71 of the report summarizes this comparison, stating that acetone is no more than 20 percent as reactive as the base ROG mixture in terms of peak ozone, or 15 percent as reactive in terms of integrated ozone.

Comment: A commenter noted that the report "An Experimental and Modeling Study of the Photochemical Ozone Reactivity of Acetone" reports laboratory measurements of photochemical reactivities of acetone and ethane in "side by side" laboratory experiments in which it was found that the photochemical reactivity was slightly higher for acetone. This commenter went on to complain that when this report studied the photochemical reactivity of acetone in 39 urban areas, the results were based on use of computer models derived from experimental data. This commenter believed that results should be based on direct experimental data and not on computer models which might contain assumptions and uncertainties.

Response: The EPA agrees that direct experimental data are desirable, provided that direct experimental comparison data exist for a variety of ambient conditions. Existing data, however, are very limited. Such data, for example, were obtained by Dr. H. Jeffries at the University of North Carolina, in a study referenced in the Carter report. Through a direct "side by side" experimental comparison of the reactivities of acetone and ethane, Dr. Jeffries observed no measurable difference in the amount of ozone formed in the acetone and ethane sides of the chamber. These experimental data confirm that, essentially, the difference in reactivity between ethane and acetone is not significant. In regard to the use of computer models to predict ozone formation, this is a common, well justified practice in reactivity work, and EPA sees no reason to doubt the approach taken in this analysis.

Comment: One commenter states that the Derwent and Jenkins study shows that acetone produces 12 percent more ozone that does ethane.

Response: Dr. R.G. Derwent reported to EPA, in a January 27, 1994 letter which is contained in the docket, that a comparison of the photochemical ozone creation potential (POCP) for ethane and acetone gives 8.2±4.0 for ethane and 9.2±2.0 for acetone. The commenter is apparently referring to the difference between 8.2 and 9.2, which is 12 percent. The commenter does not appear to consider the measure of variability of the data, expressed as a standard deviation for each number. The difference between these numbers is not considered to be statistically significant, considering the standard deviation of each value.

Comment: One commenter said that EPA has previously stated that "* * * EPA has found that almost all nonmethane VOC are photochemically reactive and that low reactivity VOC eventually form as much ozone as highly reactive VOC," 40 CFR Subpart 51 (Appendix S, Section IV(C)(4)). Another commenter said that because acetone is not nonreactive, excluding acetone from the definition of VOC would reduce the ability of States to attain the national ambient air quality standard for ozone in a timely manner.

Response: The CFR section quoted above is part of a discussion of credit for VOC substitution. The above quote is followed by the statement that no emission credit may be allowed for replacing one VOC with another of lesser reactivity, except for those listed in Table I of the policy statement "Recommended Policy on Control of Volatile Organic Compounds'' (42 FR 35314, July 8, 1977). In that 1977 policy statement, EPA recognized a class of organic compounds that has been determined to have negligible photochemical reactivity and is not required to be controlled under State implementation plans (SIP). Ethane was one of the four compounds on the negligibly reactive list in the 1977 policy statement. Over the years, several other compounds have been recognized as being negligibly reactive and have been added to the list. This list of negligibly reactive compounds was incorporated into EPA's definition of volatile organic compounds which apears in 40 CFR 51.100(s). Today's action adds acetone to that list.

Comment: Two commenters stated that the docket materials show that the photochemical reactivity of acetone is increased by the presence of NO_X and other VOC. If the proposal to exempt acetone from the VOC list is accepted, the urban areas with the worst pollution would be the areas to suffer most from that decision.

Response: Under high NO_X conditions, the modeling results predict that acetone is slightly more reactive that ethane, though the reactivity on the MIR scale is quite low when compared to the reactivity of the weighted average of all emitted VOC and especially when compared to more reactive solvents such as xylene. Under the type of NO_X conditions occurring in most cities, the modeling results indicate the reactivity of acetone is comparable to or less than that of ethane (Table 5 in the Carter report). The 39 cities examined in the modeling studies exhibit air quality ranging from ozone attainment to

extreme nonattainment. The modeling results as a whole do not demonstrate an appreciable difference between acetone and ethane in terms of their respective potential to contribute to tropospheric ozone levels. Modeling results for those 39 cities show that acetone reactivity is on average lower than ethane for the actual conditions existing in them and much lower than for the typical urban mix of reactive organic gases.

Comment: Three commenters were concerned that the proposal stated that when this action is made final, acetone may not be used for emission netting. offsetting, or trading with reactive VOC emissions. Two of these commenters supported acetone being reclassified as negligibly reactive, but were concerned that past emission reduction credits be retained in the future. There are two aspects of concern. First, would permits obtained in the past that are based on netting transactions involving acetone still be valid? Secondly, could acetone reductions that have been made in the past, with the expectation that they would be available for future netting, still be used? The commenters say they could suffer financial damages if they are not allowed to use or sell emission reduction credits for past reductions of acetone.

Response: The EPA is currently developing an open market trading rule which will deal with issues of netting, offsetting, and trading transactions. The EPA is deferring its decision concerning whether credits for acetone, which were banked prior to today's action, may be used in future netting, offsetting or trading transactions with reactive VOC. Because of the potential impact that banked emissions could have on attainment demonstrations and reasonable further progress showings, EPA needs to conduct further discussions with States on this issue.

III. Final Action

The EPA concludes that acetone is not appreciably different from ethane in terms of photochemical reactivity. Today's final action is based upon the material in Docket A-94-26 and EPA's review and consideration of all comments received during the public comment period. As proposed in EPA's September 30, 1994 notice, EPA hereby amends its definition of VOC at 40 CFR 51.100(s) to add acetone to the list of compounds that have been determined to have negligible photochemical reactivity. This will have the effect of excluding acetone as a VOC for ozone control purposes. The revised definition will also apply in the Chicago ozone nonattainment area pursuant to the 40