a. Adoption and implementation in 1999 of the five measures as detailed above;

b. Adoption and implementation in 1999 of the five measures as detailed above with enhanced I/M substituted for the reformulated gasoline program;

c. Adoption and implementation in 1999 of the aforementioned controls on the Transcontinental Natural Gas Pumping Station in Iredell County and the additional 10 percent control beyond the title IV requirements on Duke Power's Allen and Riverbend facilities in Gaston County; or

d. Approval of the request as demonstrating maintenance with no additional VOC or NO_X controls.

EPA received a number of comments on the proposal and the control scenarios. Those comments and the response thereto are summarized below.

Comment #1—Rather than controlling emissions, the plan allows an increase in NO_X emissions of 25 tons per day by 1999 in the nonattainment area and additional increases throughout the modeling domain.

Response—Section 175A of the CAA requires that a plan showing maintenance of the applicable NAAQS for 10 years after redesignation be incorporated as revision to the SIP. In a September 4, 1992, memorandum from John Calcagni, Director, Air Quality Management Division, EPA issued guidance on the requirements for redesignation of areas from nonattainment to attainment. That guidance contains two primary methods a state may use to demonstrate maintenance of the O_3 NAAQS for an area. The first method is an emissions inventory demonstration which includes emission projections showing no increases in emissions of O_3 precursors, i.e., NO_X and VOC, in the designated nonattainment area throughout the 10 year maintenance period. This method would not allow the projected increase in emissions of NO_X in the nonattainment counties. The second method is a modeling demonstration showing that the projected levels of emissions of O_3 precursors would not cause a violation of the NAAQS. The guidance further stipulates that the level of modeling required must be at least that required by the CAA for an attainment demonstration for the area. Since the Charlotte-Gastonia area is a moderate intra-state area, the level of modeling required would have been EKMA or its equivalent. However, the State of North Carolina chose to use the UAM model which is required for inter-state moderate areas as well as serious and above areas.

For the reasons explained in the proposal and in the responses to comments on the modeling provided below, EPA believes that the modeling demonstration, which evaluated a strategy with a combination of decreases in VOC emissions and increases in NO_X emissions, submitted by the State of North Carolina adequately demonstrated maintenance of the NAAQS notwithstanding the projected increase in NO_X emissions. Therefore, EPA believes that the increases in NO_X emissions are permissible.

Comment #2—Concern was expressed regarding the emission increases projected for Duke Power sources located in the area. It was suggested that for equity, Duke Power should be required or provided incentives to install additional emission controls.

Response—The Duke Power plants in question are subject to EPA's acid rain provisions and reductions in NO_X emissions will be obtained from this program. Neither the CAA nor the EPA require a specific set of measures to ensure maintenance of the O_3 NAAQS, but rather the state determines for each area what additional reductions, if any, are necessary. The EPA then determines the adequacy of the plan. EPA has determined, as explained elsewhere, in this document and the proposal, that the existing control system is adequate to ensure maintenance of the NAAQS for ten years.

Comment #3—North Carolina has consistently stated that additional controls are necessary to maintain the standard and that controls on sources of NO_X emissions are the most effective.

Response—The State's assertion that additional NO_X controls would be necessary to maintain the NAAQS after 1999 was based on the UAM modeling and the view that every grid cell must be below the standard in order to demonstrate maintenance. However, EPA has determined, as discussed in the proposal and elsewhere in this document, that the State's modeling demonstration adequately demonstrates maintenance of the NAAQS without additional control measures.

Comment #4—Monitored daily maximum ozone concentrations over the last five years indicate that the nonattainment area has been on the verge of violating the O_3 NAAQS. Furthermore, the modeling predicts future exceedances of the NAAQS for all three episodes.

Response—Although two monitors in the ozone nonattainment area and one monitor in an adjacent county recorded two exceedances of the O_3 NAAQS in 1993, there have been no violations of the NAAQS in the last five years. Furthermore, there were no exceedances recorded at any monitor in the area in 1992 or 1994. An area is allowed one exceedance of the NAAQS per year with a three year average used to determine attainment/nonattainment status. Therefore, since the expected exceedance rate for the area is 0.67 which is less than 1.1 and since all monitors are currently monitoring attainment of the NAAQS, EPA believes that the monitoring data is sufficient to support redesignation of the area to attainment. EPA's Response to the comments regarding the modeling is contained in EPA's Response to Comment #5.

Comment #5—One Commenter provided detailed Comments individually on each of the six items listed in the proposal as support for EPA's determination that the modeling demonstration is sufficiently conservative for EPA to conclude that the NAAQS can be maintained without additional emission controls. In the proposal, EPA explained that while its modeling guidance generally requires that modeling results show attainment of the standard in all grid cells, it does allow alternative methods for demonstrating attainment on a case-by-case basis. EPA went on to explain its belief that North Carolina's modeling for the Charlotte-Gastonia area was sufficiently conservative to provide an adequate demonstration of maintenance without the adoption of additional controls notwithstanding the model's prediction of slight exceedances of the standard in a few grid cells. That belief was based on the combination of the following six factors:

(1) North Carolina has five years of air quality data showing attainment of the standard.

(2) The maintenance plan contains pre-adopted measures and a violation would trigger reduction in emissions by the following O_3 season.

(3) The O_3 standard is a statistically based NAAQS that allows one exceedance per year.

(4) North Carolina has done extensive modeling to gain an understanding of the creation of O_3 in the Charlotte area and has generally made conservative assumptions in selecting modeling inputs.

(5) The uncertainties in the biogenic emission inventory and other modeling inputs are well within the range of the 2–3 ppb needed to reach the .124 ppm in all grid cells.

(6) The modeling did not account for lower VOC, NO_X and O_3 boundary conditions expected when SIP attainment and title IV (acid rain program) control programs have been