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April 25, 2007

Dr. Robert Sawyer, Chairman
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Re: Proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products

Dear Dr. Sawyer:

On April 26, 2007, the California Air Resources Board ("Board" or "CARB") will consider adoption of the Proposed Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products (the "ATCM"). Regulations addressing formaldehyde ("HCHO") are a long time in coming and are mandated by controlling statutory authority.

CARB identified HCHO as a toxic air contaminant ("TAC") fifteen years ago. HCHO is a recognized carcinogen with no safe human exposure threshold. (See "Staff Report: Initial Statement of Reasons for Proposed Rulemaking" ("ISOR"), I.C, VII.B.2., p.147.) For more than twenty years, government and industry have recognized that composite wood products ("CWP") in their many uses and forms are a significant source of HCHO emissions. (ISOR, III. C.2, p.17.) CWP include hardwood plywood ("HWPW"), particleboard ("PB"), and medium density fiberboard ("MDF"). Where no safe threshold exposure level exists, CARB is *required* to adopt regulations that reduce emissions of a TAC, such as HCHO, to the lowest level achievable through the best available control technology ("BACT"). (Cal. Health & Safety Code § 39666(c).)

Quite simply, action by CARB to reduce HCHO exposure from CWP to the lowest achievable levels is long overdue. Not only is the technology available to achieve the standards proposed in these regulations, even stronger standards are achievable. Technology exists today to reduce emissions from many CWP to near-zero levels. The statute requires CARB to adopt regulations that push the industry towards the *best available technology*. Several companies have already converted their plants and are operating profitably producing products well below both Phase 1 and Phase 2 levels.

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As it considers this rulemaking, the Board will have before it an extensive, thorough, and explicit record that will give the Members confidence in the legal and policy foundations underlying these important regulations. As demonstrated by the exhaustive ISOR, CARB staff has worked tirelessly to develop a meticulous and comprehensive record. Through over 200 pages of discussion, 74 Tables, 32 Figures, and 11 Appendices, the ISOR outlines the multitude of health risks presented by HCHO emissions and demonstrates how reducing HCHO in CWP will improve the health of all Californians by improving ambient air quality in the State. Further, the ISOR articulates the strong and ample legal authority that exists for adopting this ATCM.

After a comprehensive review of the record, we easily conclude that the Board's adoption of this ATCM, if it chooses to do so, will rest on solid legal authority.

FACTUAL FINDINGS

CARB staff's careful analysis and thorough investigation into the properties of HCHO and CWP, the nature of the CWP industry, the impact of these regulations on the health of Californians, and the impact of these regulations on the industry, are reflected in the factual findings outlined in the ISOR. As required under the governing statutory framework (see, e.g., Health & Safety Code Section 39665), discussed *infra* at page 6, CARB is required to make a thorough and fully-supportable factual record to justify quasi-legislative rulemakings of this sort. The ISOR satisfies this burden.

The following is only a summary of the key factual findings in the record of this proceeding:

A. HCHO Sources and Emissions

- HCHO is directly emitted from a variety of mobile, stationary, area-wide, and natural sources in California. (*See* ISOR III.C, p.14.)
- CWP are responsible for about 5% of emissions in California, and these emissions occur both outdoors and indoors. (*See* ISOR III.C.1, p.16.)
- HCHO is emitted to ambient air from newly made and standing stocks of CWP stored at manufacturing facilities, construction sites, and lumberyards, and during transport of CWP by rail, truck, or ship. (*See* ISOR III.C, p.15.)
- For 2002, total statewide emissions from PB, MDF, and HWPW were estimated to be about 450, 190, and 240 tons per year, respectively, adding up to nearly 900 tons per year of HCHO emissions from CWP in the State of California. (*See* ISOR III.C.1., p.16.)
- Indoor emissions inevitably and predictably migrate to ambient air from CWP used as structural components or amenities inside buildings. (*See* ISOR III.F.2, p.28.)
- Over time, studies demonstrate that HCHO emissions produced indoors from an array of sources, including CWP, make their way outdoors through normal air exchange mechanisms,

and contribute to concentrations measured in ambient air (*See* ISOR III.F, p.29.). A conservative estimate for the portion of HCHO emitted indoors that eventually makes its way outdoors is 90 to 100%, with the vast majority of the HCHO moving outdoors within hours of being released indoors. (*See* ISOR III.F.2., pp.28-31.)

