

## **Attachment B to Resolution 07-14**

### FOR CONSIDERATION BY THE AIR RESOURCES BOARD AT THE PUBLIC HEARING ON THE PROPOSED AIRBORNE TOXIC CONTROL MEASURE TO REDUCE FORMALDEHYDE EMISSIONS FROM COMPOSITE WOOD PRODUCTS

April 26, 2007

#### **Staff's Suggested Modifications to the Original Proposal**

This document contains staff's suggested modifications to the proposed Airborne Toxic Control Measure To Reduce Formaldehyde Emissions From Composite Wood Products (ATCM), which is contained in the Initial Statement of Reasons released to the public on March 9, 2007. Modified regulatory language has been developed for some of the suggested modifications; this language is set forth below after this introductory summary. Modified regulatory language has not yet been developed for other suggested modifications; staff intends to work with the regulated community to develop and refine the text of these suggested modifications.

The text of all proposed modifications will be made available to the public for a fifteen-day comment period. Following is a brief summary of the suggested modifications.

#### **Summary of Suggested Modifications for which regulatory language has not yet been developed**

1. Staff is proposing to add compliance testing flexibility for low-emitting formaldehyde-based resin systems. Manufacturers of composite wood products with such resins that can demonstrate consistent average emissions below Phase 2 standards would not be required to conduct emission tests of their products as frequently as otherwise required.
2. Staff is proposing to provide more specificity to the quality assurance requirements for manufacturers contained in Appendix 2 of the proposed ATCM and to clarify the requirements for third party certifiers contained in Appendix 3 of the proposed ATCM.
3. Staff is proposing to clarify the definition of architectural plywood to add more specificity and to emphasize that such manufacturers are small volume producers.

Summary of Suggested Modifications for which regulatory language has been developed

1. In section 93120.1, the definitions of composite wood products, fabricator, product type, and window have been modified.
2. In section 93120.2, the Phase 2 implementation date for hardwood plywood with a veneer core (HWPW-VC) has been changed from January 1, 2011 to January 1, 2010.
3. In section 93120.7, an exemption has been added for exterior doors and garage doors that contain composite wood products if: (A) the doors are made for exterior use with waterproof resins; or (B) the doors contain less than three percent by volume of composite wood products in relation to the total volume of the finished exterior door or garage door.
4. In section 93120.12, Appendix 1, the sell-through dates were changed for manufacturers of raw boards from one month to three months, for importers of raw boards from five months to three months, and for fabricators of finished goods from twelve months to eighteen months.
5. In addition to the modifications described above, various modifications to the regulatory text have been made to improve clarity.

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Adopt new sections 93120-93120.12, title 17, California Code of Regulations, to read as follows:

*[Note: All of the text shown below is new language to be added to the California Code of Regulations. The originally proposed language is shown with no underlines or ~~strikeouts~~. The suggested modifications to the originally proposed language are shown in ~~strikeout~~ to indicate proposed deletions and underline to indicate proposed additions.]*

**Section 93120.      *Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products.***

- (a)      The Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products is contained in sections 93120 through 93120.12.

- (b) *Purpose.* The purpose of this airborne toxic control measure is to reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California. The composite wood products covered by this regulation are hardwood plywood, particleboard, and medium density fiberboard.
- (c) *Applicability.* This airborne toxic control measure applies to:
- (1) Manufacturers of hardwood plywood, particleboard, and medium density fiberboard that manufacture, sell, offer for sale, or supply these products for use in California;
  - (2) Distributors of hardwood plywood, particleboard, medium density fiberboard, and finished goods that contain composite wood products, that sell, offer for sale, or supply these products or goods for use in California;
  - (3) Importers of hardwood plywood, particleboard, and medium density fiberboard, and finished goods that contain composite wood products, that sell, offer for sale, or supply these products or goods for use in California;
  - (4) Fabricators that use hardwood plywood, particleboard, and medium density fiberboard to make other goods that are sold, offered for sale, or supplied for use in California;
  - (5) Retailers of hardwood plywood, particleboard, medium density fiberboard, and finished goods that contain composite wood products, that sell, offer for sale, or supply these products or goods for use in California; and
  - (6) Third party certifiers.
- (d) This airborne toxic control measure does not apply to hardwood plywood, particleboard, medium density fiberboard, and finished goods that contain composite wood products that are manufactured, distributed, fabricated, imported, sold, offered for sale, or supplied for shipment and use outside of California.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.1 Definitions.**

