

## **Environmental Protection Agency Summary of Performance by Strategic Objective**

### ***Goal 1: Addressing Climate Change and Improving Air Quality.***

*Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality*

***Objective 2: Improve Air Quality.*** *Achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.*

## **Selection from EPA's FY 2017 Annual Performance Plan**

### **FY 2017 Activities**

#### *Clean Air*

In FY 2017, the EPA will continue its CAA-prescribed responsibilities to administer the NAAQS. The NAAQS help improve air quality and reduce related health and welfare impacts and their costs to the nation. The EPA will continue to implement a strategy that, where appropriate, supports the development and evaluation of multiple pollutant measurements.

In FY 2017, the EPA will continue its reviews of the NAAQS in accordance with the statutory mandate to review the standards every five years and make revisions, as appropriate. The EPA will provide technical and policy assistance to states and tribes developing or revising attainment State Implementation Plans (SIPs) and Tribal Implementation Plans (TIPs) and will designate areas as attainment or nonattainment, as appropriate. The agency also will continue efforts to reduce the number of backlogged SIPs and to act on incoming SIPs within the CAAA-mandated timeframe.

The EPA will continue to partner with states, tribes, and local governments to ensure progress toward air quality improvement objectives, including consideration of environmental justice issues. The budget includes funding for state and local ambient air quality management grants to support core state workload for implementing NAAQS, for reducing exposure to air toxics to ensure improved air quality in communities, and for additional air monitors required by revised NAAQS. The EPA will provide technical and policy assistance to states developing or revising SIPs or regional haze implementation plans and will continue to review and act on SIP submissions in accordance with the CAAA. Ongoing technical assistance to state, tribal, and local air agencies to support these objectives includes source characterization analyses, emission inventories, quality assurance protocols, improved testing and monitoring techniques, and air quality modeling. The EPA also will work with the states to address the interstate transport of pollution that contributes to nonattainment or interferes with maintaining ozone and/or PM NAAQS in areas outside the source location.

In conjunction with EPA's standards to cut carbon pollution and improve air quality, the President's 21st Century Clean Transportation Plan proposes to establish a mandatory fund at EPA that will accelerate the transition to cleaner vehicle fleets, focusing on school bus upgrades that improve children's health. The new fund will renew and increase funding for the DERA Grant Program, which is set to expire in 2016.

The EPA will also continue to target its traditional discretionary funding for areas that suffer from poor air quality and will focus on projects that engage local communities and provide lasting benefits. The EPA is

especially interested in working with port communities and has adjusted its national RFP to prioritize projects that reduce emissions from engines involved in goods movements and freight industries. The EPA also plans to continue to offer rebate funding and focus on fleet turnover for engines that pre-date the EPA's on-highway standards for PM (model year 2006 or older).

In FY 2017, the EPA will use its upgraded vehicle, engine, and fuel testing capabilities at the National Vehicle and Fuel Emissions Laboratory (NVFEL) to increase testing and certification capacity to ensure that new vehicles, engines, and fuels are in compliance with new vehicle and fuel standards and to conduct aggressive testing to identify the use of defeat devices. The agency is responsible for establishing test procedures to estimate the fuel economy of new vehicles and for verifying car manufacturers' data on fuel economy. The EPA anticipates reviewing and approving approximately 5,000 vehicle and engine emissions certification requests – a workload that has quadrupled over the past decade. The testing will screen for defeat devices and other emissions problems in both new and in-use vehicles and engines. The EPA uses in-use emissions data provided by light-duty vehicle manufacturers as a means to measure compliance and determine if any follow-up evaluation or testing is necessary. The NVFEL's workload will continue to grow as the lab begins to implement new, and more stringent, GHG emission standards for additional classes of vehicles and engines.

#### *Air Toxics*

The agency will continue to work with state, tribal, and local air pollution control agencies and community groups to assess and address air toxics emissions in areas of greatest concern. One of the top priorities for the air toxics program is to eliminate unacceptable health risks and exposures to air toxics in affected communities and to fulfill its CAAA and court-ordered obligations. The CAAA requires that all technology-based emission standards be reviewed and updated as necessary every eight years. In FY 2017, the EPA will continue to conduct technology reviews and risk assessments to determine whether the technology-based rules appropriately protect public health to comply with legal deadlines.

The EPA will continue development of its multi-pollutant efforts by constructing and organizing analyses around industrial sectors. By addressing individual sectors' emissions comprehensively and prioritizing regulatory efforts on the pollutants of greatest concern, the EPA will continue to identify ways to take advantage of the co-benefits of pollution control. In developing sector and multi-pollutant approaches, the agency seeks innovative solutions that address pollutants in the various sectors and minimize costs to the EPA, states, tribes, local governments and the regulated community.

