

TITLE 17. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER ADOPTION OF THE PROPOSED AIRBORNE TOXIC CONTROL MEASURE TO REDUCE FORMALDEHYDE EMISSIONS FROM COMPOSITE WOOD PRODUCTS

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider adoption of the Proposed Airborne Toxic Control Measure (ATCM) to Reduce Formaldehyde Emissions from Composite Wood Products. The proposed ATCM would reduce the public's current exposure to formaldehyde by reducing emissions from hardwood plywood (HWPW), particleboard (PB) and medium density fiberboard (MDF) panels. The ATCM would also apply to finished goods made with these materials.

DATE: April 26, 2007

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m. on April 26, 2007, and may continue to 8:30 a.m., April 27, 2007. Please consult the agenda for the meeting, which will be available at least ten days before April 26, 2007, to determine the day on which this item will be considered.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette, or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

Sections Affected: Proposed adoption of new sections 93120 and 93120.1 to 93120.12, title 17, California Code of Regulations.

Background: In 1992, the Board identified formaldehyde as a Toxic Air Contaminant (TAC). Formaldehyde was determined to be a human carcinogen with no known safe level of exposure. Following the identification of a substance as a TAC, Health and Safety Code (HSC) section 39665 requires the ARB, with participation of the local air pollution control and air quality management districts (air 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. HSC section 39666(b) requires that this “needs assessment” address, among other things, the technological feasibility of proposed airborne toxic control measures (ATCMs) and the availability, suitability, and relative efficacy of substitute products or processes of a less hazardous nature. ARB staff has prepared an Initial Statement of Reasons (ISOR) for the proposed ATCM that serves as the report on the need and appropriate degree of regulation for the ATCM. Once the ARB has evaluated the need and appropriate degree of regulation for a TAC, HSC section 39666 requires the ARB to adopt regulations (ATCMs) to reduce emissions of the TAC to the lowest level achievable through the application of best available control technology (BACT) or a more effective control method, in consideration of cost, risk, environmental impacts, and other specified factors

After the identification of formaldehyde in 1992, the Board promulgated a series of increasingly stringent exhaust emission standards for motor vehicles to limit hydrocarbon emissions, which include formaldehyde. While these actions have reduced formaldehyde emissions from mobile sources, the proposed ATCM would be the first action to specifically reduce formaldehyde emissions from an area source. Of the TACs posing the greatest public health risk to Californians, exposure to formaldehyde in the ambient (i.e., outside) air ranks third behind diesel particulate matter and benzene, both highly potent TACs from motor vehicle exhaust.

Presently, ambient formaldehyde concentrations are measured at 17 sites across the State in the Board’s Air Toxics Monitoring Network. For the past ten years, statewide average formaldehyde concentrations have ranged from 3.3 to 4.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Exposure to formaldehyde at these concentrations poses both cancer and non-cancer health risks to Californians. In addition, numerous studies indicate that formaldehyde concentrations indoors and inside motor vehicles are often higher than in the ambient air, due to emissions occurring in confined spaces with reduced rates of ventilation. For example, in-vehicle and indoor formaldehyde concentrations have been reported to be two to three times higher and four to ten times higher, respectively, than annual average outdoor formaldehyde concentrations in California.

For composite wood products produced for California in 2002, staff estimated formaldehyde emissions to be about 900 tons. Emissions occur as unbound formaldehyde from the resin used to manufacture composite wood products escape from the interior of the panels and as existing chemical bonds degrade over time. These products emit during product distribution to downstream customers, when used by fabricators to build finished goods or products, and ultimately after being purchased by consumers. While studies indicate that formaldehyde emissions from HWPW, PB, and MDF are highest in the first few months after manufacture, formaldehyde emissions continue to occur at lower levels for several years thereafter. Since the majority of the composite wood products sold in California are mainly used for interior applications, the main portion of people’s exposure to formaldehyde occurs indoors, where formaldehyde concentrations are four to ten times higher than outdoor air. Formaldehyde emitted

indoors will enter the outside air through normal air exchange and outdoor “hotspots” may be created near areas where significant amounts of composite wood products are found. Although formaldehyde emissions from composite wood products constitute less than 5% of estimated annual statewide formaldehyde emissions, these emissions pose a far greater health risk than those directly emitted by all other sources combined.

There are federal regulations governing the allowable formaldehyde emissions from particleboard and hardwood plywood when installed in manufactured homes; these regulations are discussed in this notice under the heading “Comparable Federal Regulations.”

Description of the Proposed Regulatory Action: The proposed ATCM would reduce formaldehyde emissions from hardwood plywood (HWPW), particleboard (PB), medium density fiberboard (MDF), and finished goods or products containing these materials. This would be achieved by requiring manufacturers to meet new, stringent formaldehyde emission standards for HWPW, PB and MDF that is sold, offered for sale, supplied, or manufactured for use in California.