- (a) For the purposes of this section, the following definitions shall apply:
- ~~(3)~~(1) “ANSI” means the American National Standards Institute.
  - ~~(4)~~(2) “ARB” means the California Air Resources Board.
  - ~~(2)~~(3) “Architectural plywood” means a custom-made finished product consisting of a decorative wood veneer affixed to a platform that is produced by fabricators on a special-order basis to be used as produced.
  - (4) “ASTM” means the American Society for Testing and Materials.
  - (5) “Batch” means the amount of composite wood product manufactured during an eight-hour period or a production run of 1,000,000 square feet per product type.
  - (6) “Combination core” means a core material for making hardwood plywood that consists of a combination of layers of veneer and particleboard, medium density fiberboard, or other materials.
  - (7) “Component part” means a manufactured part that contains one or more composite wood products and is used in the assembly of finished goods.
  - ~~(7)~~(8) “Composite core” means a core material for making hardwood plywood that consists of particleboard and/or medium density fiberboard, or combination core.
  - ~~(8)~~(9) “Composite Wood Products” means hardwood plywood, particleboard, and medium density fiberboard. “Composite wood products” does not include hardboard, structural plywood certified to the Voluntary Product Standard - Structural Plywood specified in PS 1-07, structural panels certified to the Voluntary Product Standard – Performance Standard for Wood-Based Structural-Use Panels specified in PS 2-04, structural composite lumber as specified in “Standard Specification for Evaluation of Structural Composite Lumber Products” (ASTM D 5456-06), oriented strand board, glued laminated timber as specified in “Structural Glued Laminated Timber” (ANSI A190.1-2002), prefabricated wood I-joists as specified in “Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists” (ASTM D 5055-05), or composite wood products used inside of vehicles, motorhomes, travel trailers, rail cars, boats, aerospace craft, or aircraft.

~~(9)~~(10)“Distributor” means any person to whom a composite wood product or finished good is sold or supplied for the purposes of resale or distribution in commerce, except that manufacturers and retailers are not distributors.

(11) “Door” means a finished good consisting of a movable structure used to close off a room, closet, or entrance, and consisting of a panel or combination of panels that moves on hinges, slides, or rotates.

~~(10)~~(12)“Executive Officer” means the Executive Officer of the California Air Resources Board, or his or her delegate.

~~(11)~~(13)“Fabricator” means any person that uses composite wood products to make finished goods. “Fabricator” includes producers of architectural plywood and does not include any local government agency or school district.

~~(12)~~(14)“Facility” means any site where composite wood products or finished goods are manufactured, used, supplied or offered for sale, or sold in California. “Facility” includes, but is not limited to, manufacturing plants, distribution centers, fabricator shops, warehouses, and retail stores.

~~(13)~~(15)“Fiber” means the slender threadlike elements of wood or similar cellulosic material, which can be separated by chemical and/or mechanical means, such as pulping, and can be formed into boards.

~~(14)~~(16)“Finished Goods” means any good or product, other than a panel, containing hardwood plywood, particleboard, or medium density fiberboard.

~~(15)~~(17)“Formaldehyde” means a colorless gas at room temperature that at elevated concentrations has a strong, pungent odor and can be irritating to the eyes, nose, and lungs (i.e., CAS No. 50-00-0).

(18) “Hardboard” means a composite panel composed of cellulosic fibers, made by dry or wet forming and hot pressing of a fiber mat with or without reins, that complies with one of the following ANSI standards: Basic Hardboard (ANSI A135.4-2004), Prefinished Hardboard Paneling (ANSI A135.5-2004), or Hardboard Siding (ANSI A135.6-2006).

~~(16)~~(19)“Hardwood” means the wood of a deciduous broad-leafed tree. Examples of hardwoods include, but are not limited to, aspen, birch, and oak.

~~(17)~~(20)“Hardwood Plywood” (HWPW) means a composite wood product, panel, or other building material composed of an assembly of hardwood layers or plies of veneer or veneers, in combination with lumber core, composite core, or a special core material joined with an adhesive. “Hardwood plywood” includes wall paneling, industrial paneling, and flooring (ANSI/HPVA HP-1-2000). “Hardwood plywood” does not include architectural plywood or military specified plywood (~~MIL-P-6070~~).

~~(18)~~(21)“Hardwood Plywood – Composite Core” (HWPW-CC) means hardwood plywood with a composite core.

~~(19)~~(22)“Hardwood Plywood – Veneer Core” (HWPW-VC) means hardwood plywood with a core made of a sheet or sheets of veneer.