The EPA will continue to improve the dissemination of information to state, Tribal, and local governments, and the public, using analytical tools, such as the National Air Toxics Assessments (NATA), enhancing quantitative assessment tools, such as BenMAP, and improving emission inventory estimates for toxic air pollutants. The EPA anticipates that these improvements will increase the agency's ability to meet aggressive court-ordered schedules to complete rulemaking activities, especially in the air toxics program.

#### *Indoor Air*

In 2017, the EPA will continue to leverage public and private systems to drive policies, interventions, and individual actions that increase healthy indoor air where people live, learn and work. The agency will build the capacity of an additional 300 community-based organizations to support the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school. Strong evidence

indicates that many chronic health conditions like asthma disproportionately affect low income, minority, and tribal communities. Environmental pollutants in homes and schools can cause and exacerbate asthma. Further evidence indicates that investment in home and school interventions will improve health outcomes and reduce and/or shift health care costs from medical treatment to secondary prevention. Approximately one half of our nation's schools now have indoor air quality (IAQ) management programs in place, helping to ensure healthy school environments and the EPA will continue to promote the adoption of IAQ management programs to reach the remaining 60,000 schools. The EPA will continue to co-lead the implementation of the Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities, an initiative under the auspices of the President's Task Force on Environmental Health Risks and Safety Risks to Children.

The EPA will deliver clear and verifiable protocols and specifications to ensure good indoor air quality in homes and schools. This effort will be accomplished through the Indoor airPLUS program for new homes and protocols that protect IAQ during energy upgrades in existing single- and multi-family homes and schools. The EPA will collaborate with public and private organizations to integrate these protocols and specifications into existing energy-efficiency, green-building and health-related programs and initiatives.

In FY 2017, the EPA will continue its leadership role and collaborate with other federal agencies to reduce risks from radon through the National Radon Action Plan, a public-private partnership that includes multiple non-profit radon and public health organizations, and will continue to implement its own multi-pronged radon program. The EPA will drive action at the national level to reduce radon risk in homes and schools using partnerships with other federal agencies, the private sector and public health groups, public outreach, and education activities. The agency will encourage radon risk reduction as a normal part of doing business in the real estate marketplace, will promote local and state adoption of radon prevention standards in building codes, and will participate in the development of national voluntary standards (e.g., mitigation and construction protocols) for adoption by states and the radon industry.

### **Major FY 2017 Changes**

#### *Improve Air Quality*

In FY 2017, the agency will continue to focus on addressing regulatory implementation across the air program. The EPA will continue to administer the National Ambient Air Quality Standards (NAAQS) by taking federal oversight actions, when necessary, and by developing guidance for use by state, tribal, and local air agencies to ensure continued health and welfare protection.

National standards have a big impact on the quality of life in local communities. In FY 2017, the agency also continues a strong emphasis on supporting communities in their efforts to combat localized effects of air pollution. Communities do not always have sufficient air quality data at the local level to understand and act upon existing risks. In FY 2017, the EPA will continue to develop advanced monitoring technical support and tools to help communities detect, monitor, understand, and act upon their local air quality issues.

**Selection from EPA’s FY 2015 Annual Performance Report and Eight-Year Array  
of Performance**

**Objective 2 - Improve Air Quality:** Achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.

**Summary of progress towards strategic objective:**

EPA, together with its implementation partners, continues to improve air quality by designing, developing, and implementing national programs that are delivering significant reductions in harmful air pollutants. EPA's recent and previous actions are generating real environmental and public health benefits. Environmental indicators related to criteria pollutants and air toxics show improving outdoor air quality trends, and we continue to make progress in preventing lung cancer deaths from radon exposure and reducing adverse asthma health outcomes. From 2003 to 2014, population-weighted ambient concentrations of fine particulate matter and ozone have decreased 29 percent and 18 percent, respectively. EPA actions include setting health-based ambient air quality standards grounded in scientific research, setting fuel and engine standards that improve air quality in communities across the U.S. and developing regulations that will reduce emissions of harmful pollutants from sources that pose the greatest risk to communities. In FY 2015, EPA strengthened the ground-level ozone National Ambient Air Quality Standard (NAAQS) to 70 from 75 parts per billion, creating public health benefits estimated at \$2.9 to \$5.9 billion annually in 2025, and issued standards to further control toxic air emissions from petroleum refineries and requiring first-ever fence-line monitoring to protect nearby communities. Despite great progress in air quality improvement, approximately 57 million people nationwide lived in counties with pollution levels above the primary NAAQS in 2014.