The proposed ATCM applies not only to manufacturers, but also to distributors, importers, fabricators, and retailers that sell, offer for sale, or supply HWPW, PB and MDF panels, or finished goods or products containing those materials, for use in California. The ATCM does not apply to panels or finished goods that are manufactured or sold for shipment and used outside of California. The ATCM also does not apply to hardwood plywood and particleboard materials when installed in manufactured homes and subject to the United States Housing and Urban Development regulations.

Beginning January 1, 2009, new “Phase 1” formaldehyde emission standards would take effect for HWPW, PB and MDF. More stringent “Phase 2” emission standards for HWPW, PB and MDF would be phased in between 2011 and 2012.

Manufacturers of composite wood products are required to demonstrate compliance with the new emission standards by being certified by an independent party known as a “third party certifier.” Third party certifiers would be approved by ARB and would follow specified requirements to verify that manufacturers’ production meets the applicable emission standards. Manufacturers would also be required to label their HWPW, PB and MDF panels to identify them as meeting either the Phase 1 or Phase 2 emission standards. Recordkeeping requirements are also imposed on manufacturers to document that they are complying with regulatory requirements.

Distributors, importers, fabricators, and retailers would be required to purchase and sell panels and finished goods that comply with the applicable emission standards. They would also be required to take reasonable prudent precautions (such as communicating with their suppliers) to ensure that the products they purchase are in compliance with the applicable standards. In addition, distributors and importers must keep records showing the date of purchase and the supplier of the products, and document what precautions were taken to ensure that the products comply with the applicable

standards. In addition, fabricators would be required to label their finished goods or products to denote that they comply with the applicable Phase 1 or Phase 2 emission standard, if the products contain HWPW, PB, or MDF and will be sold, offered for sale, or supplied for use in California.

The proposed ATCM contains “sell-through” provisions that allow noncomplying products manufactured before the effective dates of the Phase 1 and Phase 2 emission standards to be sold for certain specified time periods after these effective dates. Differing sell-through periods apply depending on whether the product is sold by a manufacturer, distributor, importer, fabricator, or retailer.

Finally, the proposed ATCM specifies test methods for determining whether panels and finished goods or products meet the applicable emission standards.

COMPARABLE FEDERAL REGULATIONS

The U.S. Department of Housing and Urban Development (HUD) has promulgated formaldehyde emission limits for particleboard and plywood installed in manufactured homes used as dwellings units (24 Code of Federal Regulations §3280.1 et seq., 3280.308). Federal law generally preempts State and local regulations regarding construction and safety standards for manufactured homes, such as the formaldehyde standards specified in the HUD regulations (see 42 U.S. C.A section 94503(d)). To comply with federal law, the proposed ATCM exempts products covered by the HUD regulations. The HUD regulations do not apply to plywood and particleboard used in applications other than manufactured homes, nor finished products made with these materials.

The U.S. Environmental Protection Agency has also promulgated a National Emission Standard for Hazardous Air Pollutants (NESHAP): Plywood and Composite Wood Products, which imposes emission limits on plywood and composite wood products manufacturing facilities (Title 40, CFR, Chapter I, Subchapter C, Part 63, Subpart DDDD; section 63.2230 et seq.). This NESHAP applies to emissions of hazardous air pollutants from manufacturing facilities, and not emissions from composite wood products covered by the proposed regulation.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

The ARB staff has prepared an “Initial Statement of Reasons for the Proposed Airborne Toxic Control Measure for Formaldehyde Emissions from Composite Wood Products” (Staff Report) for the proposed regulatory action, which includes a summary of the potential environmental and economic impacts of the proposal.

Copies of the Staff Report and full text of the proposed regulatory language may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, California 95814,

(916) 322-2990 at least 45 days prior to the April 26, 2007, hearing. The Staff Report is also available on the internet at the website listed below, or by contacting the staff listed below.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the website listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Jim Aguila, Manager of the Substance Evaluation Section, at (916) 322-8283 or by email at jaguila@arb.ca.gov, or Brent Takemoto, Staff Air Pollution Specialist, at (916) 327-5615 or by email at btakemot@arb.ca.gov.

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Alexa Malik, Regulations Coordinator, Board Administration & Regulatory Coordination Unit, (916) 322-4011, or Amy Whiting, Regulations Coordinator, (916) 322-6533. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the Staff Report, and all subsequent regulatory documents, including the Final Statement of Reasons, when completed, are available on the ARB Internet site for this rulemaking at www.arb.ca.gov/regact/2007/compwood07/compwood07.htm.

COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below and in specific detail in the Staff Report.

Except as discussed below, the ARB Executive Officer has determined that the proposed regulatory action will not create costs or savings, as defined in Government Code section 11346.5(a)(5) and 11346.5(a)(6), to any state agency or in federal funding to the state, costs or mandate to any local agency or school district whether or not reimbursable by the state pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other nondiscretionary savings to state or local agencies.

