State of California
Air Resources Board

BOARD ITEM SUMMARY

ITEM # 20-5-2: Public Hearing to Consider the Proposed Updates to the 2019 Architectural Coatings Suggested Control Measure

STAFF RECOMMENDATION:
The California Air Resources Board (CARB or Board) staff recommends that the Board approve the proposed updates to the 2019 Suggested Control Measure (SCM) for Architectural Coatings.

DISCUSSION:
Under California law, the primary authority for controlling emissions from architectural coatings is vested in the air pollution control and air quality management districts (air districts). To assist the air districts, CARB often provides guidance, including model rules such as the SCM for Architectural Coatings. The Board approved an SCM for Architectural Coatings in 1977 and updated it in 1985, 1989, 2000, 2007 and 2019. The Board's approval of the proposed updates to the 2019 SCM will not impose binding requirements on any person or air district. It will be up to each air district to decide if adoption of the updated SCM as a district rule is needed within the district.

On May 23, 2019, the Board approved the 2019 SCM, updating the 2007 SCM. During the hearing, the Board received comments from stakeholders regarding the need to add a new coating category intended for use on solar modules. Pellucere Technologies, Inc. stated that their new product, MoreSun®, an anti-reflective and anti-soiling optical coating, would provide three to four percent energy efficiency improvement of solar modules. Currently, Photovoltaic Coatings are considered a Low Solids Coating, but the coatings do not meet the Low Solids Coating volatile organic content (VOC) limit of 120 g/l based on a detailed technical assessment of the coatings' formulations. The Board directed CARB staff to work with coating manufacturers, air districts, the United States Environmental Protection Agency (U.S. EPA), and other interested stakeholders to evaluate the feasibility of incorporating a new Photovoltaic Coating category into the SCM.

SUMMARY AND IMPACTS:
Photovoltaic Coatings are different from other architectural coatings as their primary function is to increase the efficiency of the solar modules, as opposed to protecting the substrate from environmental conditions. The use of the coating under the proposed SCM (2020 SCM) will cause a one-time release in VOC emissions from the currently allowed levels. However, doing so would provide a long-term emissions benefit resulting from the increased electricity generation by the solar modules coated with the Photovoltaic Coatings. Staff's proposal would establish a Photovoltaic

Coating category with a VOC limit of 600 grams per liter. The staff's proposal is structured to recognize considerations of emissions tradeoffs. Although each application of Photovoltaic Coatings will result in a release of VOC emissions, daily limits on the volume of these coating applications would help ensure that any application would not exceed the CEQA thresholds for each air district. Furthermore, application of this coating is a one-time event for each solar module, and the coatings are expected to last 10 to 15 years on the modules, providing about a three percent increase in the electricity produced relative to the uncoated solar modules. CARB staff determined the increased energy efficiency will result in avoided power plant emissions of criteria pollutants and greenhouse gases for at least ten years, thus reducing health risks.).

Staff analyzed the potential economic impacts for the proposed 2020 SCM. The staff's analysis shows that the affected business would be able to absorb the costs of the proposed updates with no significant adverse impacts on profitability.