

## INCREMENTAL COST-EFFECTIVENESS ANALYSIS

## PROPOSED AMENDED RULE 67.0.1 – ARCHITECTURAL COATINGS

Health and Safety Code Section 40920.6(a) requires air pollution control districts to identify one or more potential control options that achieve at least the same benefit as the proposed rule, assess the cost-effectiveness of those options and calculate the incremental cost-effectiveness of each identified option. Incremental cost-effectiveness is defined as the difference in control costs divided by the difference in emission reductions between two potential options achieving the same emission reduction goal.

The only potential option that achieves at least the same or better environmental benefits from controlling volatile organic compound (VOC) emissions from the application of architectural coatings would be to adopt the lower VOC content limits of Rule 1113 (Architectural Coatings) of the South Coast Air Quality Management District (SCAQMD).

Many of the VOC content limits in the 2019 California Air Resources Board (CARB) Suggested Control Measure (SCM) for Architectural Coatings, and correspondingly in proposed amended Rule 67.0.1, are similar to those in SCAQMD Rule 1113 adopted in 2016. Therefore, for the purpose of conducting the incremental cost-effectiveness analysis for Rule 67.0.1, the District used the cost-effectiveness, emission reductions, and control costs of Rule 1113 as it existed in 2016.

Table 1. SDAPCD Rule 67.0.1 – Proposed Amendments

VOC Emission Reductions	82 tons per year = 164,000 pounds per year
Annualized Cost for proposed Rule 69.4.1	\$257,560 per year
Cost-Effectiveness	\$1.57 per pound VOC reduced

Table 2. SCAQMD Rule 1113 – 2016

VOC Emission Reductions	1,935 tons per year = 3,870,000 pounds per year
Annualized cost	\$10,392,530 per year
Cost-Effectiveness	\$2.69 per pound VOC reduced

Table 3. Incremental Cost-Effectiveness

Incremental Annualized Cost	$\$10,392,530 - \$257,560 = \$10,134,970$ per year
Incremental Annual Emission Reductions	$3,870,000 - 164,000 = 3,706,000$ pounds per year
Incremental Cost-Effectiveness	\$2.73 per pound VOC reduced

As shown in Table 3. Incremental Cost-Effectiveness, the incremental cost-effectiveness of achieving higher emission reductions is \$2.73 per pound of VOC reduced. This means that each extra pound of VOC emissions that would be reduced by adopting the more stringent limits of SCAQMD Rule 1113 would cost \$2.73 in San Diego County.

While the low incremental cost-effectiveness value indicates this potential option may be feasible, CARB determined that a higher VOC limit would be more appropriate. The most significant of these categories are Industrial Maintenance Coatings, Metallic Pigmented Coatings, Rust Preventative Coatings, Zinc-Rich Primers, and Concrete Curing Compounds. The two primary reasons for these higher VOC content limits in the SCM are described below.

1. The SCM Does Not Contain a VOC Exemption for TBAC

SCAQMD Rule 1113 contains a limited VOC exemption for tertiary-butyl acetate (TBAC) to allow for its use in Industrial Maintenance Coatings only. Under this exemption, manufacturers do not have to include TBAC when calculating the VOC content of Industrial Maintenance Coatings. Because the SCAQMD allowed the use of TBAC as an exempt solvent, it was technologically feasible to establish a VOC limit of 100 g/l for Industrial Maintenance Coatings. CARB staff has not proposed a similar exemption for TBAC due to potential toxicity health concerns identified by the Office of Environmental Health Hazard Assessment (OEHHA). Additionally, another commonly used exempt solvent, parachlorobenzotrifluoride (PCBTF), is currently being evaluated for potential carcinogenic effects. Since the SCM does not allow for the use of TBAC as an exempt solvent, and there is the potential that PCBTF will also be found to be carcinogenic, CARB concluded that it was appropriate to retain the 250 g/l VOC limit for the Industrial Maintenance category.

Industry has expressed a high level of concern regarding the potential removal of both TBAC and PCBTF from the VOC exempt list. They have stated that it would not be feasible to meet the VOC limits in SCAQMD Rule 1113 for metallic pigmented, zinc rich primers, industrial maintenance, and potentially other categories if these exempts are not available for formulation.

2. The SCM Does Not Contain an Exemption for High Elevations

SCAQMD Rule 1113 contains an exemption for all stains and lacquers that are used in areas with elevations of 4,000 feet or greater above sea level. Stains and lacquers that are used at these high elevations are exempt from VOC limits and all other requirements of Rule 1113. The SCM does not include an exemption for high elevations.

Conclusion

For these reasons, and to align with the VOC content limits of the 2019 SCM, the District has decided not to incorporate the lower limits of SCAQMD Rule 1113 for certain coating categories into proposed amended Rule 67.0.1 at this time.