~~(20)~~(23)“HPVA” means the Hardwood Plywood and Veneer Association.

~~(21)~~(24)“Importer” means the person or entity as defined in the regulations of the Bureau of Customs and Border Protection, 19 Code of Federal Regulations § 101.1.

~~(22)~~(25)“Lot” means the volume of a product type produced either: (A) from the beginning of a production run until the first quality control test; or (B) between one quality control test and the next one; or (C) from the last quality control test to the end of a production run.

~~(23)~~(26)“Manufacturer” means any person who manufactures or produces a composite wood product.

~~(24)~~(27)“Medium Density Fiberboard” (MDF) means a composite wood product, panel, molding, or other building material composed of cellulosic fibers (usually wood) made by dry forming and pressing of a resinated fiber mat (ANSI A208.2-~~1994~~2002, medium density fiberboard).

~~(25)~~(28)“No-added formaldehyde based resins” means resins formulated with no-added formaldehyde as part of the resin cross linking structure for making hardwood plywood, particleboard, or medium density fiberboard. “No-added formaldehyde based resins include, but are not limited to, resins made from soy, polyvinyl acetate, or methylene diisocyanate.

~~(26)~~(29)“Panel” means any particleboard, medium density fiberboard, or hardwood plywood board (e.g., 4 ft by 8 ft) produced for sale, supply, or distribution by a composite wood product manufacturer.

~~(27)~~(30) "Particle" means a distinct fraction of wood or other cellulosic material produced mechanically and used along with resin to make particleboard. Particles are larger in size than fibers.

~~(28)~~(31) "Particleboard" means a composite wood product, panel, molding, or other building material composed of cellulosic material (usually wood) in the form of discrete particles, as distinguished from fibers, flakes, or strands, which are pressed together with resin (ANSI A208.1-1999, particleboard).

~~(29)~~(32) "Person" shall have the same meaning as defined in Health and Safety Code section 39047.

~~(30)~~(33) "Platform" means the veneer core, composite core or combination core material used in the manufacture of hardwood plywood and architectural plywood.

~~(31)~~(34) "Plywood" means a panel product consisting of layers of wood veneers or composite core pressed together with resin. "Plywood" includes panel products made by either hot or cold pressing (with resin) veneers to a platform.

~~(32)~~(35) "Product Type" means a type of composite wood product that includes specifics on composition, thickness, number of plies (if HWPW), and resin to distinguish one composite wood product from another made by the same manufacturer with regard to emission characteristics.

~~(33)~~(36) "Resin Formulation" means the chemical composition of the resin used to manufacture hardwood plywood, particleboard, or medium density fiberboard.

~~(34)~~(37) "Retailer" means any person who sells, offers for sale, or supplies directly to consumers composite wood products or finished goods that contain composite wood products.

~~(35)~~(38) "Thin MDF" means medium density fiberboard that has a maximum thickness of eight millimeters.

~~(36)~~(39) "Third Party Certifier" means an organization or entity approved by the Executive Officer that: (A) validates the accuracy of the emission test procedures and facilities used by manufacturers to conduct formaldehyde emission tests, (B) monitors manufacturer quality assurance programs, and (C) provides independent audits and inspections.

~~(37)~~(40)“Veneer” means thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.

~~(38)~~(41)“Veneer core” means a core material for making plywood that consists of veneer.

~~(39)~~(42)“Window” means a finished ~~product~~good consisting of a frame in which are set panes of glass, for the admission of air or light, or both, into an opening in the wall of a building. The frame includes jambs, stiles, sashes, and rails, and excludes sills and bay window seats.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.2      *Formaldehyde Emission Standards for Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF).***

- (a) *Emission Standards.* The formaldehyde emission standards in Table 1 apply to hardwood plywood (HWPW), particleboard (PB), and medium density fiberboard (MDF) sold, supplied, offered for sale, or manufactured for sale in California.