| Program Area   | Performance Measures and Data   |         |         |         |         |         |                       |         |         |                   |
|--|---|---------|---------|---------|---------|---------|-----------------------|---------|---------|-------------------|
| <b>(1) Reduce Criteria Pollutants and Regional Haze</b>  | <b>Strategic Measure:</b> By 2018, the population-weighted average concentrations of ozone (smog) in all monitored counties will decrease to 0.072 ppm compared to the average of 0.076 ppm in 2011, a reduction of 5 percent.  |         |         |         |         |         |                       |         |         |                   |
|  | <b>(PM M9) Cumulative percentage reduction in population-weighted ambient concentration of ozone in monitored counties from 2003 baseline.</b>  |         |         |         |         |         |                       |         |         |                   |
|  |   | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015               | FY 2016 | FY 2017 | Unit              |
|  | Target  | 11      | 12      | 13      | 15      | 16      | 16                    | 17      | 19      | Percent Reduction |
|  | Actual  | 15      | 16      | 13      | 15      | 18      | Data Avail<br>12/2016 |         |         |                   |
|  | <b>Additional Information:</b> This measure shows progress in reducing ambient ozone concentrations with respect to the 2003 baseline (population-weighted national average of 0.090 ppm). Consistent with the National Ambient Air Quality Standard for ozone, it is based on a three-year average concentration. The measure assigns more weight to counties with more people by weighting each county's concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored ozone concentrations. |         |         |         |         |         |                       |         |         |                   |
| <b>(PM M92) Cumulative percentage reduction in the number of days with Air Quality Index (AQI) values over 100 since 2003, weighted by population and AQI value.</b> |   |         |         |         |         |         |                       |         |         |                   |
|  | FY 2010   | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016               | FY 2017 | Unit    |                   |

|   | <b>Target</b> | 33      | 37      | 50      | 80      | 80                    | 80                    | 81      | 83                | Percent Reduction |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
|---|---------------|---------|---------|---------|---------|-----------------------|-----------------------|---------|-------------------|-------------------|--|---------|---------|---------|---------|---------|---------|---------|---------|------|---------------|------|------|------|------|-----|------|------|------|-------------------|---------------|------|------|------|------|-----|-----------------------|--|--|
|   | <b>Actual</b> | 70      | 73      | 72      | 74      | 79                    | Data Avail<br>12/2016 |         |                   |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <p><b>Explanation of Results:</b> The FY 2014 target was missed given that meteorology plays a significant role in ozone formation and PM 2.5 emissions, making it challenging to estimate out year targets for this measure and to have the result align precisely. Moreover, ambient concentrations for ozone and PM 2.5 have been relatively stable over the past few years and actuals for this measure have followed suit. The Agency continues to make progress towards Goal 1 Strategic Objectives, and will continue to work with its regulatory partners to improve the results of this measure.</p> <p><b>Additional Information:</b> This measure shows progress in reducing the number of “unhealthy” air quality days based on the Air Quality Index (AQI) relative to the 2003 baseline of zero percent reduction. The AQI is an index for reporting daily air quality. An AQI value of 100 generally corresponds to the National Ambient Air Quality Standard for each of the five pollutants included in the index. When AQI values are above 100, air quality is considered to be unhealthy for certain sensitive groups of people and then for everyone as AQI values get higher. This measure assigns more weight to higher AQI values and also assigns more weight to counties with more people. Because ozone and PM2.5 typically account for the vast majority of AQI values above 100, this measure largely tracks changes in those two pollutants.</p>  |               |         |         |         |         |                       |                       |         |                   |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <p><b>(PM MM9) Cumulative percentage reduction in the average number of days during the ozone season that the ozone standard is exceeded in non-attainment areas, weighted by population.</b></p> <table border="1"> <thead> <tr> <th></th> <th>FY 2010</th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> <th>FY 2016</th> <th>FY 2017</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td><b>Target</b></td> <td>26</td> <td>29</td> <td>45</td> <td>50</td> <td>50</td> <td>50</td> <td>68</td> <td>70</td> <td rowspan="2">Percent Reduction</td> </tr> <tr> <td><b>Actual</b></td> <td>56</td> <td>58</td> <td>54</td> <td>59</td> <td>67</td> <td>Data Avail<br/>12/2016</td> <td></td> <td></td> </tr> </tbody> </table> <p><b>Additional Information:</b> This measure shows progress in reducing the number of exceedance days in the 1997 ozone nonattainment areas relative to the 2003 baseline. Consistent with the National Ambient Air Quality Standard for ozone, it is based on a three-year average. The measure assigns more weight to nonattainment areas with more people by weighting each nonattainment area’s exceedance count by its population.</p>   |               |         |         |         |         |                       |                       |         |                   |                   |  | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Unit | <b>Target</b> | 26   | 29   | 45   | 50   | 50  | 50   | 68   | 70   | Percent Reduction | <b>Actual</b> | 56   | 58   | 54   | 59   | 67  | Data Avail<br>12/2016 |  |  |
|   | FY 2010       | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015               | FY 2016               | FY 2017 | Unit              |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <b>Target</b>   | 26            | 29      | 45      | 50      | 50      | 50                    | 68                    | 70      | Percent Reduction |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <b>Actual</b>   | 56            | 58      | 54      | 59      | 67      | Data Avail<br>12/2016 |                       |         |                   |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <p><b>(PM O33) Cumulative millions of tons of Volatile Organic Compounds (VOCs) reduced since 2000 from mobile sources.</b></p> <table border="1"> <thead> <tr> <th></th> <th>FY 2010</th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> <th>FY 2016</th> <th>FY 2017</th> <th>Unit</th> </tr> </thead> <tbody> <tr> <td><b>Target</b></td> <td>1.71</td> <td>1.88</td> <td>2.05</td> <td>2.23</td> <td>2.4</td> <td>2.57</td> <td>2.74</td> <td>2.91</td> <td rowspan="2">Tons Reduced</td> </tr> <tr> <td><b>Actual</b></td> <td>1.71</td> <td>1.88</td> <td>2.05</td> <td>2.23</td> <td>2.4</td> <td>2.57</td> <td></td> <td></td> </tr> </tbody> </table> <p><b>Additional Information:</b> Volatile organic compounds (VOCs) react in the atmosphere to form ozone and particulate matter, both of which are criteria pollutants for which EPA establishes National Ambient Air Quality Standards. In addition, some VOC species are air toxics (such as benzene) or react in the atmosphere to form air toxics. Reducing VOC emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants. EPA is reducing VOC emissions from mobile sources through its emissions standards promulgated since 2000, which apply to a wide range of mobile sources, including on-road cars and trucks, nonroad engines and equipment (such as lawn and garden equipment), locomotives, and marine engines. VOC emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. The baseline in 2000 for Volatile Organic Compounds emissions from mobile sources is 7.7 million tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.</p> |               |         |         |         |         |                       |                       |         |                   |                   |  | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Unit | <b>Target</b> | 1.71 | 1.88 | 2.05 | 2.23 | 2.4 | 2.57 | 2.74 | 2.91 | Tons Reduced      | <b>Actual</b> | 1.71 | 1.88 | 2.05 | 2.23 | 2.4 | 2.57                  |  |  |
|   | FY 2010       | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015               | FY 2016               | FY 2017 | Unit              |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <b>Target</b>   | 1.71          | 1.88    | 2.05    | 2.23    | 2.4     | 2.57                  | 2.74                  | 2.91    | Tons Reduced      |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |
| <b>Actual</b>   | 1.71          | 1.88    | 2.05    | 2.23    | 2.4     | 2.57                  |                       |         |                   |                   |  |         |         |         |         |         |         |         |         |      |               |      |      |      |      |     |      |      |      |                   |               |      |      |      |      |     |                       |  |  |