The proposed regulatory action will impose a mandate upon and create costs for local air districts. Under State law, air districts are required to implement and enforce ATCMs which are adopted by the ARB, or adopt and enforce their own rules that are at least as stringent. However, such administrative costs to the air districts are recoverable by fees that are within the air districts' authority to assess (see Health and Safety Code sections 42311 and 40510). Therefore, the Executive Officer has determined that the proposed

regulatory action imposes no costs on local agencies that are required to be reimbursed by the State pursuant to part 7 (commencing with section 17500), Division 4, title 2 of the Government Code, and does not impose a mandate on local agencies that is required to be reimbursed pursuant to Section 6 of Article XIII B of the California Constitution.

The proposed regulatory action will also impose a mandate upon and create costs for one State agency: the California Prison Industries Authority (PIA). The PIA is a major fabricator of industrial and office furniture with a projected 2006-2007 fiscal year manufacturing revenue exceeding \$100 million. As a fabricator of composite wood finished products, the PIA will be required to comply with the recordkeeping and labeling requirements of the ATCM. The California PIA would also pay more for the composite wood products used to make furniture, as described below.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. The Executive Officer has initially determined that there will be a cost impact on private persons or businesses directly affected as a result of the proposed regulatory action. As explained below, the proposed amendments will have a cost impacts on individual businesses who supply the California market with composite wood products, but the overall statewide impacts are not expected to be significant.

Presently, there are over 65 domestic hardwood plywood, particleboard, and medium density fiberboard manufacturers in the United States. These manufacturers produce some of the composite wood products (and finished goods made from these materials) sold in California, and the remainder is produced by foreign manufacturers--primarily manufacturers located in China, Canada and South America. To meet Phase 1 standards, manufacturing production costs will increase by 5% on average due to the need for increased process control and slightly reformulated resin systems. This translates to an increase of \$1 to \$2 for each standard 4' x 8' panel of particleboard, hardwood plywood or medium density fiberboard, which may now typically cost \$12, \$40, or \$15, respectively.

To meet the proposed Phase 2 emission standards, most manufacturers will need to gain further process control and utilize further reformulated, very low formaldehyde-emitting, resin systems. For hardwood plywood in particular, one manufacturer currently supplies 40 percent of the California demand with a soy-resin based plywood that already meets the proposed Phase 2 emission standards. The product is being offered at a cost neutral basis relative to today's market. The rest of the California hardwood plywood demand is currently met by manufacturers that would need to upgrade their production capability to meet the Phase 2 standards. These upgrades are estimated to increase the cost of production by 15 percent, or by about \$6 per 4' x 8' panel. Since manufacturing of particleboard and medium density fiberboard (including thin medium density fiberboard) is more complex, the estimated increase in production cost would be approximately 30 percent and 40 percent, respectively. This translates to

increases of about \$3 to \$6 per standard 4' x 8' panel of particleboard or medium density fiberboard.

The increased cost of composite wood products would have an effect on new home construction costs. Staff estimates that for a home with a typical retail price of \$400,000, the price increase will be less than 1 percent. The ATCM is also estimated to increase the price of finished goods by 5 to 10 percent.

For downstream customers such as distributors, importers, fabricators and retailers of panels and finished goods, the cost for these materials would be higher and they would be required to comply with certain regulatory recordkeeping requirements. However, such costs should not be significant.

The Executive Officer has made an initial determination that the proposed regulatory action will not have a significant adverse statewide economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has initially determined that the proposed ATCM should have minimal impacts on the creation or elimination of jobs within the State of California, minimal impacts on the creation of new businesses and the elimination of existing businesses within the State of California, and minimal impacts on the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the Staff Report.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will affect small businesses.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the proposed reporting requirements of the ATCM which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

A detailed assessment of the economic impacts of the proposed regulatory action can be found in the Staff Report.

SUBMITTAL OF COMMENTS

The public may present comments relating to this matter orally or in writing at the hearing, and in writing or by e-mail before the hearing. To be considered by the Board, written submissions not physically submitted at the hearing must be received **no later than 12:00 noon, April 25, 2007**, and addressed to the following:

Postal mail is to be sent to:

Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Facsimile submittal: (916) 322-3928

The Board requests but does not require 30 copies of any written statement be submitted and that all written statements be filed at least ten days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

STATUTORY AUTHORITY AND REFERENCES

This regulatory action is proposed under the authority granted to the ARB in Health and Safety Code sections 39600, 39601, 39650, 39658, 39659, 39666, 41511 and 41712. This action is proposed to implement, interpret, or make specific Health and Safety Code sections 39650, 39658, 39659, 39666, 41511 and 41712.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Board may adopt the regulatory language as originally proposed or with nonsubstantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1st Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Catherine Witherspoon
Executive Officer

Date: February 27, 2007