recommended by the states is necessary. In any event, in this instance, EPA's independent review of all the relevant factual information fully supports the conclusion that the OTC LEV program is necessary, and EPA has not accorded the OTC's recommendation deference in approving it.

2. Emission Reductions from OTC LEV or a LEV-Equivalent Program are Needed

(a) Magnitude of Reductions Needed for Attainment in 2005. The SNPRM contains EPA's detailed analysis of available modeling information regarding the magnitude of reductions needed for attainment in the serious and severe nonattainment areas in the OTR. See 59 FR at 48673-48675. EPA's conclusion is that NO<sub>X</sub> emission reductions of 50% to 75% from a 1990 baseline emissions inventory are needed throughout the OTR to reach attainment of the ozone NAAQS in those serious and severe areas. EPA further concludes that VOC emissions reductions of 50% to 75% from a 1990 baseline emissions inventory are needed in and near (and upwind of) the Northeast urban corridor for attainment in the serious and severe areas. Some parts of the OTR may need reductions closer to the upper end of the range and other parts closer to the lower end, based on the emissions level in the particular area and the geographic location of the area.

As explained in the SNPRM, 59 FR at 48674, the 50% to 75% reductions are needed from a 1990 baseline emissions inventory, assuming that all growth in emissions since 1990 must be neutralized in addition to achieving these percentage reductions. The estimated target level of emissions implied by this percentage reduction will not vary over time, though the growth that must be neutralized will steadily increase. EPA derived this conclusion from extensive modeling studies that are described in the SNPRM but are not repeated here. See 59 FR at 48675.

EPA reviewed in detail the atmospheric modeling tools used to analyze the need for and effectiveness of various strategies, and the studies that had been completed at the time of the SNPRM. See 59 FR at 48674. These tools include the Regional Oxidant Model (ROM) and the Urban Airshed Model (UAM), which differ principally in the size of the modeling domain and the resolution of information about subunits in the photochemical grid. EPA also explained that the relationship between ROM and UAM modeling involves an iterative process. ROM applications provide boundary conditions (i.e., the

conditions of the ambient air at the upwind boundary of each of the UAM domains) for UAM analysis, and UAM analyses provide information about strategies that can be input for further ROM modeling to yield more refined boundary conditions for further UAM analysis.

The states' obligation to submit attainment demonstrations (due November 15, 1994) involves the use of UAM modeling to demonstrate that the adopted control measures will achieve attainment for their own nonattainment areas. As indicated above, only a few of the OTR states have submitted any of this information, including UAM modeling, and none has submitted the complete UAM modeling. As indicated in the SNPRM, EPA does not expect the UAM modeling to be completed in the near future. EPA does not believe it is appropriate to wait for the UAM attainment demonstrations (which have since become overdue) to reach a conclusion here. This is because ROM is the more important modeling tool for assessing transport and is sufficient to support certain key conclusions with respect to transport. Also, the OTC LEV and the LEV-equivalent programs depend on time for vehicle turnover to achieve reductions and delay could cause necessary reductions to be irrevocably lost. Current information justifies action now to avoid the very high risk of losing necessary reductions while awaiting further technical information from the states that is already overdue.

## (b) Contribution Analysis

As described in more detail in the response-to-comments documents, EPA continues to rely on the ROM studies described in the SNPRM-the ROMNET and Matrix studies-to support its conclusions concerning transport and the amount of emissions reductions needed across the region for the serious and severe nonattainment areas in the Northeast corridor to attain. In the SNPRM, EPA examined the degree to which transport contributes to the ozone problem in each of those areas. See 59 FR at 48675–77. EPA acknowledged that it is enormously complicated to determine which reductions are needed for any specific area to avoid causing ozone exceedances downwind. The analysis depends on regional, urban, and wind trajectory modeling information and monitoring data, as well as information on controls assumed in the web of downwind areas and other upwind areas. In the SNPRM, EPA noted that the OTC relied on ROM studies and trajectory analyses to determine the extent to which upwind

areas contribute to exceedances downwind throughout the OTR. EPA continues to believe that these studies support its conclusions.

In the SNPRM, EPA also reviewed studies in which EPA examined surface winds and aloft winds data during the relevant times. As stated in the SNPRM, this information indicates that transport results in a large cumulative impact of emissions and ozone transported by surface winds from the south and southwest of each of the nonattainment areas along the Northeast urban corridor, and that transport also results from ozone and emissions transported by winds aloft from far to the west and northwest of each of the nonattainment areas along the corridor. EPA continues to believe that these studies support its conclusions.

More specifically, wind trajectory data support the conclusion that the following areas contribute to nonattainment and maintenance problems in the OTR, in the following manner (other areas may contribute as well): The Washington, D.C. nonattainment area-encompassing part of Virginia, the District of Columbia, and part of Maryland-is to the southsouthwest of the Baltimore, Maryland, nonattainment area, and thus, according to wind trajectory data, ozone and emissions from those areas travel with the surface winds to contribute to the nonattainment problem in Baltimore. The Baltimore area itself, as well as the rest of Maryland, is to the south, southwest, or west of the Philadelphia, Pennsylvania nonattainment area, which includes parts of Pennsylvania, Delaware and New Jersey; thus ozone and emissions from Maryland contribute to that nonattainment problem. Ozone and emissions from western Pennsylvania, and western and northern Maryland, contribute to the Philadelphia problem as well. Ozone and emissions from the Philadelphia area contribute to the New York City area which lies to the northeast. Ozone and emissions from western and northern Pennsylvania and northern New Jersey, and the southern and western portions of upstate New Yorkwhich are to the west and northwest of the New York City area—also contribute to the nonattainment problem in that area, which comprises parts of New York, northern New Jersey, and southern Connecticut. The New York City area is to the southwest of Providence, Hartford, and Boston, and thus ozone and emissions from the New York City area contribute to those areas' problems. Ozone and emissions from upstate New York and northern Pennsylvania, which lie to the west and