

**State of California  
AIR RESOURCES BOARD**

**FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT FOR:  
SUGGESTED CONTROL MEASURE FOR ARCHITECTURAL COATINGS**

SCH No. 99062093

**Prepared by:**

**Stationary Source Division  
Air Resources Board**

**June 2000**

**Reviewed by:**

**Barbara A. Fry, Manager, Measures Development Section  
James F. Nyarady, Manager, Strategy Evaluation Section  
Carla D. Takemoto, Manager, Technical Evaluation Section  
Janette M. Brooks, Chief, Air Quality Measures Branch  
Donald J. Ames, Assistant Chief, Stationary Source Division  
Peter D. Venturini, Chief, Stationary Source Division**

This report has been prepared by the staff of the California Air Resources Board. Publication does not signify that the contents reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

## ACKNOWLEDGMENTS

This report and the proposed California architectural coating suggested control measure were developed by the following Air Resources Board staff:

Nancy Adams  
Greg Allen  
Andrew Chew, M.S.  
Lesley Crowell  
Marline Hicks  
Mike Jaczola  
Robert Jenne, J.D.  
David Julian, P.E.  
Sue Kaiser, M.A.  
Eric Kwok, Ph.D.  
Paul Milkey  
Liz Ota, M.S.  
Floyd Vergara, P.E.  
Evan Wong, M.S.  
Cheryl Young, M.S.

We would like to extend our appreciation to the South Coast Air Quality Management District staff for their assistance. Special thanks go to Mr. Darren Stroud. We would also like to extend our appreciation to the California Air Pollution Control Officers Association Architectural Coatings Working Group.

**Notes regarding differences between the Draft Program Environmental Impact Report (EIR) and the Final Program EIR:**

---

Proposed changes that differ from the Draft Program EIR are presented in strikeout-underline format. Text that has been added to the Final Program EIR is shown in underline, and text that has been deleted is shown in ~~strikeout~~.

Appendix D, Description and Technical Assessment of the Coating Categories, now appears as Chapter VI of the *Staff Report for the Proposed Suggested Control Measure for Architectural Coatings*.

Appendix E, Summary Tables of Coating Characteristics, has been replaced in its entirety for clarity.

Appendix H, CAPCOA Summary of Air Districts' Significance Criteria, and Appendix I, Comments on the Draft Program EIR and Responses to Comments, are new to the Final Program EIR.

## TABLE OF CONTENTS

<u>Contents</u>	<u>Page</u>
<b>I. LEGAL AUTHORITY AND EXECUTIVE SUMMARY</b>	<b>I-1</b>
A. Introduction	I-1
B. Legal Authority	I-2
C. Preparation of a Draft <u>Final</u> Program Environmental Impact Report	I-2
D. Executive Summary	I-4
<b>II. PROJECT DESCRIPTION</b>	<b>II-15</b>
A. Project Location	II-15
B. Architectural Coatings Description	II-15
C. Architectural Coatings Rules	II-17
D. Architectural Coatings Emission Inventory	II-18
E. Development of the SCM	II-23
F. Project Objective and Description	II- <del>27</del> <u>28</u>
<b>III. EXISTING SETTING</b>	<b>III-32</b>
A. Introduction	III-32
B. Air Quality	III-32
C. Water	III-41
D. Public Services	III-46
E. Transportation/Circulation	III-47
F. Solid Waste/Hazardous Waste	III- <del>48</del> <u>49</u>
G. Hazards	III- <del>49</del> <u>51</u>
<b>IV. ENVIRONMENTAL IMPACTS AND MITIGATION</b>	<b>IV-<del>58</del> <u>59</u></b>
A. Introduction	IV- <del>58</del> <u>59</u>
B. Thresholds of Significance	IV- <del>59</del> <u>60</u>
C. Analysis of Potential Environmental Impacts	IV- <del>60</del> <u>61</u>
D. Environmental Impacts Found Not to be Significant	IV- <del>121</del> <u>122</u>
E. Other CEQA Topics	IV- <del>127</del> <u>128</u>
F. Consistency	IV- <del>129</del> <u>130</u>
<b>V. PROJECT ALTERNATIVES</b>	<b>V-<del>138</del> <u>139</u></b>
A. Introduction	V- <del>138</del> <u>139</u>
B. Alternatives Rejected as Infeasible	V- <del>138</del> <u>139</u>
C. Description of Alternatives Considered Feasible	V- <del>157</del> <u>158</u>
D. Comparison of Alternatives	V- <del>159</del> <u>161</u>
E. Conclusion	V- <del>168</del> <u>170</u>