Except as provided in section 93120.2(b), Exemptions, and the “sell-through” provisions of sections 93120.12, Appendix 1, no person shall sell, supply, offer for sale, or manufacture for sale in California any composite wood product which, at the time of sale or manufacture, does not comply with the emission standards in Table 1 on or after the effective dates specified in Table 1.



| <b>Table 1</b><br>Phase 1 and Phase 2 Formaldehyde Emission Standards for Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF) <sup>1</sup> |  |          |          |          |          |
|---|--|----------|----------|----------|----------|
| Effective Date  | ---- Phase 1 (P1) and Phase 2 (P2) Emission Standards (ppm) ---- |          |          |          |          |
|   | HWPW-VC  | HWPW-CC  | PB       | MDF      | Thin MDF |
| 1-1-2009  | P1: 0.08   | -----    | P1: 0.18 | P1: 0.21 | P1: 0.21 |
| 7-1-2009  | -----  | P1: 0.08 | -----    | -----    |          |
| <u>1-1-2010</u>   | <u>P2: 0.05</u>  |          |          |          |          |
| 1-1-2011  | <del>P2: 0.05</del>  | -----    | P2: 0.09 | P2: 0.11 | -----    |
| 1-1-2012  | -----  | -----    | -----    | -----    | P2: 0.13 |
| 7-1-2012  | -----  | P2: 0.05 | -----    | -----    |          |

<sup>(1)</sup> Based on the large chamber test method (ASTM E1333-96) in parts per million (ppm). HWPW-VC = veneer core; HWPW-CC = composite core.

A product “does not comply with the emission standards in Table 1” if:

- (1) The composite wood product was produced by a manufacturer without either a current third-party certification program that complies with section 93120.3(b) or a current ARB approval to use no-added formaldehyde based resins as provided in section 93120.3(e);
- (2) Records of testing conducted by the manufacturer or the third party certifier show that a particular composite wood product sold, supplied, or offered for sale in California exceeded the applicable emission standard specified in Table 1, based on the compliance testing procedure for hardwood plywood, particleboard, and medium density fiberboard specified in section 93120.9(a);
- (3) A composite wood product produced by a manufacturer is tested at any time after it is manufactured, using either the compliance test method specified in section 93120.9(a) or the enforcement test method specified in section 93120.9(b), and is found to exceed the applicable emission standard specified in Table 1;
- (4) A finished good contains any composite wood product which does not comply with the emission standards in Table 1 (i.e., the finished good contains any composite wood product meeting any of the criteria set forth in paragraphs (1), (2), or (3) above); or

- (5) A finished good is found to contain any composite wood product that does not comply with the applicable emission standards in Table 1 using the enforcement test method for finished goods specified in section 93120.9(c).
- (b) *Exemptions.*
  - (1) The emission standards in section 93120.2(a) do not apply to composite wood products or finished goods containing these materials that are manufactured, sold, offered for sale, or supplied for shipment and use outside of California.
  - (2) The emission standards in section 93120.2(a) do not apply to hardwood plywood and particleboard materials ~~when installed~~ manufactured, sold, or supplied for installation in manufactured homes subject to the United States Department of Housing and Urban Development regulations (24 Code of Federal Regulations § 3280.308).
  - (3) To qualify for an exemption specified in section 93120.2(b)(1) or 93120.2(b)(2), the person claiming the exemption must maintain adequate documentation to demonstrate that the criteria of the exemption are met.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.3      *Requirements for Manufacturers of Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF).***

- (a) *Emission Standards.* All manufacturers of HWPW, PB, and MDF must comply with the requirements of section 93120.2(a). Except as provided in the “sell-through” provisions in Appendix 1 of section 93120.12, all HWPW, PB, and MDF manufactured on or after the effective dates specified in section 93120.2(a) must comply with the emission standards specified in section 93120.2(a).
- (b) *Third Party Certification.* For manufacturers of HWPW, PB, and MDF using resins that contain formaldehyde, compliance with the emission standards specified in section 93120.2(a) must be validated by using a third party certifier approved by ARB under section 93120.4. These manufacturers must also comply with the quality assurance requirements specified in Appendix 2 of section 93120.12.

Manufacturers of HWPW, PB, and MDF exclusively using no-added formaldehyde based resins for a product type may meet the requirements of section 93120.3(e) instead of the requirements of this subsection (b) for that product type.