- The statewide annual average HCHO concentration in ambient air exceeds the chronic reference exposure level for HCHO that presents a known risk to public health. (*See* ISOR I.B., p.4.)
- Computer modeling indicates that CWP may contribute to HCHO “hot spots” close to a range of sources where these products are present. (*See* ISOR III.G, p.32.)
- Modeling indicates that maximum HCHO concentrations in these “hot spots” represent a health risk to proximate receptors and that this risk would be reduced by controlling HCHO emissions from CWP. (*See* ISOR III.G, p.32.)
- CWP are responsible for a large portion of HCHO exposure that occurs indoors. The combined outdoor and indoor exposures lead to substantial total exposures to HCHO for adults and children. (*See* ISOR III.F.2, p.26.)
- Controlling HCHO emissions from CWP will provide the greatest benefit in terms of reducing the *total* air pollution-related health risk from HCHO. Reducing HCHO emissions from CWP will dramatically reduce indoor health risks and thus will significantly reduce total exposure and risks from HCHO emissions in California. (*See* ISOR I.C, p.5.)

B. Health Findings and Impacts

- HCHO is a human carcinogen with no safe threshold exposure. HCHO also has non-cancer health effects, including eye, nose, and /or throat irritation. (*See* ISOR I.C, p.5; III.A, p.13; VII.B.2, p.134.)
- In 2004, the International Agency for Research on Cancer conducted an evaluation of HCHO and concluded that there is sufficient evidence that HCHO causes nasopharyngeal cancer in humans. (*See* ISOR III.A, p.13.)
- The risk from exposure to annual average HCHO concentrations in ambient air alone is about 20 to 24 excess cancer cases per million. The number of excess cancer cases per million rises considerably when HCHO exposure from current total daily HCHO exposure is considered. (*See* ISOR III.A, p.13; VII., p.147.)
- HCHO is an air pollutant that is both a toxic air contaminant and a precursor to the formation of ozone. (*See* ISOR I.C, p.5.)

- Reducing HCHO emissions from CWP will dramatically reduce indoor health risks and thus significantly reduce total exposure and risks from HCHO emissions in California. (See ISOR I.B, pp.3-4.)
- HCHO is a highly reactive volatile organic compound (“VOC”) and reducing HCHO emission standards for CWP will significantly reduce VOC emissions in the state, helping California achieve state and federal ambient air quality standards. (See ISOR I.C, p.5.)
- The ATCM would reduce HCHO emissions from CWP by approximately 500 tons per year after adoption of the Phase 2 standards. (See ISOR I.C, p.5.)
- The ATCM would reduce emissions of HCHO from CWP by approximately 20% in Phase 1 and approximately 57% in Phase 2, resulting in an estimated annual statewide emissions reduction of 180 and 500 tons per year, respectively. (See ISOR VII.F, p.157.)
- The reduction in potential excess cancer cases in children is estimated to range from 3 to 9 after Phase 1, and 9 to 26 after Phase 2. In adults, the reduction, based on a 70-year lifetime exposure, would be reduced by 12 to 35 and 35 to 97, after Phase 1 and Phase 2, respectively. (See ISOR VII.F, pp.157-58.)
- Workplace exposures would also be reduced significantly, particularly for workers in raw board manufacturing and resin plants. (See ISOR VII.H, p.160.)
- CARB and OEHHA, at the behest of the Formaldehyde Council, considered a petition filed in *April 2002* to review the 1992 health risk assessment for HCHO in light of alleged new research and analysis. After careful review by CARB, OEHHA and the Scientific Review Panel on Toxic Air Contaminants, CARB concluded in November 2005 that “there was not sufficient new scientific data regarding the health effects of formaldehyde...or other evidence” that would justify reopening the original health risk assessment on HCHO. (See Letter to James Mieure, Ph.D., President, Formaldehyde Council, November 2005 from Barbara Riordan, Interim Chair, Air Resources Board.)

C. Economic Impacts

- Approximately 40-50 percent of the HWPW products sold in California are produced by companies that have already expended resources to upgrade their facilities in the past several years. (See ISOR VIII.A, p.183.)
- More stringent HCHO emission standards in Europe and Japan have already prompted U.S. manufacturers to develop and use resin technologies with significantly lower HCHO emissions. (See ISOR V.A.3, p.68.)
- Forty percent of the HWPW in the U.S. meets the proposed Phase 2 standard. (See ISOR V.E.1, p.101.)