**(PM O34) Cumulative millions of tons of Nitrogen Oxides (NOx) reduced since 2000 from mobile sources.**

|               | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Unit         |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| <b>Target</b> | 3.39    | 3.73    | 4.07    | 4.41    | 4.74    | 5.08    | 5.42    | 5.76    | Tons Reduced |
| <b>Actual</b> | 3.38    | 3.73    | 4.07    | 4.41    | 4.74    | 5.08    |         |         |              |

**Additional Information:** Nitrogen oxides (NOx) react in the atmosphere to form ozone, particulate matter, and NO2, all of which are criteria pollutants for which EPA establishes National Ambient Air Quality Standards. Reducing NOx emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants, as well as, the ecosystem effects associated with nitrogen deposition to water bodies. EPA is reducing NOx emissions from mobile sources through its emissions standards promulgated since 2000, which apply to a wide range of mobile sources, including on-road cars and trucks, nonroad engines and equipment (such as construction, farming, and lawn and garden equipment), locomotives, aircraft, and marine vessels. NOx emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. The baseline in 2000 for Nitrogen Oxide emissions from mobile sources is 11.8 million tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.

**Strategic Measure:** By 2018, the population-weighted average concentrations of inhalable fine particles in all monitored counties will decrease to 9.5 µg/m<sup>3</sup> compared to the average of 10.4 µg/m<sup>3</sup> in 2011, a reduction of 9 percent.

**(PM M91) Cumulative percentage reduction in population-weighted ambient concentration of fine particulate matter (PM-2.5) in all monitored counties from 2003 baseline.**

|               | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015               | FY 2016 | FY 2017 | Unit              |
|---------------|---------|---------|---------|---------|---------|-----------------------|---------|---------|-------------------|
| <b>Target</b> | 6       | 15      | 16      | 20      | 28      | 29                    | 31      | 32      | Percent Reduction |
| <b>Actual</b> | 23      | 26      | 26      | 29      | 29      | Data Avail<br>12/2016 |         |         |                   |

**Additional Information:** This measure shows progress in reducing ambient PM2.5 concentrations with respect to the 2003 baseline (population-weighted national average of 14.1 ug/m3). Consistent with the National Ambient Air Quality Standard for PM2.5, it is based on a three-year average concentration. The measure assigns more weight to counties with more people by weighting each county's concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored concentrations.