- (c) *Product Labeling Requirements.* Each panel or bundle of composite wood products must be clearly labeled to indicate compliance with the emission standards specified in section 93120.2(a). The label shall include, at a minimum, all of the following information:
  - (1) Manufacturer name;
  - (2) Product lot number or batch produced;
  - (3) A marking to denote that the composite wood product complies with the applicable Phase 1 or 2 emission standards specified in title 17, California Code of Regulations, section 93120.2(a) or was made using no-added formaldehyde based resins; and
  - (4) The ARB assigned number of the approved third party certifier. This requirement does not apply to manufacturers using no-added formaldehyde based resins that have obtained ARB approval as provided in section 93120.3(e).
- (d) *Statement of compliance.* For each composite wood product, the manufacturer must include on the bill of lading or invoice: the ARB assigned number of the approved third party certifier and a statement that the composite wood products comply with the applicable Phase 1 or Phase 2 emission standard specified in title 17, California Code of Regulations, section 93120.2(a).
- (e) *Requirements for Manufacturers of HWPW, PB, and MDF with No-Added Formaldehyde Based Resins.*
  - (1) Upon written approval of the Executive Officer, manufacturers of HWPW, PB, and MDF who plan to use no-added formaldehyde based resins are not required to comply with section 93120.3(b). To apply for ARB approval, manufacturers must submit the following information to the Executive Officer: a statement indicating that the manufacturer will exclusively use no-added formaldehyde based resins for the production of specified product types destined for sale in California; the chemical formulation of the candidate no-added formaldehyde based resins; and a demonstration of the emissions performance of the candidate no-added formaldehyde based resins.

- (2) Within 45 days after receiving an application from a manufacturer, the Executive Officer shall inform the applicant, in writing, either that the application is complete and accepted for filing, or that the application is deficient and shall identify the specific information required to make the application complete.
- (3) Within 30 days of receiving additional information provided in response to a determination by the Executive Officer that an application is deficient, the Executive Officer shall inform the applicant, in writing, either that the new information is sufficient to make the application complete and that the application is accepted for filing, or that the application is deficient and shall identify the specific information required to make the application complete.
- (4) Within 90 days after an application has been deemed complete, the Executive Officer shall act to approve or disapprove the application. The Executive Officer shall issue an Executive Order approving the application if the evidence submitted by the applicant is sufficient to demonstrate that the applicant can meet the emission standards specified in section 93120.2(a) through the use of no-added formaldehyde based resins. The approval shall have a duration of two years, and the manufacturer may reapply for approval as provided in this section.
- (5) The Executive Officer may, in the course of processing the application, request the applicant to clarify, amplify, correct, or otherwise supplement the information required for the application. The applicant and the Executive Officer may mutually agree to longer time periods for determining whether an application is complete, or for approving or disapproving an application.
- (6) If the manufacturer decides to change to formaldehyde based resins, the ARB must be notified in advance and the manufacturer must comply with the requirements of section 93120.3(b).
- (f) *Recordkeeping Requirements for Manufacturers of Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF).*
  - (1) Beginning January 1, 2009 for manufacturers of HWPW-VC, PB, MDF, and thin MDF and July 1, 2009 for manufacturers of HWPW-CC, manufacturers must keep records of their quality assurance emissions test data for each product as provided in Appendix 2 of section 93120.12. Manufacturers using no-added formaldehyde based resins that have obtained ARB approval under section 93120.3(e) must keep documentation to demonstrate ARB approval to use no-added

formaldehyde based resins. Records must be kept in electronic or hard copy form for a period of two years.

- (2) For every composite wood product produced for sale in California, manufacturers must maintain records at their production facilities including:
- (A) Tracking information to allow each composite wood product produced to be traced to a specific lot number or batch produced;
  - (B) Product information (including description of the composite wood product, date of manufacture, and lot/batch number);
  - (C) Purchaser information (including purchaser's name, contact person, address, phone number, purchase order or invoice number, and amount purchased);
  - (D) Product transporter information (including delivery company name, contact person, address, phone number, and shipping invoice number);
  - (E) Identification of the ARB approved third-party certifier (including company name, contact person, phone number, mailing and email address), unless the manufacturer uses no-added formaldehyde based resins and has obtained ARB approval under section 93120.3(e); and
  - (F) Manufacturers of HWPW, PB, and MDF using no-added formaldehyde based resins must maintain records for each composite wood product produced for a minimum of two years, including:
    - 1. The ARB approval letter as specified in section 93120.3(e);
    - 2. Amount of resin use reported by volume and weight;
    - 3. Production volume reported as square feet per product type; and
    - 4. Resin trade name, resin manufacturer contact information, and resin supplier contact information.
- (3) Records must be kept on the disposition of non-complying lots or batches of composite wood products. These records shall include: product type and amount of composite wood products affected, lot or batch numbers, measures taken to mitigate the non-complying composite wood products, results of retesting, and final disposition of the lots or batches of composite wood products.