- Research by CARB staff on the BACT for HWPW uncovered products from three U.S. sources that could be used immediately to produce HWPW that complies with the proposed Phase 2 standard. (*See ISOR V.E.1, pp.101-02.*)
- Available technologies are currently in use that meet both Phase 1 and Phase 2 standards for PB and MDF and products using those technologies are already on the market. (*See ISOR V.E, p.101.*)
- The economic study by ARB staff determined, assuming static measures of profit, that the average return on owners' equity of affected businesses changed by about 12%. However, affected manufacturers have a great ability to pass on their compliance costs to consumers. (*See ISOR VIII.A.4, p.187.*)
- It is likely that most manufacturers will be able to recover compliance costs through higher prices for their wood products, significantly diminishing or eliminating the actual impact on the return on owners' equity. (*See ISOR VIII.A, p.187.*)
- The proposed ATCM is not expected to cause a noticeable change in California employment and payroll. (*See ISOR VIII.A.4, p.188.*)
- In an analysis of incremental new house construction, CARB staff concluded that the increase in construction costs from these regulations would be less than .1%. This poses an insignificant factor in the cost of new home construction in the context of profit margins for large home builders that range from 8 to 16%. (*See ISOR VIII.G, pp.214-15.*)
- In an analysis of the average cost of a kitchen remodel where the cost of new cabinets is a major portion of the cost, CARB staff discovered the increased cost of cabinets would represent a 1% overall increase in cost of the remodeling project. (*See ISOR VIII.G, p.215.*)
- CARB staff concluded that the cost of Phase 2 compliant HWPW panel would be increased by approximately 8% to 19%; the cost of Phase 2 compliant PB panel would be increased by approximately 17% to 30%; and the cost of Phase 2 compliant MDF panel would be increased by approximately 26% through the use of a MUF resin. (*See ISOR VIII.C, pp.206-208.*)
- Columbia Forest Products has notified the CWP industry that it will make its formaldehyde-free, soy-based adhesive available, at a nominal cost, to all North American manufacturers. (*See Letter to Bill Altman, Hardwood Plywood and Veneer Association, from Phill Guay, VP of Corporate Strategy and Marketing; Public Comments submitted by Elizabeth Whalen, Columbia Forest Products, April 19, 2007.*)
- As demonstrated in the ISOR, every manufacturer in the industry has a menu of available options to choose from that would achieve compliance with the ATCM now. Modified urea-formaldehyde resins are currently available that use additives such as hexamine and melamine to reduce HCHO emissions. (*See ISOR V.D, p.83.*)

- Alternative HWPW resins include soy-based resins; polyvinyl acetate (“PVA”) resins; tannin-based resins; and phenol-urea-formaldehyde-tannin (“PUFT”) resins. (See ISOR V.D, p.83-92.) HWPW manufacturers can also improve manufacturing process controls to increase efficiencies, energy use and waste; use a lower mole ratio urea-formaldehyde (“UF”) resin with a F:U mole ratio of approximately 1.3 or less; use scavengers or catalysts; and/or co-blend their base UF resin with a very low mole ratio UF resin (<1.0). (See ISOR VIII.C, p.206.)
- Alternative PB resins include phenol-urea-formaldehyde (“PUF”) resins; tannin-based resins; cashew nut shell liquid (“CNSL”) resins; and soy-based resins. (See ISOR V.D, p.92-98.) PB manufacturers can also improve manufacturing process controls to increase efficiencies, energy use and waste; use a lower mole ratio UF resin with a F:U mole ratio of approximately 1.1 or less; use scavengers or catalysts; and/or co-blend their base UF resin with a very low mole ratio UF resin (<1.0). (See ISOR VIII.C, p.207.)
- Alternative MDF resins include tannin-based resins and PUFT resins. (See ISOR V.D, p.98-99.) MDF manufacturers can also improve manufacturing process controls to increase efficiencies, energy use and waste; use a lower mole ratio UF resin with a F:U mole ratio of approximately 1.1 or less; use scavengers or catalysts; and/or co-blend their base UF resin with a very low mole ratio UF resin (<1.0). (See ISOR VIII.C, p.208.)

DISCUSSION

A. CARB’s Statutory Mandate

The Tanner Act, codified at California Health and Safety Code¹ Section 39650, et seq., mandates that CARB both identify TACs, and control TAC emissions through promulgation and enforcement of regulations, e.g. an ATCM. (Sections 39657(a), 39658.) The guidelines for identification of TACs, codified at Sections 39660-39664, require a scientific evaluation by the Office of Environmental Health Hazard Assessment (“OEHHHA”) of the health hazards presented by various air toxins, with focuses on the health of infants and children, as well as indoor environments; issuance of a report and proposed regulation; public hearings; and review by a scientific review panel.²

CARB’s authority to regulate TACs is broad. CARB has express authority to “take any... action that may be necessary to establish, implement, and enforce programs for the regulation of hazardous air pollutants which have been listed as toxic air contaminants....” (Section 39659.) Furthermore, “if a substance is determined to be a toxic air contaminant, the regulation *shall* specify a threshold exposure level, if any, below which no significant adverse health effects are anticipated....” (Section 39662, emphasis added.) Thus, to be lawful, regulations addressing a TAC must establish and enforce permissible levels of exposure.