**APPENDIX A. PROPOSED SUGGESTED CONTROL MEASURE**

**APPENDIX B. NOTICE OF PREPARATION AND INITIAL STUDY**

**APPENDIX C. COMMENTS ON THE NOTICE OF PREPARATION AND INITIAL STUDY AND RESPONSES TO COMMENTS**

**APPENDIX D. DESCRIPTION AND TECHNICAL ASSESSMENT OF THE COATING CATEGORIES**

**APPENDIX E. SUMMARY TABLES OF COATING CHARACTERISTICS**

**APPENDIX F. RISK ASSESSMENT METHODOLOGY**

**APPENDIX G. 1994 OZONE SIP COMMITMENTS FOR VOC REDUCTIONS FROM ARCHITECTURAL COATINGS MEASURES**

**APPENDIX H. CAPCOA SUMMARY OF AIR DISTRICTS' SIGNIFICANCE CRITERIA**

**APPENDIX I. COMMENTS ON THE DRAFT PROGRAM EIR AND RESPONSES TO COMMENTS**

## LIST OF TABLES

<u>Contents</u>	<u>Page</u>
<b>I-1. ENVIRONMENTAL IMPACTS FROM IMPLEMENTATION OF THE SCM</b>	<b>I-<del>12</del><u>13</u></b>
<b>II-1. 1990/1996 SURVEY COMPARISON</b>	<b>II-23</b>
<b>II-2. SUMMARY OF CURRENTLY AVAILABLE COMPLIANT COATINGS</b>	<b>II-25</b>
<b>II-3. PROPOSED SCM VOC LIMITS AND ASSOCIATED ESTIMATED EMISSION REDUCTIONS</b>	<b>II-29</b>
<b>III-1. AMBIENT AIR QUALITY STANDARDS FOR OZONE AND PM<sub>10</sub></b>	<b>III-35</b>
<b>III-2. PROJECTED WATER SUPPLY AND DEMAND BY HYDROLOGIC REGION</b>	<b>III-44</b>
<b>III-3. 1998 HAZARDOUS MATERIALS RELEASE INFORMATION</b>	<b>III-53</b>
<b>III-4. TOXICITY OF CURRENTLY AVAILABLE COATINGS SOLVENTS</b>	<b>III-55</b>
<b>IV-1. SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS</b>	<b>IV-<del>62</del><u>63</u></b>
<b>IV-2. SUMMARY OF COATINGS CHARACTERISTICS</b>	<b>IV-<del>63</del><u>64</u></b>
<b>IV-3. VOC CONTENT VS. SOLIDS BY VOLUME</b>	<b>IV-<del>66</del><u>67</u></b>
<b>IV-4. PERFORMANCE COMPARISON OF ACRYLIC AND ALKYD RESIN SYSTEMS</b>	<b>IV-<del>72</del><u>73</u></b>
<b>IV-5. OZONE DATA SUMMARIES (1980-1998) SOUTH COAST AIR BASIN</b>	<b>IV-<del>75</del><u>77</u></b>
<b>IV-6. COMPARISON OF ODOR THRESHOLDS FOR CONVENTIONAL AND REPLACEMENT COATING SOLVENTS</b>	<b>IV-<del>82</del><u>83</u></b>
<b>IV-7. PROJECTED WATER DEMAND FOR REFORMULATED COATINGS</b>	<b>IV-<del>85</del><u>87</u></b>
<b>IV-8. ECOLOGICAL INFORMATION FOR COATINGS SOLVENTS</b>	<b>IV-<del>89</del><u>90</u></b>
<b>IV-9. PROJECTED POTW IMPACT FROM REFORMULATED COATINGS</b>	<b>IV-<del>91</del><u>92</u></b>
<b>IV-10. CHEMICAL CHARACTERISTICS FOR COMMON COATING SOLVENTS</b>	<b>IV-<del>97</del><u>98</u></b>
<b>IV-11. ANTICIPATED SOLID WASTE IMPACTS ASSOCIATED WITH IMPLEMENTING THE SCM</b>	<b>IV-<del>104</del><u>105</u></b>