**(PM P34) Cumulative tons of PM-2.5 reduced since 2000 from mobile sources.**

|               | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Unit         |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| <b>Target</b> | 122,434 | 136,677 | 146,921 | 159,164 | 171,407 | 183,651 | 195,895 | 208,138 | Tons Reduced |
| <b>Actual</b> | 122,434 | 136,677 | 146,921 | 159,164 | 171,407 | 183,651 |         |         |              |

**Additional Information:** Reducing emissions of PM-2.5 results in decreases in atmospheric concentrations of inhalable fine particles, which in turn lowers the risk of premature mortality, hospital admissions for heart and lung disease, and respiratory symptoms. EPA is reducing PM-2.5 emissions from mobile sources through its emissions standards promulgated since 2000, which apply to a wide range of mobile sources, including on-road cars and trucks, nonroad engines and equipment (such as construction and farming equipment), locomotives, and marine vessels. PM-2.5 emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. The baseline for 2000 for PM-2.5 emissions from mobile sources is 510,550 tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.

**Strategic Measure:** Through 2018, maintain emissions of sulfur dioxide (SO<sub>2</sub>) from electric power generation sources to 5.0 million tons per year compared to the 2009 level of 5.7 million tons emitted. (In 2011, these sources emitted 4.5 million tons.) (Rationale for baseline year: 2009 is the year immediately preceding the first year of SO<sub>2</sub> compliance under the Clean Air Interstate Rule [CAIR] and full implementation of Acid Rain’s permanent cap on utility SO<sub>2</sub> emissions.)

**(PM A01) Annual emissions of sulfur dioxide (SO<sub>2</sub>) from electric power generation sources.**

|               | FY 2010   | FY 2011   | FY 2012   | FY 2013   | FY 2014   | FY 2015              | FY 2016   | FY 2017   | Unit         |
|---------------|-----------|-----------|-----------|-----------|-----------|----------------------|-----------|-----------|--------------|
| <b>Target</b> | 8,450,000 | 6,000,000 | 6,000,000 | 6,000,000 | 6,000,000 | 6,000,000            | 5,000,000 | 5,000,000 | Tons Emitted |
| <b>Actual</b> | 5,166,000 | 4,544,000 | 3,319,000 | 3,210,365 | 3,122,921 | Data Avail<br>4/2016 |           |           |              |

**Additional Information:** The baseline in 1980 is 17.4 million tons of SO<sub>2</sub> emissions from electric utility sources. This inventory was developed by the National Acid Precipitation Assessment Program (NAPAP) and is used as the basis for reduction in Title IV of the 1990 Clean Air Act Amendments (CAAA). Statutory SO<sub>2</sub> emissions capped in 2010 at 8.95 million tons, approximately 8.5 million tons below 1980 emissions level. Targets for this measure through 2010 were based on implementation of the nationwide Acid Rain Program alone whereas the (lower) target of 6 million tons for 2011-2015 recognized implementation of the CAIR Programs in eastern states in combination with the Acid Rain Program (ARP). The updated 2016 and 2017 targets are based on the ARP and newly established SO<sub>2</sub> budgets under the Cross State Air Pollution Rule (CSAPR) which began implementation in January 2015. The FY 2016 and FY 2017 targets incorporate the following assumptions: 1) CSAPR states emit at the full assurance provision level allowed under the rule; 2) sources in non-CSAPR states would continue to emit at historical levels; 3) potential use of banked ARP allowances; and, 4) uncertainty regarding future impact of market forces on the use of coal and natural gas in power generation. Actual performance has consistently been lower than the target due to a number of factors including: 1) the economics of power sector fuel prices currently favor natural gas over coal; 2) electricity generation fell starting in 2007 and has been relatively flat in recent years, but is expected to grow over time; and 3) some implementation strategies that are currently being used to comply with other environmental regulations also reduce SO<sub>2</sub> emissions.

**(PM MM6) Total number of backlogged SIPs remaining.**

|               | FY 2010 | FY 2011 | FY 2012 | FY 2013   | FY 2014   | FY 2015   | FY 2016 | FY 2017 | Unit                      |
|---------------|---------|---------|---------|-----------|-----------|-----------|---------|---------|---------------------------|
| <b>Target</b> |         |         |         | No Target | No Target | No Target | 300-400 | 100-200 | Number of Backlogged SIPs |
| <b>Actual</b> |         |         |         | 699       | 649       | 557       |         |         |                           |



**Explanation of Results:** At the end of FY 2015, EPA had 557 backlogged SIPs remaining to be acted on. In FY 2015, EPA took action on 536 SIPs. 298 of these actions were on backlogged SIPs and 238 actions were on non-backlogged SIPs. The total number of active SIPs is trending down (22.5% decrease since 10/1/2013) and EPA is receiving fewer incoming SIPs than in the past.

