I.

INTRODUCTION

A. HISTORY AND BACKGROUND

Architectural coatings are coatings applied to stationary structures and their appurtenances, and include such coatings as house paints, stains, industrial maintenance coatings, and traffic coatings. When applied, the solvents in architectural coatings evaporate into the atmosphere and contribute to volatile organic compound (VOC) emissions. The annual average VOC emissions from architectural coatings are estimated to be about 130 tons per day (TPD), in California in 1995. This represents about eight percent of the total stationary source VOC emissions, and about four percent of all VOC emissions statewide.

VOC emissions are precursors to the formation of ozone and particulate matter (PM), California's most serious air quality problems. VOCs react photochemically with oxides of nitrogen (NO_x) to form ozone. Ozone is a strong oxidizer and irritates the human respiratory system and damages plant life and property. VOCs also react in the atmosphere to form PM_{10} (particulate matter with an aerodynamic diameter less than 10 microns in size). PM_{10} is inhaled deep into the lungs and reduces human pulmonary function. PM_{10} may also contain toxic compounds. In the atmosphere, PM_{10} reduces visibility.

Control of emissions from architectural coatings is primarily the responsibility of the local Air Pollution Control Districts (APCD) and Air Quality Management Districts (AQMD). However, the Air Resources Board (ARB) has approved suggested control measures (SCMs) for architectural coatings beginning in 1977. The SCMs act as model rules for districts when adopting and amending their local architectural coatings rules. The proposed SCM described in this staff report reflects advances in coating technologies since the last SCM was approved in 1989. The proposed SCM, in part, relies upon the technical efforts by the South Coast AQMD staff to establish the interim limits in South Coast AQMD Rule 1113, which was adopted in May, 1999. Also, the proposed SCM reflects nearly two years of study of architectural coatings, and was developed in cooperation with the local air districts, the United States Environmental Protection Agency, and the affected industry.