

8.0 CONTINGENCY MEASURES

8.1 Background

The Clean Air Act (42 U.S.C. §§7502(c)(9) and 7511a(c)(9)) and the United States Environmental Protection Agency's (USEPA's) final Phase 2 8-hour ozone implementation rule¹ require that the State Implementation Plans (SIPs) for all 8-hour ozone nonattainment areas include contingency measures. Contingency measures are additional controls needed to further reduce emissions in the event an area fails to meet a Reasonable Further Progress (RFP)² milestone or fails to attain by its attainment date. These contingency measures must be fully adopted rules or measures that are ready for implementation quickly without further action by the State or the USEPA upon failure to meet a RFP milestone or reach attainment.

The USEPA has provided guidance over time that defines the requirements for identifying RFP and attainment demonstration contingency measures. Specifically:

- Contingency measures are required for each milestone year. For nonattainment areas with 2010 8-hour ozone attainment dates, the only applicable RFP milestone is 2008 (reductions obtained between 2002 and 2008). The 8-hour ozone attainment milestone is defined as 2009 (to achieve reductions by the June 2010 attainment goal).
- Contingency measures, combined, must provide for a 3 percent reduction in the adjusted 2002 base year volatile organic compound (VOC) emissions inventory for both RFP and attainment.^{3,4}
- Post-1996 RFP and attainment demonstration contingency measures may reduce emissions of either VOC or oxides of nitrogen (NO_x). However, in meeting the 3 percent reduction requirement, a minimum of 0.3 percent VOC must be included.⁵

The remainder of this chapter:

- discusses the contingency targets (needed total emission reductions) for both RFP and attainment;
- defines measures as contingency measures for RFP and attainment; respectively, and
- demonstrates that the reductions expected from the contingency measures meet the required contingency targets.

¹ 70 Fed. Reg. 71612 (November 29, 2005).

² In general, the USEPA uses the term Reasonable Further Progress (RFP) as the more generic progress requirement, whereas it uses the term rate of progress (ROP) to denote the specific Subpart 2 (ozone specific) progress requirements that are defined as specific percent reductions from a baseline emissions inventory. As discussed in greater detail in Chapter 6, New Jersey has already fulfilled its ROP requirements, and is only subject to the more generic requirements of RFP.

³ NJDEP. State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the Ozone National Ambient Air Quality Standards (NAAQS) – New Jersey 1996 Actual Emission Inventory and Rate of Progress (ROP) Plans for 2002, 2005, and 2007. New Jersey Department of Environmental Protection, March 31, 2001.

⁴ 57 Fed. Reg. 13498 (April 16, 1992).

⁵ USEPA Memorandum from Michael H. Shapiro to Region Air Directors, "Guidance on Issues Related to 15% Rate-of-Progress Plans," August 23, 1993.

The measures here as contingency measures are described in detail in Chapter 4. The calculation methodologies used to quantify these measures are included in Appendices D13, E, and G.

8.2 Contingency Measures for the 2008 RFP Demonstration

As discussed in Section 8.1, the USEPA requires that the contingency measures account for one year of RFP reductions, or 3 percent of the adjusted baseline VOC emissions inventory for the particular projection year.⁶ Thus, the contingency measures for the 2008 RFP must total 3 percent of the 2002 adjusted base year VOC emissions inventory. The USEPA also allows for substitution of NO_x reductions for VOC reductions in the contingency measure plans on a percentage basis.⁷ However, the USEPA requires that at least 0.3 percent of the total 3 percent reduction be VOC emission reductions.⁸ Furthermore, the USEPA allows the use of emission reductions from the early implementation of strategies to be used for contingency measure reduction.⁹ Table 8.1 shows the calculation of the necessary reductions for RFP in 2008 (RFP contingency targets), as well as the contingency measures and their associated emission reductions, for both of the New Jersey portions of its multi-state 8-hour ozone nonattainment areas.

As discussed in Chapter 6, New Jersey and Federal control measures implemented between 2002 and 2008 are estimated to result in emission reductions that far exceed the RFP target of 15 percent (see Tables 6.15 and 6.16). As such, New Jersey will utilize some of this RFP “surplus” to satisfy its RFP contingency requirements. New Jersey is demonstrating its plan to meet the 3 percent reduction RFP contingency requirement set by the USEPA using only VOC emission reductions in 2008. This requirement was calculated in Tables 6.15 and 6.16 for both nonattainment areas. Thus, New Jersey would need to reduce 18.1 tpd of VOC in its portion of the Northern New Jersey/New York/Connecticut nonattainment area and 10.7 tpd of VOC in its portion of the Southern New Jersey/Philadelphia nonattainment area should New Jersey fail to meet RFP. Specifically, New Jersey calculated a portion of its benefits from regulations for Architectural and Industrial Maintenance (AIM) Coatings, Consumer Products (2005), and Portable Fuel Containers (PFCs) (existing and proposed) as the benefits needed to meet the RFP contingency targets, and is proposing to use only that portion of those programs as contingency measures for 2008 RFP. The calculation methodologies used to quantify these measures are included in Chapter 6.

