UPDATED INFORMATIVE DIGEST

PUBLIC HEARING TO CONSIDER ADOPTION OF AN AIRBORNE TOXIC CONTROL MEASURE TO REDUCE EMISSIONS OF HEXAVALENT CHROMIUM AND NICKEL FROM THERMAL SPRAYING

Sections Affected: Adoption of new section 93102.5, title 17, California Code of Regulations (CCR).

Background:

The California Toxic Air Contaminant Identification and Control Program (Program), established under California law by Assembly Bill 1807 (Stats. 1983, Ch. 1047) and set forth in Health and Safety Code (HSC) sections 39650–39675 (as amended), requires the ARB to identify and control toxic air contaminants (TAC) in California. Following the identification of a substance as a TAC, Health and Safety Code section 39665 requires the ARB, with participation of the air pollution control and air quality management districts (districts), and in consultation with affected sources and interested parties, to prepare a report on the need and appropriate degree of regulation for that substance. Health and Safety Code section 39665(b) requires that this "needs assessment" address, among other things, the technological feasibility of proposed airborne toxic control measures (ATCM) and the availability, suitability, and relative efficacy of substitute products or processes of a less hazardous nature.

Once the ARB has evaluated the need for and appropriate degree of regulation of a TAC, Health and Safety Code section 39666 requires the ARB to adopt regulations to achieve the maximum feasible reduction in public exposure to TACs.

The Board identified hexavalent chromium and nickel as TACs in 1986 and 1991, respectively. Both hexavalent chromium and nickel were determined to be human carcinogens without an identifiable threshold exposure level below which no significant adverse health effects are anticipated. Nickel was also deemed to have acute health impacts. Because hexavalent chromium and nickel do not have Board-specified threshold exposure levels, HSC section 39666 requires that the ATCM be designed to reduce emissions to the lowest achievable level through the application of the best available control technology (BACT) or a more effective control method, in consideration of cost, risk, environmental impacts, and other specified factors.

Description of the Adopted Regulatory Action:

Thermal spraying (or metal spraying) is a process in which materials are heated to a molten or nearly molten condition and are sprayed onto a surface to form a coating. The adopted ATCM applies to thermal spraying operations at any stationary source that uses materials containing chromium, chromium compounds, nickel, or nickel compounds. The adopted ATCM requires the use of BACT in consideration of risk and cost, and also establishes hourly emissions limits for nickel for existing, modified, and

new facilities. The adopted ATCM also establishes recordkeeping, monitoring, and reporting requirements. However, the adopted ATCM does not regulate the sale or composition of thermal spraying materials. It also does not apply to portable thermal spraying operations that are temporary (not more than 30 consecutive days at the same location) and are used for offsite field applications.

If a facility does not use materials that contain chromium, chromium compounds, nickel, or nickel compounds, it is not subject to the adopted ATCM. If a facility has very low emission levels (e.g., less than 0.001 pounds per year of hexavalent chromium), it may qualify for an exemption from installing additional controls. However, the facility must still comply with the permitting, recordkeeping, monitoring, and reporting requirements.

The adopted ATCM specifies that facilities with relatively high emission rates must meet the highest control efficiency requirements, while facilities with much lower emission rates must meet slightly lower control efficiency requirements. Emissions are determined by using ARB's calculation methods specified in Appendix 1 of the adopted ATCM, or by using source test data that has been approved by the local air district. The adopted ATCM specifies the test methods to be used when conducting an emissions source test.

All existing facilities must comply with the ATCM by January 1, 2006. New and modified thermal spraying operations must comply upon initial startup.

Existing thermal spraying operations are defined as those operations in existence as of January 1, 2005. These operations must use air pollution control devices that meet minimum control efficiency levels, ranging from 90 percent to 99.97 percent. The efficiency requirements are established in consideration of health risks and cost. These facilities must also use an enclosure and a ventilation system that complies with designated operating standards. In addition, recordkeeping and regular monitoring are required to ensure the proper operation of the ventilation system and control devices. An existing thermal spraying facility may be exempt from the minimum control efficiency requirements of the adopted ATCM if it is located at least 1,640 feet from the nearest sensitive receptor and emits no more than 0.5 pound per year of hexavalent chromium. This exemption is contingent upon the facility's submission of a permit application and annual reports of hexavalent chromium and nickel emissions. This exemption is also contingent upon a site-specific analysis of public health impacts conducted by the air district. The air district will verify annually that the facility continues to meet the necessary requirements for an exemption.

All existing thermal spraying operations must submit an emissions inventory by October 1, 2005, and obtain a permit from their local air district if they do not have one.

Modified thermal spraying operations are defined as those operations that undergo a modification after January 1, 2005. Modified thermal spraying operations must use an air pollution control device that can achieve 99.97 percent control efficiency down to

0.3 microns (e.g., a high efficiency particulate abatement or HEPA filter). If a facility already has a HEPA filter, no additional upgrades are required after a modification.

New thermal spraying operations are defined as those operations that have an initial startup after January 1, 2005. No person may operate a new thermal spraying operation unless it is located outside of an area that is zoned for residential or mixed use and is located at least 500 feet from the boundary of any area that is zoned for residential or mixed use. However, in certain situations a new thermal spraying operation shall be deemed to meet this standard if specified criteria are met, even if the operation does not meet the standard at the time of initial startup (e.g., in situations where the operation meets the standard when the authority to construct is issued, but does not meet the standard at the time of initial startup because of a zoning change that occurs after the authority to construct is issued).

In addition, new thermal spraying operations must use an air pollution control device that meets at least 99.97 percent control efficiency down to 0.3 microns (e.g., a HEPA filter). Existing facilities that add new permit units are not considered to be "new facilities." All new facilities must undergo a site-specific evaluation by the local air district to ensure that they do not present a public health risk.

Comparable Federal Regulations

There are no comparable federal regulations that apply to thermal spraying operations that use materials containing chromium, chromium compounds, nickel, or nickel compounds.