**Additional Information:** The Clean Air Act requires states to develop a general plan to attain and maintain the National Ambient Air Quality Standards (NAAQS) in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as State Implementation Plans or SIPs, are developed by state and local air quality management agencies and submitted to EPA for approval. SIPs vary in their complexity with more complex SIPs requiring more effort from EPA to act on them. Each year EPA identifies the baseline of total active SIPs, current and backlogged, and considers a range of anticipated incoming SIPs for that year. EPA then estimates the total number of SIP actions it will take in the upcoming year. The SIP baseline changes year to year depending on actions taken in the prior year. The estimated number of actions will also vary year to year depending on the status of rulemakings, state priorities for which SIPs they want acted on, and potential new SIPs or SIP revisions. Targets are presented as a range to reflect this variability. For more information on SIPs, see <http://www.epa.gov/airquality/urbanair/sipstatus/overview.html>.

**(PM MM7) Cumulative Percent of State Implementation Plans (SIPs) removed from the historical backlog.**

|        | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Unit                          |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------------------|
| Target |         |         |         | 0       | 20      | 40      | 60      | 84      | Cumulative Percentage Removed |
| Actual |         |         |         | 0       | 25      | 48      |         |         |                               |

**Explanation of Results:** As of October 1, 2015, there are currently 365 SIPs remaining in the historical backlog. The agency expects that by 2017, the historical backlog will be eliminated with the exception of approximately 110 historically backlogged SIPs of which NACAA/ECOS and the associated Regions and states are aware of the remaining backlogged SIP issues.

**Additional Information:** The Clean Air Act requires states to develop a general plan to attain and maintain the National Ambient Air Quality Standards (NAAQS) in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. State Implementation Plans, or SIPs, are developed by state and local air quality management agencies and submitted to EPA for approval. A SIP is considered backlogged if it has not been acted on within 12 months from its completeness date. In a February 2014 joint EPA/ECOS/NACAA/commitment, EPA and the States agreed to work toward eliminating the backlog of SIPs that existed as of October 1, 2013 by the end of the 2017. The baseline for the historical backlog is 699. Net cumulative progress against the baseline is measured for each fiscal year as of September 30th. The EPA has revised PM MM7 to simplify the existing measure to more clearly convey our progress to clear the SIP backlog that existed at the start of NACAA-ECOS-EPA agreement (also known as the historical SIP backlog). Accordingly, the EPA has tracked progress for this new measure since FY 2013 and has set targets for FY 2016 and FY 2017.

**(PM M94) Percent of major NSR permits issued within one year of receiving a complete permit application.**

|        | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015            | FY 2016 | FY 2017 | Unit           |
|--------|---------|---------|---------|---------|---------|--------------------|---------|---------|----------------|
| Target | 78      | 78      | 78      | 78      | 78      | 78                 | 78      | 78      | Percent Issued |
| Actual | 46      | 73      | 80      | 81      | 91      | Data Avail 12/2016 |         |         |                |

|   |                |                |                |                |                |                       |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|-----------------------|----------------|----------------|----------------|
| <p><b>Additional Information:</b> New Source Review (NSR) requires stationary sources to obtain permits before they start construction. NSR permits are usually issued by state or local air pollution control agencies; EPA issues permits in some cases (such as in Indian country). This measure shows progress against the CAA requirement that NSR prevention of significant deterioration (PSD) permits are issued within one year of determination of complete application. The 2004 baseline is 61%.</p>  |                |                |                |                |                |                       |                |                |                |
| <p><b>(PM M95) Percent of significant Title V operating permit revisions issued within 18 months of receiving a complete permit application.</b></p>  |                |                |                |                |                |                       |                |                |                |
|   | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b> | <b>FY 2015</b>        | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>    |
| <b>Target</b>   | 100            | 100            | 100            | 100            | 88             | 88                    | 88             | 88             | Percent Issued |
| <b>Actual</b>   | 82             | 84             | 86             | 91             | 91             | Data Avail<br>12/2016 |                |                |                |
| <p><b>Additional Information:</b> Stationary Source operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate and must be renewed every five years. Title V permits are usually issued by state or local air pollution control agencies; EPA issues the permit in some cases (such as in Indian country). Additionally, when a source (or facility) undergoes a major or "significant" revision to its operations that affects emissions, a revision to the Title V operating permit must be sent to the permitting agency for review. This measure tracks timeliness of significant permit revision issuance within 18 months. The 2004 baseline is 100%.</p> |                |                |                |                |                |                       |                |                |                |
| <p><b>(PM M96) Percent of new Title V operating permits issued within 18 months of receiving a complete permit application.</b></p>   |                |                |                |                |                |                       |                |                |                |
|   | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b> | <b>FY 2015</b>        | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>    |
| <b>Target</b>   | 99             | 99             | 99             | 99             | 75             | 75                    | 75             | 75             | Percent Issued |
| <b>Actual</b>   | 67             | 72             | 76             | 60             | 59             | Data Avail<br>12/2016 |                |                |                |
| <p><b>Explanation of Results:</b> The EPA did not meet its FY 2014 target for this measure. The vast majority of permits are issued by state air agencies and it is difficult to estimate targets for state work. The variation in actual performance is partly attributable to states' inexperience in issuing selected types of permits as well as shifts to higher priority work.</p>  |                |                |                |                |                |                       |                |                |                |
| <p><b>Additional Information:</b> Operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate. Usually Title V permits are issued by state or local air pollution control agencies, and the EPA issues the permit in some cases. Title V permits must be renewed every five years. When a new source (or facility) begins operations and has the potential to emit air pollution beyond a certain threshold, a new Title V operating permit must be sent to the permitting agency for review. The 2004 baseline is 75%.</p>  |                |                |                |                |                |                       |                |                |                |
| <p><b>(PM N35) Limit the increase of Carbon Monoxide (CO) emissions from mobile sources compared to a 2000 baseline.</b></p>  |                |                |                |                |                |                       |                |                |                |
|   | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b> | <b>FY 2015</b>        | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>    |
| <b>Target</b>   | 1.69           | 1.86           | 2.02           | 2.19           | 2.36           | 2.53                  | 2.70           | 2.87           | Tons Emitted   |
| <b>Actual</b>   | 1.69           | 1.86           | 2.02           | 2.19           | 2.36           | 2.53                  |                |                |                |