⁶ 57 Fed. Reg. 13498 (April 16, 1992).

⁷ USEPA. NO_x Substitution Guidance. United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, December 1993.

⁸ USEPA Memorandum from Michael H. Shapiro to Region Air Directors, “Guidance on Issues Related to 15 Percent Rate-of-Progress Plans,” August 23, 1993.

⁹ USEPA Memorandum from Gary T. Helms, Chief, Ozone/Carbon Monoxide Branch, “Early Implementation of Contingency Measures for Ozone and Carbon Monoxide (CO) Nonattainment Areas,” August 13, 1993.

Table 8.1: Calculation of VOC and NO_x Reductions for Reasonable Further Progress Contingency Measures for 2008 (Ozone Season tons per day)

| | 2008 | |
|---|------------------|-------------|
| | VOC (tpd) | |
| New Jersey Portion of NNJ/NY/CT NAA | | |
| Contingency Requirement: 3 percent VOC | 18.1 | |
| Contingency Measure 1: Architectural Coatings 2005 | | |
| Estimated Reductions | 15 | |
| Reductions Allocated for Contingency | | 15 |
| Contingency Measure 2: Consumer Products 2005 | | |
| Estimated Reductions | 6.7 | |
| Reductions Allocated for Contingency* | | 3.1 |
| Total Reductions Allocated for Contingency | | 18.1 |
| New Jersey Portion of SNJ/Phila. NAA | | |
| Contingency Requirement: 3 percent VOC | 10.7 | |
| Contingency Measure 1: Architectural Coatings 2005 | | |
| Estimated Reductions | 7 | |
| Reductions Allocated for Contingency | | 7 |
| Contingency Measure 2: Consumer Products 2005 | | |
| Estimated Reductions | 3 | |
| Reductions Allocated for Contingency | | 3 |
| Contingency Measures 3 and 4: Portable Fuel Containers 2005 and anticipated 2009 amendments | | |
| Estimated Reductions | 1.3 | |
| Reductions Allocated for Contingency* | | 0.7 |
| Total Reductions Allocated for Contingency | | 10.7 |

* Only this portion of the reductions from the measure is the contingency measure.

8.3 Contingency Measures for the Attainment Demonstration

New Jersey must identify contingency measures to be implemented in the event that the State does not attain the 8-hour ozone standard by 2010, determined by the 2009 ozone season design values. As with the contingency measure requirements for RFP discussed

in Section 8.2, the contingency measures for the attainment demonstration must provide reductions of either VOC or NO_x that total 3 percent of the 2002 adjusted base year VOC emissions inventory. A minimum of 0.3 percent VOC must be included. Table 8.2 shows the calculation of the necessary reductions for attainment on June 15, 2010 (attainment contingency targets), as well as the contingency measures and their associated emission reductions, for both the New Jersey portions of its 8-hour multi-state nonattainment areas.

New Jersey will primarily rely on the control measures presented in the supporting analyses section in Chapter 5 (Section 5.4.4) to fulfill the contingency requirement should either of the nonattainment areas associated with New Jersey fail to demonstrate attainment by 2009. The State and federal measures identified are:

- 1) Diesel idling rule changes,
- 2) Diesel Inspection and Maintenance rule changes,
- 3) Municipal Waste Combustor measures,
- 4) Petroleum storage tank measures,
- 5) Refinery measures, and
- 6) Onroad Motor Vehicle Control Programs (Fleet turnover 2010).