¹ All subsequent statutory references are to the California Health & Safety Code unless otherwise indicated.

² Section 39669.5 provides more guidance on air contaminant impacts on “infants and children” and Sections 39670 et seq. set forth rules for the scientific review panel.

The Tanner Act goes even further in mandating regulation of TACs for which there is no safe human exposure threshold, such as HCHO here. In that situation, CARB *must* promulgate measures to eliminate or reduce emissions to the lowest level possible using the BACT. (Section 39666(c).)

Pursuant to the requirements of the Tanner Act, in March 1992, based on reports of the OEHHA and other health and environmental experts nationwide, CARB designated HCHO as a TAC with *no threshold exposure level*. (17 CCR § 93000.) By doing so, CARB effectively *mandated* the development of ATCMs to control HCHO emissions.

While opponents to the ATCM often note that the designation of HCHO as a TAC for which there is no safe level was made more than 14 years ago, they rarely point out that CARB and OEHHA, at the behest of the Formaldehyde Council, considered a petition filed in *April 2002* to review the 1992 health risk assessment for HCHO in light of alleged new research and analysis. After careful review by CARB, OEHHA and the Scientific Review Panel on Toxic Air Contaminants of the original petition and additional information provided in 2004, CARB concluded in November 2005 that “there was not sufficient new scientific data regarding the health effects of formaldehyde...or other evidence” that would justify reopening the original health risk assessment on HCHO. (Letter to James Mieure, Ph.D., President, Formaldehyde Council, November 2005 from Barbara Riordan, Interim Chair, Air Resources Board.) Therefore, arguments that claim new science exists that CARB has not taken into account are simply specious.

B. The Proposed ATCM will Survive any Potential Legal Challenge.

1. CARB Staff Has Satisfied all Legal Requirements under the Tanner Act.

CARB’s authority to adopt ATCMs like this constitutes a delegation of “quasi-lawmaking” by the State Legislature. As such, CARB has considerable authority and discretion in developing rulemakings, including ATCMs like this one. In particular, CARB has tremendous discretion in developing the factual findings which serve as the bases for its regulations. Particularly in light of competing claims of scientific evidence, it is within CARB’s discretion to rely on the scientific evidence it believes is most persuasive.

It is well recognized that where an agency has been vested with this sort of quasi-legislative power by the Legislature, the authority of a trial court when reviewing a legal challenge to the rulemaking is “limited to determining whether the decision of the agency was arbitrary, capricious, entirely lacking in evidentiary support, or unlawfully or procedurally unfair.” [citations omitted] (*Western States Petroleum Assoc. v. South Coast Air Quality Mgmt. Dist.* (2006) 136 Cal.App.4th 1012, 1018 (hereafter, *Western States*)). This deference is required if the court is going to avoid veering into quasi-legislative rulemaking of its own, thus violating the Constitutional separation of power. (*Western States Petroleum Assoc. v. Superior Court of L.A. County* (1995) 9 Cal.4th 559, 572.) For this reason, the responsibility of weighing and considering conflicting evidence falls exclusively on the agency because it is the executive

branch agency that has the resources and scientific expertise to engage in such analyses. (*Id.* at 574.)

Here, the ISOR diligently complied with the explicit requirements outlined in the Tanner Act for the adoption of ATCMs. Further, the ISOR reflects extensive factual findings, based on strong scientific research and data attained or developed by CARB staff, other state agencies, including OEHHA, and well-regarded scientists from around the world. In short, no argument can be levied that adoption of this ATCM would be arbitrary, capricious, lacking in evidentiary support or procedurally unfair.

Following the designation of HCHO as a TAC with no safe threshold exposure, CARB has been under a statutory obligation since 1992 to adopt ATCMs that will reduce emissions of HCHO to the *lowest level achievable*. (Section 39666(c).) To adopt an ATCM, CARB must follow an explicit statutory process outlined in Section 39665(b).³ Under this provision, CARB is required to “prepare a report on the need and appropriate degree of regulation for each substance which the state board has determined to be a toxic air contaminant” considering all of the following, listed in paragraph (b):

- (1) The rate and extent of present and anticipated future emissions, the estimated levels of human exposure, and the risks associated with those levels.
- (2) The stability, persistence, transformation products, dispersion potential, and other physical and chemical characteristics of the substance when present in the ambient air.
- (3) The categories, numbers, and relative contribution of present or anticipated sources of the substance, including mobile, industrial, agricultural, and natural sources.
- (4) The availability and technological feasibility of airborne toxic control measures to reduce or eliminate emissions, the anticipated effect of airborne toxic control measures on levels of exposure, and the degree to which proposed airborne toxic control measures are compatible with, or applicable to, recent technological improvements or other actions which emitting sources have implemented or taken in the recent past to reduce emissions.
- (5) The approximate cost of each airborne toxic control measure, the magnitude of risks posed by the substances as reflected by the amount of emissions from the source or category of sources, and the reduction in risk which can be attributed to each airborne toxic control measure.
- (6) The availability, suitability, and relative efficacy of substitute compounds of a less hazardous nature.
- (7) The potential adverse health, safety, or environmental impacts that may occur as a result of implementation of an airborne toxic control measure.