## LIST OF TABLES (CONTINUED)

<u>Contents</u>	<u>Page</u>
IV-12. ANTICIPATED HAZARDOUS WASTE IMPACTS ASSOCIATED WITH IMPLEMENTING THE SCM	IV- <del>106</del> - <u>107</u>
IV-13. TOXICITY OF COATING SOLVENTS	IV- <del>110</del> - <u>111</u>
IV-14. MAXIMUM INDIVIDUAL CANCER RISK FROM POTENTIAL EXPOSURES TO TDI COATINGS	IV- <del>112</del> - <u>113</u>
IV-15. CHRONIC EXPOSURE RISK ASSESSMENT	IV- <del>114</del> - <u>115</u>
IV-16. SHORT-TERM ACUTE EXPOSURE RISK ASSESSMENT FOR CONVENTIONAL SOLVENTS	IV- <del>116</del> - <u>117</u>
IV-17. SHORT-TERM ACUTE EXPOSURE FROM THE SPRAYING OF A TWO-COMPONENT IM SYSTEM CONTAINING HDI POLY-ISOCYANATE	IV- <del>122</del> - <u>123</u>
IV-18. 1994 OZONE SIP COMMITMENTS FOR VOC EMISSION REDUCTIONS FROM ARCHITECTURAL COATINGS MEASURES	IV- <del>130</del> - <u>131</u>
IV-19. COMPARISON OF ESTIMATED EMISSION REDUCTIONS FROM THE PROPOSED SCM AND THE 1994 OZONE SIP COMMITMENTS	IV- <del>130</del> - <u>131</u>
V-1. LVP-VOC SOLVENTS IN ARB ARCHITECTURAL COATINGS SURVEY	V- <del>147</del> - <u>148</u>
V-2. THE SCM AND PROJECT ALTERNATIVES	V- <del>163</del> - <u>165</u>
V-3. COMPARISON OF VOC EMISSION REDUCTIONS FROM THE SCM AND THE PROJECT ALTERNATIVES	V- <del>164</del> - <u>166</u>
V-4. COMPARISON OF POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACTS OF THE SCM TO THE ALTERNATIVES	V- <del>170</del> - <u>172</u>
V-5. RANKING OF ALTERNATIVES	V- <del>171</del> - <u>173</u>

## LIST OF FIGURES

<u>Contents</u>	<u>Page</u>
<b>II-1 CALIFORNIA AIR DISTRICTS AND COUNTIES</b>	<b>II-16</b>
<b>III-1. POPULATION-WEIGHTED EXPOSURE TO OZONE CONCENTRATIONS ABOVE THE STATE AMBIENT AIR QUALITY STANDARD</b>	<b>III-33</b>
<b>III-2. CALIFORNIA EXCEEDENCES OF STATE AMBIENT AIR QUALITY STANDARDS DURING 1997</b>	<b>III-37</b>
<b>III-3. AREA DESIGNATIONS FOR STATE AMBIENT AIR QUALITY STANDARD FOR OZONE</b>	<b>III-38</b>
<b>III-4. AREA DESIGNATIONS FOR STATE AMBIENT AIR QUALITY STANDARD FOR PM<sub>10</sub></b>	<b>III-39</b>