As discussed in Section 5.4.4, these measures are not included in the attainment demonstration or the RFP demonstration, but instead provide additional evidence to support New Jersey's assertion that the Southern New Jersey/Philadelphia and Northern New Jersey/New York/Connecticut nonattainment areas will come into attainment by June 15, 2010. The State is meeting the 3 percent reduction attainment contingency requirement set by the USEPA using a combination of VOC (0.5 percent) and NO_x (2.5 percent) emission reductions in 2009.¹⁰ This requirement was calculated using the 2002 adjusted baseline inventory in Tables 6.15 and 6.16 for both nonattainment areas. Thus, the State would need to reduce 3.0 tpd of VOC and 17.8 tpd of NO_x in the New Jersey portion of the Northern New Jersey/New York/Connecticut nonattainment area and 1.8 tpd of VOC and 9.6 tpd of NO_x in the New Jersey portion of the Southern New Jersey/Philadelphia nonattainment area should the State fail to attain the NAAQS. As with the contingency measures for RFP, the State calculated only the portion of the benefits from some of its quantifiable measures needed to meet the attainment contingency targets. The portions of those programs are the contingency measures for 2009 attainment, in addition to the total benefits from other programs. The calculation methodologies used to quantify the emission reductions for the first six measures are included in Appendix D13.

As discussed in Chapter 5 (Section 5.4.4), these measures are being implemented for several reasons, not just as contingency measures. The primary reason is to reduce adverse impacts on public health, which are known to occur at ambient levels below the current ozone NAAQS.

¹⁰ The USEPA allows contingency measures to range between all VOC emission reductions (i.e., 3 percent) to 0.3 percent VOC and 2.7 percent NO_x emission reductions.

Onroad Motor Vehicle Control Programs (Fleet turnover 2010)

The turnover of the onroad fleet of cars and trucks will result in additional VOC and NO_x emission benefits in 2009 and beyond because the new vehicles have significantly lower emission standards than the vehicles they are replacing. The new vehicle emission standards are lower primarily because of a number of Federal rules such as the Tier 2 standards for automobiles and light trucks and the 2007 Heavy Duty Diesel standards for large diesel highway trucks. A number of post-2002 New Jersey rules also contribute to the fleet turnover emission benefits such as the New Jersey Low Emission Vehicle (NJLEV) new vehicle program. In order to estimate the emission benefits for fleet turnover between mid-2009 and mid-2010 it was necessary to make a number of simplifying assumptions because activity (vehicle miles traveled (VMT), speeds, etc.) data obtained from the Metropolitan Planning Organization's (MPOs') travel demand models were not available for 2010. The 2010 emissions were estimated by performing MOBILE6 runs for 2010 using 2009 activity levels. The results from these runs were adjusted for VMT growth by assuming that the VMT growth rate between 2009 and 2010 was the same as the VMT growth rate between 2008 and 2009. The emission benefits for fleet turnover were calculated as the difference between the 2009 emissions and the 2010 emissions based on the estimated 2010 VMT. Calculation details and the MOBILE6 runs are provided in Appendix G.

Table 8.2: Calculation of VOC and NO_x Reductions for Attainment Contingency for 2009 (Ozone Season tons per day)

| | 2009 | | | |
|---|------------|------------|-----------------------|-------------|
| | VOC (tpd) | | NO _x (tpd) | |
| New Jersey Portion of NNJ/NY/CT NAA | | | | |
| Contingency Requirement: 0.5 percent VOC, 2.5 percent NO_x | 3.0 | | 17.8 | |
| Contingency Measure 1: Diesel Idling | | | | |
| Estimated Reductions | | | 3 | |
| Reductions Allocated for Contingency | | | | 3 |
| Contingency Measure 2: Diesel Inspection and Maintenance | | | | |
| Estimated Reductions | 0.2 | | 0.1 | |
| Reductions Allocated for Contingency* | | 0 | | 0.1 |
| Contingency Measure 3: Municipal Waste Combustor Measures | | | | |
| Estimated Reductions | | | 0 | |
| Reductions Allocated for Contingency | | | | 0 |
| Contingency Measure 4: Petroleum Storage Tank Measures | | | | |
| Estimated Reductions | 1.8 | | | |
| Reductions Allocated for Contingency* | | 1.8 | | |
| Contingency Measure 5: Refinery Rules | | | | |
| Estimated Reductions | 0.8 | | 1.6 | |
| Reductions Allocated for Contingency* | | 0.8 | | 1.6 |
| Contingency Measure 6: Fleet Turnover (2010) | | | | |
| Estimated Reductions | 6.2 | | 14.2 | |
| Reductions Allocated for Contingency* | | 0.4 | | 13.1 |
| Total Reductions Allocated for Contingency | | 3.0 | | 17.8 |

