-95	Emergency Generator	170 hp	Diesel		Prior to 1977
0070-96	Emergency Generator	170 hp	Diesel		Prior to 1977

Mr. Robert Kaplan
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IDEM requests that U.S. EPA proceed with review and approval of Indiana's October 2, 2015 attainment SIP submittal and would appreciate U.S. EPA's continued efforts to communicate regularly with us as it reviews this submittal. This submittal consists of one (1) hard copy of the required documentation. An electronic version of the submittal in PDF format that is identical to the hard copy, as well as air quality modeling files, has been sent to Doug Aburano, Chief of U.S. EPA Region 5's Attainment Planning and Maintenance Section and Chris Panos of U.S. EPA Region 5.

If you have any questions or need additional information concerning this matter, please contact Scott Deloney, Chief, Air Programs Branch, at (317) 233-5694 or sdeloney@idem.in.gov.

Sincerely,



Keith Baugues
Assistant Commissioner
Office of Air Quality

KB/sad/jcb

cc: John Mooney, U.S. EPA Region 5
Doug Aburano, U.S. EPA Region 5
Keith Baugues, IDEM
Scott Deloney, IDEM
Christine Petersen
Mark Derf, IDEM
Jean Boling, IDEM
File Copy

PLEASE NOTE:

Modeling files associated with the enclosed letter were too large to print. CD's containing the files were provided to Mr. Robert Kaplan and Mr. Doug Aburano.