|   |  |                |                |                |                 |                 |                |                |                   |  |
|---|--|----------------|----------------|----------------|-----------------|-----------------|----------------|----------------|-------------------|--|
|   | <b>Additional Information:</b> As of 2010, the few areas in the United States that still had active issues with local levels of carbon monoxide had controlled their levels to or below EPA's National Ambient Air Quality Standard for CO. These areas have all been re-designated to attainment with a Clean Air Act maintenance plan (i.e., known as "maintenance areas"). For these areas, the local CO level was no longer a growing problem. The baseline in 2000 for Carbon Monoxide emissions from mobile sources is 79.2 million tons. The 2000 Mobile6 inventory is used as the baseline for mobile source emissions.  |                |                |                |                 |                 |                |                |                   |  |
| <b>(2) Reduce Air Toxics</b>                        | <b>Strategic Measure:</b> Through 2018, maintain air toxics (toxicity-weighted for cancer) emissions reductions to 4.2 million tons from the 1993 toxicity-weighted baseline of 7.2 million tons.  |                |                |                |                 |                 |                |                |                   |  |
|   | <b>(PM 001) Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline.</b>   |                |                |                |                 |                 |                |                |                   |  |
|   | <b>FY 2010</b>   | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b>  | <b>FY 2015</b>  | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>       |  |
| <b>Target</b>                                       | 36   | 36             | 37             | 42             | 42              | 42              | 41             | 41             | Percent Reduction |  |
| <b>Actual</b>                                       | 40   | 45             | 45             | 45             | Data Avail 2017 | Data Avail 2017 |                |                |                   |  |
|   | <b>Additional Information:</b> The baseline in 1993 is 7.24 million tons. The toxicity-weighted emission inventory utilizes the National Emissions Inventory (NEI) for air toxics along with the Agency's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years with intervening years (the two years after the inventory year) interpolated utilizing inventory projection models. The outyear targets are based on expected estimates made with the rules and 2005 NEI inventory and also incorporate population growth estimates, which indirectly project more area source (small source) emissions. The EPA will update future targets with the newly released 2011 National Air Toxics Assessment (NATA) data. |                |                |                |                 |                 |                |                |                   |  |
|   | <b>(PM 002) Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline.</b>   |                |                |                |                 |                 |                |                |                   |  |
|   | <b>FY 2010</b>   | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b>  | <b>FY 2015</b>  | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>       |  |
| <b>Target</b>                                       | 59   | 59             | 59             | 59             | 59              | 58              | 57             | 57             | Percent Reduction |  |
| <b>Actual</b>                                       | 53   | 55             | 55             | 55             | Data Avail 2017 | Data Avail 2017 |                |                |                   |  |
|   | <b>Additional Information:</b> The baseline in 1993 is 7.24 million tons. The toxicity-weighted emission inventory utilizes the National Emissions Inventory (NEI) for air toxics along with the Agency's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years with intervening years (the two years after the inventory year) interpolated utilizing inventory projection models. The outyear targets are based on expected estimates made with the rules and 2005 NEI inventory and also incorporate population growth estimates, which indirectly project more area source (small source) emissions. The EPA will update future targets with the newly released 2011 National Air Toxics Assessment (NATA) data. |                |                |                |                 |                 |                |                |                   |  |
| <b>(4) Reduce Exposure to Indoor Air Pollutants</b> | <b>Strategic Measure:</b> By 2018, the number of future premature lung cancer deaths prevented annually through lowered radon exposure will increase to 1,056 from the 2008 baseline of 756 future premature lung cancer deaths prevented. The 2011 benchmark is 905 future premature lung cancer deaths prevented.  |                |                |                |                 |                 |                |                |                   |  |
|   | <b>(PM R50) Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level.</b>  |                |                |                |                 |                 |                |                |                   |  |
|   | <b>FY 2010</b>   | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b>  | <b>FY 2015</b>  | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>       |  |

