IX.

FUTURE ACTIVITIES

In addition to the current revisions proposed for the SCM, staff has identified several long-term efforts for architectural coatings. Brief discussions of these proposed long-term efforts follow.

A. DEVELOPMENT OF FINAL VOC LIMITS

If the Board approves the proposed SCM, staff will begin investigating the final VOC limits of South Coast AQMD Rule 1113 for possible incorporation into a future SCM revision. The affected categories include floor coatings; high-temperature coatings; industrial maintenance coatings; flats; non-flats; lacquers; primers, sealers, and undercoaters; quick-dry enamels; recycled coatings; rust preventative coatings; specialty primers, sealers, and undercoaters; and quick-dry primers, sealers, and undercoaters. It is staff's intent to continue our working relationships with the districts, U.S. EPA, and industry as this process evolves.

B. REACTIVITY-BASED LIMITS

Staff expects to also explore the development of mandatory reactivity-based limits, as opposed to mass-based VOC limits, in the future. Successful development of such limits relies heavily on receiving detailed, product-specific ingredient data from the next architectural coatings survey.

C. ARCHITECTURAL COATINGS SURVEY

Staff currently anticipates beginning another architectural coatings survey in 2001 to 2002. Staff expects to build off of the work undertaken for the 1998 survey to further improve the next survey. We will need to revise what data are collected to get better emission estimates and ingredient data. Improved ingredient data, specifically product-specific data, is needed in order to determine the feasibility of mandatory reactivity-based limits for architectural coatings.

D. TECHNOLOGY ASSESSMENTS OF PROPOSED LIMITS

As part of this current SCM effort, staff is committed to conducting technology assessments for each coating category with lower proposed future limits one year prior to the effective date of the lowered limits. The affected categories include flat, non-flat (including quick-dry enamels), lacquer, floor, industrial maintenance, primers, sealers, and undercoaters (including quick-dry primers, sealers, and undercoaters), stains, waterproofing sealers, and multi-color coatings. We are convinced that the proposed limits are feasible, based on all the evidence that we examined. The reason we are committing to these additional technology assessments is that this is standard practice for the ARB, and we want to make sure that unanticipated problems do not arise.

E. STATEWIDE CONSUMER EDUCATION PROGRAM

A critical part of reducing emissions from architectural coatings is the education of consumers that their decisions and actions regarding the use of coatings may impact their local air pollution. Staff believes that a statewide public education program to assist consumers in making decisions about what products to use and when to paint would help improve the effectiveness of architectural coatings rules. Pamphlets such as the South Coast AQMD's *Painter's Guide to Clean Air* are one such example. By its nature, a public education program would need to be a long-term project, but we believe it is a valuable approach.

F. FURTHER EXTRAMURAL RESEARCH

ARB has sponsored about a dozen architectural coating extramural research studies over the past 20 years. The following are areas that could warrant further extramural research in the next few years.

1. Reactivity of VOCs Used in Architectural Coatings

Further research into the reactivity of VOCs commonly used in architectural coatings may be warranted, both for VOCs that we currently do not have data for, as well as for VOCs for which we need improved data. The results of the 1998 architectural coatings survey will help identify candidate VOCs. These data could then be used if mandatory reactivity-based limits are introduced into the SCM. It is relevant to point out that funds have recently been provided, as part of the U.S. EPA's budget, to develop a large-scale environmental chamber that can be used for such research.

2. Thinning and Clean-Up Solvent Study

The ARB's emission inventory for architectural coatings includes an estimate of how much solvent is used in thinning and in cleaning-up after the application of solvent-based coatings. Currently, ARB estimates that one pint of solvent is used per gallon of solvent-based paint for thinning and clean-up. This value is derived from information gathered before the 1984 survey.

The 1998 survey will help with estimating the amount of thinning recommended by the manufacturers, but other information is needed to update the estimate for solvent used for clean-up. It is envisioned that this study would involve phone and field surveys of painting contractors in order to determine an updated thinning and clean-up factor, which may include clean-up of equipment with both solvent-based and water-based coatings.

Currently, the estimate of emissions from thinning and clean-up are a significant portion of the emissions, ranging from 10 to 15 percent of the total architectural coatings emissions. Updating the thinning and clean-up emission factor would therefore improve the emission estimate for architectural coatings overall.

It is important to point out that by undertaking this study, ARB staff does not believe excessive thinning of architectural coatings is taking place, as discussed in Chapter I and in the Draft Program EIR. This study is simply to update the estimate used in our emissions inventory to account for solvent used for clean-up and for manufacturer's recommended thinning, which district rules require must not result in an exceedance of applicable VOC limits.

This project has been proposed, and funded. It is anticipated to be undertaken in 2000.

3. Alternative VOC Test Methods

The current U.S. EPA test method for calculating VOC contents analytically (Method 24) has limitations when trying to analyze very-low VOC coatings, as well as two-component type coatings, for VOC contents. Research could be undertaken to develop an approvable test method using other available approaches, such as gas chromatography/mass spectrometry. This would allow for more accurate analyses of VOC contents for very low-VOC coatings, thereby improving compliance determinations. This may also help address the VOC contributions from the tinting of coatings at the retail level, which is a concern to some districts.

In addition, such an alternative test method may facilitate the reporting of VOC contents as percent VOC by weight of a coating, instead of the current form of grams of VOC per liter of coating, less water and exempt solvents. This would be more consistent with the way that VOC contents are calculated for consumer products and aerosol coatings.

4. Performance Studies

Performance and durability studies on architectural coatings are an important element in the setting of regulatory limits. As the VOC limits continue to get tighter, the need increases for further research on the performance of very low and near zero VOC products. We envision that this research can be done in cooperation with industry.

G. VOC CALCULATION FOR WATER-BASED COATINGS

Since the 1970s, the U.S. EPA rules and guidance documents have required that VOC content of coatings be determined less water and exempt compounds. This approach is contained in all local district architectural coatings rules. The basis for this approach relates the mass of VOC emitted to the volume of VOC and the solids in the coating, and thus to the coverage and emissions potential. The justification for this calculation is that it is necessary to prevent a manufacturer from simply watering down paints to meet the VOC limit.

We believe that re-examining the need for this calculation is warranted and as a long-term effort, intends to work with U.S. EPA, the districts, and the industry to examine the need for the "less water and exempts" approach.