³ However, “the ISOR must address only those issues relevant to the ATCM which is adopted.” (*Coalition for Reasonable Regulation of Naturally Occurring Substances v. California Air Resources Bd.* (2004) 122 Cal. App. 4th 1249, 1254.)

(8) The basis for the finding required by paragraph (3) of subdivision (b) of Section 39658, if applicable.⁴

CARB staff has dutifully fulfilled each of these requirements with the ISOR, as discussed below.

a. Rate of Exposure and Risks

Subsection (1) is satisfied by the discussion under Chapter III of the ISOR, which outlines in detail the sources of HCHO emissions, including specifically from CWP. (*See* ISOR III.C, D, pp.14,19.) Sources include manufacturing plants during panel processing and fabrication facilities using these products to make furniture, cabinets and other finished products. Substantive emissions also occur from transportation during product distribution, use in new home construction, stockpiles in lumberyards and wood product warehouses, and exchange processes from indoor to outdoors. (*Id.*)

Indoor-outdoor air exchange emissions are particularly exacerbated by newly manufactured composite wood products used in new homes, such as sub-flooring, shelving material, cabinetry and furniture. (ISOR III.C.2.a, p. 17.) Comparable to the smokestack of a factory, newly constructed homes filled with newly manufactured CWP emit substantive amounts of HCHO. These sources impact not only the ambient air as “hot spots” in new home subdivisions, but they also impact indoor air quality. As the ISOR establishes based on scientific evidence and analysis, it is not possible, in this case, to reduce emissions from these sources without reducing the emissions that begin indoors with CWP. (ISOR III.F.2, pp.26-31.)

Subsection (1) is further satisfied under Chapter VII, which outlines estimated levels of human exposure and the risks associated with those levels. (*See* ISOR VII.C-F, pp.14-21.) CARB began with an average person’s total daily exposure to HCHO from indoor, outdoor, and in-vehicle environments. CARB staff relied on multiple research studies to assess the health effects values for HCHO in the different environments. CARB staff assessed the potential cancer risk based on documented exposure levels, as well as chronic and acute exposures (non-cancer effects), which address eye irritation, and impacts on the respiratory and immune systems. (ISOR VII.B.2, p.133.)

b. Chemical characteristics and sources of HCHO

The requirement under subsection (2) is satisfied with the exhaustive discussion of chemical properties and characteristics of HCHO in the ambient air under Chapter III. (*See* ISOR III.B, F-H, pp.13, 21-33.) CARB staff conducted numerous original studies and conducted extensive modeling to assess the unique characteristics and emissions paths of HCHO from CWP. For example, CARB staff used near-source air dispersion modeling to assess HCHO

⁴ Subsection (8) is not applicable. It applies only where the emission standard for a hazardous air pollutant identified at the federal level has been adopted as the state ATCM, and is later found not to be adequate. This is not at issue here, since the State identified HCHO as a TAC and is adopting an ATCM of its own accord.

emissions from CWP in two scenarios: (i) from a warehouse-size home repair store with a large amount of CWP stored inside, and (ii) bundles of particleboard stacked outdoors under a pole barn. CARB staff drew extensively on existing research as well. (See ISOR III.F, G; pp.21, 32.)

Subsection (3), which requires a summary of the categories, numbers and relative contribution of anticipated sources, is satisfied with the ISOR's discussion of the types of HCHO sources in Chapter III. (See ISOR III.C-G, pp.13-32.) In Chapter III, the ISOR summarizes HCHO emissions throughout the state and summarizes the multitude of sources, from vehicles and cigarette smoke, to CWP. CARB staff classified CWP as an "aggregated point source," which consists of many small point sources that are estimated as a group and reported as a single source category.

c. Availability of compliant technology and technological feasibility

Subsection (4) requires that CARB identify the availability and technological feasibility of its proposed ATCM. In Chapter V, the ISOR details the BACT for each category of CWP that will permit those products to meet Phase 2 standards. (ISOR V, p.63.) Cost-effective technologies already exist that allow the CWP industry to meet Phase 2 levels for many of the products subject to these regulations. (See ISOR V.D, E, pp.83-101.) Thus, consistent with the mandate for TACs with no safe threshold exposure, BACT exist that can bring HCHO emission levels from CWP to near-zero levels. (*Id.*) For example, not one, but three companies--Columbia Forest Products, Collins Pine, and Sierra Pine--all have products on the market that already comply with Phase 1 and, in some cases, Phase 2 standards.