| | 2009 | | | |
|---|------------|------------|-----------------------|------------|
| | VOC (tpd) | | NO _x (tpd) | |
| New Jersey Portion of SNJ/Phila. NAA | | | | |
| Contingency Requirement: 0.5 percent VOC, 2.5 percent NO_x | 1.8 | | 9.6 | |
| Contingency Measure 1: Diesel Idling | | | | |
| Estimated Reductions | | | 3 | |
| Reductions Allocated for Contingency | | | | 3 |
| Contingency Measure 2: Diesel Inspection and Maintenance | | | | |
| Estimated Reductions | 0.2 | | 0.1 | |
| Reductions Allocated for Contingency | | 0.2 | | 0.1 |
| Contingency Measure 3: Municipal Waste Combustor Measures | | | | |
| Estimated Reductions | | | 0.8 | |
| Reductions Allocated for Contingency | | | | 0.8 |
| Contingency Measure 4: Petroleum Storage Tank Measures | | | | |
| Estimated Reductions | 0.5 | | | |
| Reductions Allocated for Contingency | | 0.5 | | |
| Contingency Measure 5: Refinery Rules | | | | |
| Estimated Reductions | 0.8 | | 1.6 | |
| Reductions Allocated for Contingency | | 0.8 | | 1.6 |
| Contingency Measure 6: Fleet Turnover (2010) | | | | |
| Estimated Reductions | 3.3 | | 11.1 | |
| Reductions Allocated for Contingency* | | 0.4 | | 4.1 |
| Total Reductions Allocated for Contingency | | 1.8 | | 9.6 |

* Only this portion of the reductions from the measure is the contingency measure.

New Jersey is achieving its 3 percent reduction requirement from the 2002 emissions baseline in the Northern New Jersey/New York/Connecticut and Southern New Jersey/Philadelphia nonattainment areas with the combination of VOC and NO_x benefits calculated in Table 8.2. As discussed in Section 8.4, the implementation schedule of contingency measures if the USEPA makes a finding of failure to attain the 8-hour NAAQS is one year. Thus, New Jersey does not anticipate that any contingency

reductions would be needed until mid-2011. The measures in Table 8.2 will achieve even greater emission reductions than demonstrated in Table 8.2 by mid-2011.

There are several other future control measures that were not included in either the 2009 or 2012 BOTW modeling exercises that will provide additional air quality benefits. These include developing performance standards that provide additional emission reductions for Electric Generating Units, a rulemaking on autobody refinishing surface coatings, and a High Electrical Demand Day program. As discussed in Chapter 4, the regional High Electrical Demand Day program will address peak load emissions from the electrical generation sector on a seasonal basis on days when the demand for electricity is high. Therefore, the High Electrical Demand Day program provides reductions only on the days that are categorized with a high electrical demand and not daily. The High Electrical Demand Day measure is expected to provide significant emission reductions on the days they are most needed. Additionally, the USEPA has indicated that states can claim the benefits from its newly proposed Nonroad Engine rule¹¹ for contingency.¹² However, the USEPA has not released official guidance on the credit that states can claim for this proposed rulemaking. Finally, there are several measures included in the regional 2012 BOTW modeling (see Section 5.4.6) that provide further evidence of the State's continued commitment to reducing harmful emissions. The 2012 model results show that New Jersey, as well as the rest of the Ozone Transport Region, is continuing to improve air quality well beyond 2010. Additional measures from this modeling include additional controls for asphalt production and glass furnaces. These future actions will provide continued reductions toward attaining the current and future revisions to the 8-hour ozone NAAQS (see Chapter 12), and added public health and environmental protection to address adverse impacts of ozone below the current NAAQS.

8.4 Contingency Measure Implementation Schedule

Contingency reductions must occur on a timetable that is directly related to the RFP SIP schedule. States have no more than one year after notification by the USEPA of an RFP or attainment failure to achieve the contingency plan reductions. By following the USEPA's guidance that encourages early implementation of contingency measures and relying on measures already implemented or under development, New Jersey is ensuring that any contingency measures will not need to be backfilled, and is safeguarding itself against failure to meet the RFP milestone or attainment.

8.5 Conclusions

New Jersey demonstrates that it can meet its contingency requirements for both RFP and attainment, with two caveats:

- The emission benefits estimated for New Jersey's rule proposals (expected by no later than November 2007, with adoption by May 2008) may change in response to comment, in accordance with the New Jersey Administrative

¹¹ 72 Fed. Reg. 28098 (May 18, 2007).

¹² Personal email communication from Paul Truchan, USEPA Region 2 to Christine Schell, NJDEP, May 16, 2007.

Procedures Act (APA) (N.J.S.A. 52:14B-1 et. seq.) and the Air Pollution Control Act (APCA) (N.J.S.A. 26:2C-1 et. seq.); and

- The USEPA must finalize its national rules and guidance to enable areas to claim credit for those rules, which the USEPA indicates is allowable.