|   |                |                |                |                |                   |                    |                |                |                       |
|---|----------------|----------------|----------------|----------------|-------------------|--------------------|----------------|----------------|-----------------------|
| <b>Target</b>   | 12.0           | 12.5           | 13.3           | 13.9           | 13.9              | 14.9               | 14.9           | 14.9           | Percent of Homes      |
| <b>Actual</b>   | 12.3           | 12.9           | 14.1           | 15             | Data Avail 3/2016 | Data Avail 12/2016 |                |                |                       |
| <i><b>Additional Information:</b></i> The baseline in 2003 is 6.9 percent of existing homes. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. As a result, radon is the largest source of exposure to naturally occurring radiation.  |                |                |                |                |                   |                    |                |                |                       |
| <b>(PM R51) Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features.</b>   |                |                |                |                |                   |                    |                |                |                       |
|   | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b>    | <b>FY 2015</b>     | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>           |
| <b>Target</b>   | 33.0           | 34.5           | 36.0           | 37.5           | 37.5              | 40.5               | 40.5           | 40.5           | Percent of Homes      |
| <b>Actual</b>   | 40.1           | 38.2           | 44.6           | 38.9           | 44.1              | Data Avail 12/2016 |                |                |                       |
| <i><b>Additional Information:</b></i> The baseline in 2003 is 20.7 percent of all new single-family homes. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. As a result, radon is the largest source of exposure to naturally occurring radiation.  |                |                |                |                |                   |                    |                |                |                       |
| <b>Strategic Measure:</b> By 2018, the number of people taking all essential actions to reduce exposure to indoor environmental asthma triggers in homes and schools will increase to 9 million from the 2003 baseline of 3.0 million. EPA will place special emphasis on reducing racial and ethnic asthma disparities among children. The 2012 benchmark is 6.5 million people taking all essential actions to reduce exposure to indoor environmental asthma triggers. |                |                |                |                |                   |                    |                |                |                       |
| <b>(PM R16) Percentage of parents of children with asthma aware of the EPA asthma program media campaign.</b>   |                |                |                |                |                   |                    |                |                |                       |
|   | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b>    | <b>FY 2015</b>     | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>           |
| <b>Target</b>   | >30            | >30            | >30            | >30            | >30               | >30                |                |                | Percent Aware         |
| <b>Actual</b>   | Data Not Avail | 36             | Data Not Avail | 37             | 37                | Data Not Avail     |                |                |                       |
| <i><b>Additional Information:</b></i> The baseline in 2003 is 27%. Public awareness is measured before and after the launch of a new wave of the campaign. "Data not available" indicates a time point that was not included in the assessment plan.  |                |                |                |                |                   |                    |                |                |                       |
| <b>(PM R17) Additional health care professionals trained annually on the environmental management of asthma triggers.</b>   |                |                |                |                |                   |                    |                |                |                       |
|   | <b>FY 2010</b> | <b>FY 2011</b> | <b>FY 2012</b> | <b>FY 2013</b> | <b>FY 2014</b>    | <b>FY 2015</b>     | <b>FY 2016</b> | <b>FY 2017</b> | <b>Unit</b>           |
| <b>Target</b>   | 2,000          | 2,000          | 3,000          | 3,000          | 3,000             | 1,000              |                |                | Professionals Trained |
| <b>Actual</b>   | 4,153          | 5,600          | 4,914          | 7,237          | 4,679             | 2,964              |                |                |                       |

**Additional Information:** The baseline in 2003 is 2,360 trained health care professionals. Asthma is a serious, life-threatening respiratory disease that affects millions of Americans. In response to the growing asthma problem, EPA created a national, multifaceted asthma education and outreach program to share information about environmental factors that trigger asthma. This measure is discontinued after FY 2015 as EPA shifts emphasis to the programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at homes and schools.

**(PM R19) Cumulative number of programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school.**

|        | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Unit     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| Target |         |         |         |         |         |         | 300     | 600     | Programs |
| Actual |         |         |         |         |         |         |         |         |          |

**Additional Information:** The baseline for this new initiative in 2015 is zero programs. EPA is addressing the next important gap in comprehensive asthma care – equipping health, housing, environmental and health insurance programs to effectively support delivery, infrastructure and sustainable financing of environmental asthma interventions at home and school. Strong evidence indicates that many chronic health conditions like asthma disproportionately affect low income, minority, and tribal communities. Environmental pollutants in homes can cause and exacerbate asthma. Further evidence indicates that investment in home interventions will improve health outcomes and reduce and/or shift health care costs from medical treatment to secondary prevention. Programs addressing asthma at the local, tribal, state, regional, and federal level that support in-home asthma education, assessment and interventions will help low-income, minority, and tribal families and communities reduce their exposure to environmental asthma triggers.