Further, the ISOR notes manufacturers who chose to use UF resins have one or more options for reducing their HCHO emissions to meet the proposed Phase 2 standards, including adjusting the mole ratio, using additives like melamine and/or using scavengers. (ISOR V, p.63.) Importantly, several alternative resin technologies exist as well and are in use in the market place. Alternative HWPW resins include soy-based resins; polyvinyl acetate ("PVA") resins; tannin-based resins; and phenol-urea-formaldehyde-tannin ("PUFT") resins. (See ISOR V.D, p. 83-92.) Alternative PB resins include phenol-urea-formaldehyde ("PUF") resins; tannin-based resins; cashew nut shell liquid ("CNSL") resins; and soy-based resins. Alternative MDF resins include tannin-based resins and PUFT resins. (See ISOR V.D, p.98-99.)

CARB staff conducted extensive research and testing to confirm the viability of the multitude of available technologies available to help companies achieve Phase 2 standards. For example, CARB staff found, relying on independent research, that the shear strength of plywood made with soy-based resins did not reflect any significant differences after undergoing a water-soaking-and-drying test, nor did the plywood delaminate. (ISOR V.D, p.84.) CARB staff also found that oriented strand board can be made with soy resins that has excellent durability. (ISOR V.D, p.88.)

Other submissions to the record continue to demonstrate the quality and viability of products made with alternative resins. Columbia Forest Products conducted extensive testing of

products made with its PureBond resin system to ensure those products reflected equal or better quality and durability characteristics as those made with UF resins. The testing concluded the bond quality and water resistance for products made with PureBond resin systems met or exceeded that which was attained with UF resins. (See summary of testing results submitted by Phill Guay, Columbia Forest Products to the Public Record on April 24, 2006.)

d. Economic impact of the ATCM

Subsection (5) requires that CARB do three things: (i) approximate the economic impact of the proposed ATCM, (ii) approximate the magnitude of the health risk presented by HCHO, and (iii) assess the potential reduction in such risk afforded by the ATCM.

In Chapter III, the ISOR approximates the likely economic impact of the ATCM. The ISOR acknowledges that these regulations will have an economic impact on the industry. (See ISOR VIII.A.4, p.185.) However, the ISOR's economic analysis also reveals that, according to research by the United States Environmental Protection Agency ("USEPA"), given the nature of the market for wood products in the construction industry, manufacturers will be able to recover the bulk of compliance costs through higher prices for their wood products. (See ISOR VIII.A.4, p.185.) Further, economic modeling reveals, for example, that the cost of building a new house will increase less than .1%. Likewise, the cost of a typical kitchen remodel would likely increase only approximately 1% for the total job. (See ISOR VIII.G, pp.214-15.) Finally, as noted earlier, it is critical to note that the economic analysis in the ISOR concluded that given the nature of the industry and the marketplace most all of the added costs of these regulations would be absorbable by modest price increases to consumers. (ISOR VIII.A.4, p.187.)

In Chapter VII, the ISOR approximates the magnitude of the health risks presented by HCHO emissions from CWP. (ISOR VII, p.130.) Importantly, as noted above, there is *no safe threshold for human exposure to HCHO*. HCHO is a known carcinogen and has a multitude of other non-cancer related health effects. To assess the potential health impacts of HCHO emissions from CWP, CARB staff compiled and reviewed quality assured data on HCHO concentrations that people are exposed to, and health effect values. (ISOR VII.B, p.132.) The ISOR presents analysis of the health impacts and risk of exposure from HCHO under several scenarios, including exposure to occupants of houses and occupational exposures. The ISOR also summarizes the multitude of health effects from HCHO, including immunological impacts; reproductive and developmental effects in humans; and the vulnerability of children and infants. The magnitude of the health effects are described in great detail in the ISOR at pages 133 to 155.

Finally, in Chapter VII, Section F, the ISOR summarizes the statewide emission and risk reduction benefits of the proposed ATCM. The regulations will eliminate 35 to 97 potential excess cancer cases per million at Phase 2 levels. CARB is charged with protecting the lives and lungs of all Californians. These regulations will take yet another important step in that direction. From these findings, CARB could reasonably conclude that the de minimis economic impacts and absorbable costs are well worth the tremendous benefit of saving more Californians from cancer and other dangerous health effects.

