This document was prepared by Environment Canada and the Ontario Ministry of the Environment and Energy). The commentor expects that this information would be considered in any final decision. A copy of the September 23, 1994 letter from the IJC to Warren Christopher, Secretary of State, was attached. Another commentor claims that the Canadians in Southern Ontario are affected by some of the worst smog episodes in Canada. Many commentors state that much, if not all, of the ground level ozone in Southern and Southeastern Ontario is a result of transboundary movement of ozone and NO_X from the U.S. to Canada. Michigan is a significant source of the ozone and NO_X coming from the U.S. A number of commentors provided monitoring data from monitors located in Southwestern Ontario and the Detroit-Ann Arbor area and assert that high ozone levels recorded in the Detroit-Ann Arbor area correspond directly with high ozone levels which exceed Ontario's ozone standard. Some commentors noted that high levels of ozone in Ontario may be the cause of increased respiratory problems. Another commentor noted that a recent study in southern Ontario indicates that hospital admissions for respiratory problems has increased due to ozone and acidic air pollution. This situation is occurring at ozone levels well below the 125 ppb averaged over one hour. Another commentor suggests that being another sovereign nation and not a neighboring State, Canada is denied protection available to downwind States adversely affected by emissions from upwind neighbors within the U.S. Another commentor notes the damaging effect of ozone on agricultural crops.

USEPA Response

The USEPA has considered the October 17, 1994 submittal referred to and all other information provided by the Canadian Government and other commentors on these issues.

The following provides a synopsis of the USEPA's review of the October 17, 1994 document submitted by Environment Canada and the Ontario Ministry of the Environment and Energy. The document contains, among other elements, some ozone monitoring data. However, the ozone monitoring data was inadequate for the USEPA to assess whether a violation of the U.S. ozone NAAQS occurred in Canada. Consequently, on November 1, 3 and 24, and December 14 and 19, 1994 the USEPA obtained clarifying information from the Ontario Ministry of the Environment and Energy on the ozone monitoring data submitted.

In reviewing the Canadian ozone monitoring data, the USEPA examined each 3-year interval from 1990 through 1994 as well as associated wind patterns. Based on a review of the Canadian report and the clarifying information, the monitoring data demonstrates that there has not been a violation of the U.S. ozone NAAQS at the Windsor (University or South), Sarnia, Merlin, Mandaumin, London, Longwoods, or Parkhill monitors for the timeframe 1990-1992, 1991-1993, or 1992-1994. In fact, the only monitors that have recorded violations of the U.S. ozone NAAQS are the Grand Bend monitor and Tiverton monitor, which are located more than 90 miles and 140 miles away from the Detroit-Ann Arbor area, respectively. The Grand Bend monitor recorded violations of the U.S. ozone NAAQS during the timeframe 1990–1992 with a number of expected exceedances of 1.67 and during 1991-1993 of 2.0. However, for the 1992-1994 period, there was no violation of the U.S. ozone NAAQS with a number of expected exceedances at 0.33. The Tiverton monitor recorded violations of the U.S. ozone NAAQS during the timeframes 1990-1992 and 1991-1993 with a number of expected exceedance of 2.0. However, during the 1992-1994 period, there was no violation of the U.S. ozone NAAQS.¹⁵

In addition, the modeling submitted on October 17, 1994 is limited and insufficient for purposes of implicating the Detroit-Ann Arbor area as the cause of elevated ozone levels in Ontario ¹⁶.

The ground level wind trajectories presented in the October 17, 1994 submittal, indicate that winds into Tiverton and the Windsor area pass through a number of urbanized areas in both the U.S. and Canada (the Windsor urbanized area). The USEPA also notes that such concentration may be attributable to or fostered by ozone precursor emissions generated within Canadian borders, since Windsor itself

¹⁶ Among the inadequacies were that the submittal had limited documentation on the model input parameters. The ADOM-GESIMA model is not a USEPA guideline model as listed in the Guideline on Air Quality Models, (revised in February 1993). Further model documentation is necessary for a comparative evaluation against USEPA guideline models.

is an urban area with an estimated metropolitan population greater than 225,000. Thus, the extent of any contribution from the Detroit-Ann Arbor area to monitored ozone levels in Ontario cannot be determined with any degree of certainty on the basis of the information presently available to the USEPA. The data provided in the October 17, 1994 submittal are inadequate to provide a basis for determining the extent to which emissions from Michigan, and more specifically, the Detroit-Ann Arbor area, are contributing to ambient ozone levels in Ontario. As a consequence, the USEPA does not believe that the presently available information provides any basis for affecting its decision regarding the redesignation of the Detroit-Ann Arbor area.

The USEPA would like to note that the governments of the United States and Canada are in the process of developing a joint study of the transboundary ozone phenomena under the U.S.-Canada Air Quality Agreement. It is envisioned that this regional ozone study will provide the scientific information necessary to understand what contributes to ozone levels in the region, as well as, what control measures would contribute to reductions in ozone levels. Should this or other studies provide a sufficient scientific basis for taking action in the future, the USEPA will decide what is an appropriate course of action. The USEPA may take appropriate action notwithstanding the redesignation of the Detroit-Ann Arbor area. Therefore, the USEPA does not believe that the contentions regarding transboundary impact currently provide a basis for delaying action on this redesignation or disapproving the redesignation. This is particularly true since approval of the redesignation is not expected to result in an increase in ozone precursor emissions and is not expected to adversely affect air quality in Canada. In fact, a decrease in both VOC and NO_X emissions from the Detroit-Ann Arbor area is expected over the 10-year maintenance period. See 59 FR 37190, July 21, 1994. It should also be noted that redesignation does not allow States to automatically remove control programs which have contributed to an area's attainment of a U.S. NAAQS for any pollutant. As discussed previously, the USEPA's general policy is that a State may not relax the adopted and implemented SIP for an area upon the area's redesignation to attainment unless an appropriate demonstration 17,

¹⁵ The October 17, 1994 submittal and subsequent clarifying information revealed that the Tiverton monitor recorded one exceedance in 1994. The exceedance, a value of 136 ppb, was recorded on April 24, 1994 at 7:00 PM. However, based on clarifying information provided by the Ontario Ministry of the Environment and Energy, this ozone value was invalidated. The strip chart recorder registered interference (electrical or otherwise) on April 24, 1994 between the hours of 5:00 PM through 8:00 PM and for 10:00 PM. Consequently, the data for these hours was invalidated by the Ontario Ministry of the Environment and Energy.

¹⁷ Such a demonstration must show that removal of a control program will not interfere with