July 11, 2018

Trey Glenn
Regional Administrator
USEP A Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Subject: North Carolina’s Obligations under the NOx SIP Call Regarding Proposed Changes to the State’s Vehicle Emissions I&M Program

Dear Mr. Glenn:

This letter explains why the North Carolina Division of Air Quality (DAQ) believes that the state’s obligations under the NOx State Implementation Plan (SIP) call are not affected by any emissions increases associated with the proposed changes to the vehicle emissions inspection and maintenance (I&M) program per Session Law 2017-10.

Background

On August 7, 2002, North Carolina submitted NC-104 to the U.S. Environmental Protection Agency (EPA) as a component of its response to the NOx SIP call requirements. The rule revisions expanded the I&M program from 9 to 48 counties pursuant to North Carolina Session Law 1999-328, Section 3.1(d) and incorporated the on-board diagnostics (OBD) testing procedure. The addition of 39 counties to the I&M program pursuant to Section 3.1(d) of the Session Law was initially ratified to satisfy the 1997 8-hour ozone national ambient air quality standards (NAAQS) (80 FR 6455). However, the expanded I&M program coverage area was included in the SIP submittal alongside the newly adopted OBD testing procedures to support the establishment of credits for North Carolina’s NOx budget and trading program. On October 30, 2002, EPA approved the I&M rule revisions and North Carolina’s use of the I&M credits for the NOx SIP call budget and trading program (67 FR 66056). The ozone season I&M NOx emissions credits were 914 tons in 2004; 2,078 tons in 2005; 3,279 tons in 2006; and 4,385 tons in 2007 and beyond.1 These credits were used at the beginning of the program until the affected stationary sources could install and operate controls needed to meet their emissions allowances.

1 For 2004, the ozone season ran from June 1 through Sept. 30. For subsequent years, the ozone season ran from May 1 through Sept. 30.
On November 19, 2008, North Carolina submitted NC-137 to repeal several NOx SIP call provisions as a component of its response to the Clean Air Interstate Rule (CAIR). This action was conducted by the state since EPA no longer operated a separate banking and trading program for NOx SIP call sources when the CAIR program started on January 1, 2009. On May 9, 2013, EPA approved North Carolina’s request to remove its NOx SIP banking and trading program rules from its SIP (78 FR 27065). Elements of the NOx SIP call that were not carried forward into the CAIR ozone season trading program, such as the I&M credits, remained in effect.

The 2017 session of the North Carolina General Assembly enacted Session Law 2017-10, Senate Bill 131 (An Act to Provide Further Regulatory Relief to the Citizens of North Carolina). Section 3.5(a) of the Act amended North Carolina General Statute (NCGS) §143-215.107A(c) to remove 26 of 48 counties from North Carolina's I&M program. For the 22 counties remaining in the I&M program, the Act also amended NCGS §20-183.2(b) by changing the vehicle model year coverage.

On November 17, 2017, the DAQ submitted to EPA a revision to its I&M SIP and a Clean Air Act (CAA) Section 110(l) noninterference demonstration requesting EPA approval to remove the 26 counties from North Carolina's I&M program. The DAQ will be submitting in July 2018 a separate package requesting EPA approval to revise the vehicle model year coverage in the 22 counties remaining in the I&M program (this package will include revisions to rule 15A NCAC 02D.1002, a revision to its I&M SIP, a CAA Section 110(l) noninterference demonstration, and revisions to the Charlotte area maintenance plan for the 2008 ozone NAAQS.

### Analysis

The primary focus of the NOx SIP call was to lower ozone season emissions from large, stationary source NOx emitters such as electricity generating units (EGUs). CAIR later replaced the NOx SIP call, and subsequently the Cross-State Air Pollution Rule (CSAPR) replaced CAIR. These programs, along with North Carolina’s Clean Smoke Stack Act (CSA) and economic drivers such as natural gas prices and renewable energy investments, have significantly reduced ozone season NOx emissions well below the original NOx SIP call budget for EGUs. This point is illustrated in Table 1, which compares the EGU NOx SIP Call budget to actual emissions in 2007 and 2017. Actual EGU emissions in 2007 and 2017 were 23 percent and 60 percent below the NOx SIP Call budget, respectively.