Opponents of the regulations have continued their barrage of doomsday economic predictions. But, in fact, most of the opposition's predictions are based on one very significant, unproven assumption: that implementation of the ATCM will somehow radically change consumer behavior and thereby devastate demand for CWP. (See Public Comments submitted by Brock Landry, California Wood Industries Coalition, April 23, 2007.) As the ISOR noted, based on USEPA data from 2004, affected manufacturers will have a great ability to pass their compliance costs on to consumers given the unique price elasticity of CWP used in the construction industry. (See ISOR VIII.A.4, p.187.) The ISOR goes on to note that nearly 73% of the engineered wood products manufactured in the U.S. are sold into residential and commercial buildings. (See ISOR VIII.B, p.189.) Rather than confront these data presented by the ISOR, the opposition simply makes the broad-brush assumption that implementation of the regulations will "change consumer behavior," yet fails to support the same. (Public Comments submitted by Brock Landry, California Wood Industries Coalition, April 23, 2007, Supplementary and Background Information, p.3.) If these assumptions are true, the numerous companies who have invested in and adopted alternative resin technologies, from soy-based resins to PVA, and have begun filling the market place with products that already comply with Phase 1 and Phase 2 standards would be voluntarily committing corporate suicide.

Importantly, the statutory framework is designed to prompt the adoption of regulations that push industries forward, that compel development and adoption of the *best available* control technologies. It is insufficient, contrary to the position of opponents to the regulation, to base the regulations on slightly more stringent standards that are easily achievable with the existing processes. Instead, if the evidence demonstrates that adequate and proven BACT exist, the regulations should push the industry towards those technologies. This is particularly true under the Tanner Act when the ATCM, as here, is intended to reduce emissions of substances that are proven carcinogens and for which no safe threshold for human exposure exists. (See Section 39666(c).)

e. Health impacts of the ATCM

The ISOR provides overwhelming evidence regarding the health risks of HCHO exposure given that no safe threshold exposure exists and the diverse sources of emissions from CWP. (See ISOR VII, I, p.130.) As the ISOR notes, Californians are exposed to HCHO emissions in the ambient air from a multitude of sources, including "hot spots," such as near lumber yards, through indoor-outdoor air exchanges, from newly made standing stock of CWP stored at manufacturing facilities, and during transport of CWP by rail, truck and ship. (See ISOR I.B, p.3.) The ISOR also notes that Californians are exposed to HCHO exposures through indoor air sources, and that CWP such as particle board and medium density fiberboard panels are subject to regulation not only under the Tanner Act, but also as consumer products under Section 41712. The statewide annual average HCHO concentration in ambient air exceeds the chronic reference exposure level for HCHO that presents a known risk to public health. (ISOR I.B.) As outlined in Chapter VII.F, the ATCM will have a substantial impact in reducing common exposure to HCHO emissions.

f. Availability of alternative compounds; Environmental effects

Subsection (6) requires that CARB consider the availability, suitability and efficacy of alternative compounds. The alternatives listed in the ISOR are numerous. Alternative HWPW resins include soy-based resins; PVA resins; tannin-based resins; and PUFT resins. (See ISOR V.D, p.83-92.) Alternative PB resins include PUF resins; tannin-based resins; CNSL resins; and soy-based resins. Alternative MDF resins include tannin-based resins and PUFT resins. (See ISOR V.D, p.98-99.) The ISOR satisfies this requirement by summarizing these numerous alternatives to the HCHO resins in Chapter V. (See ISOR V.D, p.83.) Subsection (7) requires that CARB consider potential adverse health, safety or environmental impacts that might accrue as a result of the ATCM. With thorough analysis in Chapters IX and Section G of Chapter VII, the ISOR demonstrates that the ATCM will not present significant adverse consequences of these types.

2. *The proposed ATCM more than satisfies the deferential standard of review afforded quasi-legislative rulemakings.*

CARB staff has prepared a thorough record that more than satisfies the obligations under the Administrative Procedures Act and any other number of potential legal challenges to the adoption of this ATCM. Under the well established framework for legal review of agency regulations, this ATCM will survive any challenge.

When the Legislature delegates its legislative power to a government agency, the agency's subsequent quasi-legislative actions, e.g. adopting regulations, are given the "dignity of statutes" by the reviewing court. (*Yamaha Corp. of America v. State Board of Equalization* (1998) 19 Cal.4th 1, 6.) If the reviewing court is satisfied that the rule in question was within the authority delegated by the Legislature to the agency and is reasonably necessary to implement the purpose of the statute, judicial review ends. (*Id.*) This limited judicial review is "further constrained by the recognition that 'in technical matters requiring the assistance of experts and the study of marshaled scientific data as reflected herein, courts will permit administrative agencies to work out their problems with as little judicial interference as possible.'" (*Western States, supra*, at 1018, citing *Stauffer Chemical Co. v. Air Resources Board* (1982) 128 Cal.App.3d 789, 795.