- (4) All records required by this section shall be made available to ARB or local air district personnel upon request.
- (g) *Facility inspections.* Each manufacturing plant may be inspected by third party certifiers as provided in Appendices 2 and 3 of section 93120.12. In addition, manufacturers may also be inspected by ARB or local air district personnel. In the course of an inspection, ARB or local air district personnel may request to audit records or secure samples for testing. Composite wood products secured during an inspection are subject to testing using the enforcement test method specified in section 93120.9(b), to determine compliance with the applicable emission standards.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

#### **93120.4      *Third Party Certifiers.***

- (a) All third party certifiers must be approved in writing by the ARB Executive Officer as provided in subsection (b). The Executive Officer will issue a number to each approved third party certifier.
- (b) *ARB Approval of Third Party Certifiers.*
  - (1) Applications to become an ARB-approved third party certifier must be submitted in writing to the Executive Officer and must contain the following:
    - (A) Evidence of actual field experience in the certification of laboratories and wood products;
    - (B) Evidence of the ability to properly train and supervise inspectors;
    - (C) Evidence of a current “product certification agency” accreditation issued by the International Accreditation Service, Inc. or by another signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC, 2000); and
    - (D) List of the composite wood products that the applicant is applying to certify and evidence that the applicant is qualified to certify these products.
  - (2) Within 45 days of receiving an application to become an ARB-approved third party certifier, the Executive Officer shall inform the

applicant, in writing, either that the application is complete and accepted for filing, or that the application is deficient and shall identify the specific information required to make the application complete.

- (3) Within 30 days of receiving additional information provided in response to a determination by the Executive Officer that an application is deficient, the Executive Officer shall inform the applicant, in writing, either that the new information is sufficient to make the application complete and that the application is accepted for filing, or that the application is deficient and shall identify the specific information required to make the application complete.
  - (4) Within 90 days after an application has been deemed complete, the Executive Officer shall act to approve or disapprove the application. The Executive Officer shall issue an Executive Order approving the application if the evidence submitted by the applicant is sufficient to demonstrate that the applicant can competently perform the tasks described in subsection (c).
  - (5) The Executive Officer may, in the course of processing the application, request the applicant to clarify, amplify, correct, or otherwise supplement the information required for the application. The applicant and the Executive Officer may mutually agree to longer time periods for determining whether an application is complete, or for approving or disapproving an application.
- (c) *Requirements for Third Party Certifiers.* Requirements for ARB approved third party certifiers are contained in section 93120.12, Appendix 3.
- (d) *Modification or Revocation of an Executive Order Approving a Third Party Certifier.*

The Executive Officer may review and, for good cause, modify or revoke an Executive Order approving a third party certifier. The Executive Officer shall not modify or revoke an Executive Order without affording the third party certifier the opportunity for a hearing in accordance with the procedures specified in title 17, California Code of Regulations, section 60055.1 et seq.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.5 Requirements for Distributors of Hardwood Plywood (HWPW), Particleboard (PB), Medium Density Fiberboard (MDF), and Finished Goods Containing Those Materials.**

- (a) *Emission Standards.* Except as provided in the “sell-through” provisions of section 93120.12, Appendix 1, all distributors must comply with the requirements of section 93120.2(a) for all composite wood products and finished goods containing these materials that are sold, supplied, offered for sale, or purchased for sale in California.
- (b) *Additional Requirements to Help Ensure that Complying Composite Wood Products and Finished Goods are Purchased.* Distributors must take reasonable prudent precautions to ensure that the composite wood products and composite wood products contained in finished goods that they purchase comply with the emission standards specified in section 93120.2(a). “Reasonable prudent precautions” include instructing each supplier that the composite wood products and finished goods they supply to a distributor must comply with the applicable emission standards, and obtaining written documentation from each supplier that this is so. In addition, distributors must keep records showing the date of purchase and the supplier of the composite wood products and finished goods, and document the precautions taken to ensure that the composite wood products and composite wood products contained in finished goods comply with applicable emission standards. These records must be kept in electronic or hard copy form for a minimum of two years and provided to ARB or local air district personnel upon request. This section does not affect the liability of any person for any violation of section 93120.2(a).
- (c) *Product Labeling Requirements for Composite Wood Products and Finished Goods.*
  - (1) *Composite Wood Products.* If the composite wood products procured by a distributor are not modified by the distributor, no additional labeling is required. If the composite wood products are modified, distributors are subject to the labeling requirements specified for fabricators in section 93120.7(d).
  - (2) *Finished goods containing HWPW, PB, or MDF.* If the finished goods purchased by a distributor are not modified by the distributor, no additional labeling is required. If the finished goods are modified, the distributor must label the modified goods as specified for fabricators in section 93120.7(d).
- (d) *Statement of compliance.* For each composite wood product or finished good made with these materials, the distributor must state on



the bill of lading or invoice, that the composite wood products or composite wood products contained in finished goods comply with the applicable Phase 1 or Phase 2 emission standard specified in section 93120.2(a).