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2 Session Law 2017-10 changed the vehicle model year coverage to (i) a vehicle with a model year within 20 years of the current year and older than the three most recent model years, or (ii) a vehicle with a model year within 20 years of the current year and has 70,000 miles or more on its odometer. Previously, the program applied to (i) a 1996 or later model year vehicle and older than the three most recent model years, or (ii) a 1996 or later model year vehicle and has 70,000 miles or more on its odometer.

3 In June 2002, the North Carolina General Assembly enacted the North Carolina CSA, which required coal-fired power plants in North Carolina to reduce annual NOx emissions by 77% by 2009. These power plants were also required to reduce annual SO2 emissions by 49% by 2009 and 74% by 2013. The utilities have reduced NOx emissions by 83% and SO2 emissions by 89% relative to 1998 emissions levels.

With the requirement to meet annual emissions caps and disallowing the purchase of NOx credits to meet the caps, the CSA reduced NOx emissions beyond the requirements of the NOx SIP Call Rule even though the CSA did not limit emissions only during the ozone season. The CSA emissions caps were submitted to EPA for adoption into the SIP in August 2009 and were approved in September 2011. These regulations are both state and federally enforceable.
Table 1. Comparison of Ozone Season NOx SIP Call Budget to Actual Emissions for Electricity Generating Units (EGUs)

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<tr>
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<th>2007</th>
<th>2017</th>
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<tr>
<td>NOx SIP Call Budget, Tons</td>
<td>31,451</td>
<td>31,451</td>
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<tr>
<td>Actual Emissions, Tons</td>
<td>24,177</td>
<td>12,545</td>
</tr>
<tr>
<td>Below Budget, Tons</td>
<td>7,274</td>
<td>18,906</td>
</tr>
<tr>
<td>Below Budget, Percent</td>
<td>23%</td>
<td>60%</td>
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Table 2 compares the impact of the estimated ozone season NOx emissions increases due to the proposed changes to the I&M program on EGU reductions and NOx SIP Call I&M credits. Using EPA’s Motor Vehicle Emission Simulator (MOVES2014), the DAQ estimates that removing the 26 counties from the I&M program, and revising the vehicle model year coverage in the 22 counties remaining in the I&M program, will increase ozone season NOx emissions by 611 tons and 311 tons, respectively. Together, total ozone season NOx emissions are estimated to increase by 922 tons. In 2017, EGU emissions were 18,906 tons (60 percent) below the NOx SIP Call budget for EGUs. The proposed changes to the I&M program would lower the EGU reduction by about 5 percent to 17,984 tons. Thus, based on this analysis, the DAQ concludes that the ozone season NOx emissions increase associated with the proposed changes to the I&M program have no impact on North Carolina’s obligations under the NOx SIP call.

Table 2. Impact of NOx Emissions Increases due to Proposed Changes to I&M Program on EGU Reductions and NOx SIP Call I&M Credits

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<th>I&amp;M Emissions Increase in 2018, Tons</th>
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<tr>
<td>26 Counties</td>
<td>611</td>
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<tr>
<td>22 Counties</td>
<td>311</td>
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<tr>
<td>48 County Total I&amp;M Increase</td>
<td>922</td>
</tr>
<tr>
<td>EGU Reduction in 2017 (from Table 1)</td>
<td>18,906</td>
</tr>
<tr>
<td>EGU Reduction in 2017 - I&amp;M Increase</td>
<td>17,984</td>
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</table>

Conclusions

The DAQ concludes that the proposed changes to North Carolina’s I&M program does not impact NC’s obligations under the NOx SIP Call for the following reasons:

- The NOx trading program that made use of those early I&M allowances was repealed and replaced with CAIR. Therefore, the I&M credits were not used to meet North Carolina’s previous obligations under CAIR or current obligations under Phase I of CSAPR.
Actual EGU emissions in 2007 and 2017 were 23 percent and 60 percent below the NOx SIP Call budget, respectively. After accounting for the 922-ton ozone season NOx emissions increase associated with the proposed changes to the I&M program, the remaining EGU reduction of 17,984 tons would be 57 percent below the NOx SIP call budget for EGU. The significant NOx emissions reduction in the EGU sector more than offset the increase in ozone season NOx emissions associated with the proposed changes to the I&M program and have no impact on North Carolina’s obligations under the NOx SIP call.

Thank you for considering this additional information. If you should have any questions, please contact Randy Strait at (919) 707-8721 or randy.strait@ncdenr.gov.

Sincerely,

Michael A. Abraczinskas, Director
Division of Air Quality, NCDEQ

MAA/rps
Enclosure

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