Where, as here, the statutes mandate the imposition of regulatory standards to address identified ills, the reviewing court can complete the "reasonably necessary" analysis quickly. The court in *Pulaski v. Cal. Occupational Safety and Health Standards Bd.* (1999) 75 Cal.App.4th 1315) confronted just such a situation. In considering whether California's Occupational Safety and Health Administration was mandated by state statute to adopt ergonomic standards in an attempt to curb repetitive motion injuries, the court observed that the Legislature had already determined the necessity for regulation in that area. As the court stated, "[t]he Legislature's use of the mandatory 'shall' [in the statute] obviates the need for a redetermination of necessity by the Board." (*Id.*)

Here, the Tanner Act establishes similarly clear boundaries and guidelines for regulation of TACs. Paragraph (c) of Section 39666 states:

For toxic air contaminants for which the state board has not specified a threshold exposure level pursuant to Section 39662, *the airborne toxic control measure shall be designed... to reduce emissions to the lowest level achievable* through application of best available control technology or a more effective control method, unless the state board or a district board determines, based on an assessment of risk, that an alternative level of emission reduction is adequate or necessary to prevent an endangerment of public health. (emphasis added)

A recent unsuccessful challenge to an ATCM adopted by CARB is instructive where, as here, there is no safe threshold level for the TAC in question. (*See Coalition for Reasonable Regulation of Naturally Occurring Substances v. California Air Resources Board* (2004) 122 Cal.App.4th 1249.) This case concerned a CARB prohibition on the sale and supply of asbestos-containing rocks for the surfacing of unpaved roads to reduce “anticipated further emissions.” (Like HCHO, CARB had previously designated asbestos as a TAC with no safe threshold of exposure. (*Id.*))

The petitioners in the case argued that CARB’s record insufficiently evaluated control measures short of a complete prohibition, which was the chosen method in the case, and that the control measure was therefore not legal under Sections 39665 and 39666. The court outright rejected petitioners’ claim, holding that the Tanner Act “authorizes, *in fact directs, the Board to design an ATCM to reduce the emissions* of [a TAC for which the state board has not specified a threshold exposure level] *to zero* if, considering the factors in Section 39665, subdivision (b), it is achievable given the technology and costs of enforcement and the availability of substitute compounds of a less hazardous nature.” (*Coalition for Reasonable Regulation of Naturally Occurring Substances v. California Air Resources Board*, supra, 122 Cal.App.4th at 1261, emphasis added.)

In the *Coalition* case, CARB analyzed a TAC, asbestos, that has no safe threshold exposure level, just like HCHO here. With asbestos, CARB imposed an outright ban on the use of asbestos. The ISOR could have proposed the same drastic measures here, banning HCHO from commercial use, but it does not. Instead, the ISOR proposes balanced regulations that are achievable by the industry.


Because CARB was authorized -- or directed, as the court stated -- by statute to reduce emissions to zero for any TAC with no designated exposure threshold, including asbestos, the court held “it was unnecessary for [CARB] to exercise its discretion” to analyze less stringent alternatives. (*Id.* at 1261-62.)

As part of the ISOR, in fact, CARB staff *did* consider less stringent alternatives, but properly concluded that such alternatives would not meet CARB’s clear statutory mandate. (*See ISOR* Chap. VI(B).)


Because CARB previously identified HCHO as a TAC with no safe threshold exposure level, it is statutorily mandated to adopt ATCMs that will reduce emission levels of HCHO to the lowest levels achievable. Through a vast and comprehensive record, CARB staff has demonstrated that CWP are a significant source of HCHO emissions. The ISOR and the record has demonstrated beyond any doubt that HCHO has no safe threshold exposure level; that cost-effective technologies exist that are already in use; that these technologies can reduce HCHO emissions from CWP to near zero levels for many CWP; and, that the Proposed ATCM will significantly reduce emissions without jeopardizing the CWP industry, or consumer demand.

In conclusion, CARB staff has compiled a thorough and comprehensive record to support the proposed ATCM that will have a substantial and positive impact on the health of all Californians. By reducing emission levels from CWP in their many iterations, this ATCM will fulfill CARB's long-delayed statutorily mandated obligation to reduce emission levels of HCHO to the lowest levels possible. CARB can promulgate these regulations and thereby satisfy its statutory obligation with confidence that this action will not be overturned by a court.

Sincerely,



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Partner



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JLC:cjm

cc: Harry L. Demorest