- (e) *Facility inspections.* Distributors may be inspected by ARB or local air district personnel. In the course of an inspection, ARB or local air district personnel may request to audit records or secure samples for testing. Composite wood products or finished goods secured during an inspection are subject to testing, using the applicable enforcement test method specified in section 93120.9, to determine compliance with the applicable emission standards.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.6      *Requirements for Importers of Hardwood Plywood (HWPW), Particleboard (PB), Medium Density Fiberboard (MDF), and Finished Goods Containing Those Materials.***

- (a) *Emission Standards.* Except as provided in the “sell-through” provisions of section 93120.12, Appendix 1, all importers must comply with the requirements of section 93120.2(a) for all composite wood products and finished goods containing these materials that are sold, supplied, offered for sale, or purchased for sale in California.
- (b) *Additional Requirements to Help Ensure that Complying Composite Wood Products and Finished Goods are Purchased.* Importers must take reasonable prudent precautions to ensure that the composite wood products and composite wood products contained in finished goods that they purchase comply with the emission standards specified in section 93120.2(a). “Reasonable prudent precautions” include instructing each supplier that the goods they supply to an importer must comply with the applicable emission standards, and obtaining written documentation from each supplier that this is so.

In addition, importers must keep records showing the date of purchase and the supplier of the composite wood products and finished goods, and document the precautions taken to ensure that the composite wood products and composite wood products contained in finished goods comply with applicable emission standards. These records must be kept in electronic or hard copy form for a minimum of two years and provided to ARB or local air district personnel upon request.

This section does not affect the liability of any person for any violation of section 93120.2(a).

- (c) *Product Labeling Requirements for Composite Wood Products and Finished Goods.*
  - (1) *Composite Wood Products.* If the composite wood products procured by an importer are not modified by the importer, no additional labeling is required. If the composite wood products are modified, importers are subject to the labeling requirements specified for fabricators in section 93120.7(d).
  - (2) *Finished goods containing HWPW, PB, or MDF.* If the finished goods purchased by an importer are not modified by the importer, no additional labeling is required. If the finished goods are modified, the importer must label the modified goods as specified for fabricators in section 93120.7(d).
- (d) *Statement of compliance.* For each composite wood product or finished good made with these materials, the importer must state on the bill of lading or invoice, that the composite wood products or composite wood products contained in finished goods comply with the applicable Phase 1 or Phase 2 emission standard specified in section 93120.2(a).
- (e) *Facility inspections.* Importers may be inspected by ARB or local air district officials. In the course of an inspection, ARB or local air district personnel may request to audit records or secure samples for testing. Composite wood products or finished goods secured during an inspection are subject to testing, using the applicable enforcement test method specified in section 93120.9, to determine compliance with the applicable emission standards.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.7 Requirements for Fabricators that use Hardwood Plywood (HWPW), Particleboard (PB), Medium Density Fiberboard (MDF), and Finished Goods Containing Those Materials.**

- (a) *Emission Standards.* Except as provided in the “sell-through” provisions of section 93120.12, Appendix 1, all fabricators must comply with the requirements of section 93120.2(a) for all composite wood

products and finished goods containing these materials that are sold, supplied, offered for sale, or purchased for sale in California.

(b) *Exemptions.*

- (1) Windows that contain composite wood products are exempt from the requirements of this section if the window product contains less than five percent by volume of HWPW, PB, or MDF combined in relation to the total volume of the finished window product.
- (2) Exterior doors and garage doors that contain composite wood products are exempt from the requirements of this section if either: (A) the doors are made with waterproof resins for exterior use; or (B) the doors contain less than three percent by volume of HWPW, PB, or MDF combined in relation to the total volume of the finished exterior door or garage door.
- (3) Local government agencies and school districts do not need to comply with recordkeeping or product labeling requirements of section 93120.7 unless finished goods are being sold, offered for sale, or manufactured for sale in California.

- (c) *Additional Requirements to Help Ensure that Complying Composite Wood Products and Finished Goods are Purchased.* Fabricators must take reasonable prudent precautions to ensure that the composite wood products and composite wood products contained in finished goods that they purchase are in compliance with the applicable emission standards specified in section 93120.2(a), and are labeled as complying with the applicable Phase 1 or Phase 2 standards in section 93120.2(a). "Reasonable prudent precautions" include instructing each supplier that the goods they supply to the fabricator must comply with the applicable emission standards, and obtaining written documentation from each supplier that this is so.

In addition, fabricators must keep records showing the date of purchase and the supplier of the composite wood products and finished goods, and document the precautions taken to ensure that the composite wood products and composite wood products contained in finished goods comply with applicable emission standards. These records must be kept in electronic or hard copy form for a minimum of two years and provided to ARB or local air district personnel upon request. This section does not affect the liability of any person for any violation of section 93120.2(a).

- (d) *Product Labeling Requirements.* Fabricators must:
- (1) Label their finished goods containing HWPW, PB, or MDF destined for sale or supply in California. The label shall be applied as a stamp, tag, sticker, or bar code on every finished good produced, or on every box containing finished goods. The label shall include, at a minimum, the fabricator's name and a marking to denote that the product was made with HWPW, PB, or MDF that complies with the applicable Phase 1 or Phase 2 emission standards in title 17, California Code of Regulations, section 93120.2(a).
  - (2) Designate their goods as being made with HWPW, PB, or MDF that complies with the applicable emission standards specified in title 17, California Code of Regulations, section 93120.2(a) on the bill of lading or invoice provided to distributors, importers, other fabricators, or retailers.
- (e) *Facility inspections.* Fabricators are subject to periodic inspection by ARB or local air district ~~officials~~personnel. In the course of an inspection, ARB or local air district personnel may request to audit records or secure samples for testing. Composite wood products or finished goods secured during an inspection are subject to testing, using the applicable enforcement test method specified in section 93120.9, to determine compliance with the applicable emission standards.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.8**      ***Requirements for Retailers that Sell, Supply, or Offer for Sale, Hardwood Plywood (HWPW), Particleboard (PB), Medium Density Fiberboard (MDF), and Finished Goods Containing Those Materials.***

- (a) *Emission Standards.* Except as provided in the "sell-through" provisions of section 93120.12, Appendix 1, all retailers must comply with the requirements of section 93120.2(a) for all composite wood products and finished goods containing these materials that are sold, supplied, offered for sale, or purchased for sale in California.
- (b) *Additional Requirements to Help Ensure that Complying Composite Wood Products and Finished Goods are Purchased.* Retailers must take reasonable prudent precautions to ensure that the composite wood products and composite wood products contained in finished

goods that they purchase comply with the emission standards specified in section 93120.2(a). "Reasonable prudent precautions" include instructing each supplier that the goods they supply to the retailer must comply with the applicable emission standards, and obtaining written documentation from each supplier that this is so.

In addition, retailers must keep records showing the date of purchase and the supplier of the composite wood products and finished goods, and document the precautions taken to ensure that the composite wood products and composite wood products contained in finished goods comply with applicable emission standards. These records must be kept in electronic or hard copy form for a minimum of two years and provided to ARB or local air district personnel upon request. This section does not affect the liability of any person for any violation of section 93120.2(a).

- (c) *Facility inspections.* Retailers may be inspected by ARB or local air district ~~officials~~ personnel. In the course of an inspection, ARB or local air district personnel may request to audit records or secure samples for testing. Composite wood products or finished goods secured during an inspection are subject to testing, using the applicable enforcement test method specified in section 93120.9, to determine compliance with the applicable emission standards.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

#### **93120.9      *Test Methods.***

- (a) *Compliance Test Methods for HWPW, PB, and MDF.* Compliance with the emission standards for HWPW, PB, and MDF in section 93120.2(a) shall be demonstrated by conducting product emissions tests, validated by third party certification as specified in section 93120.4 and conducted using either (A) ASTM E 1333-96 (large chamber test method) or (B) a test method correlated to ASTM E 1333-96. An alternate test procedure may also be used as specified in sections 93120.9(a)(1) through 93120.9(a)(3).
  - (1) Test methods other than ASTM E 1333-96 (large chamber test method) may be used if they are demonstrated to provide equivalent results to those obtained using ASTM E 1333-96. All alternative test methods must be approved in writing by the Executive Officer prior to use as specified below.

- (2) An application to use an alternative test method must be submitted to the ARB in writing, and must include, at a minimum, the following information and data:
- (A) A complete description of the test method used to quantify product emissions, including all procedures used, precision and reproducibility, and the criteria used to demonstrate the validity of the test method.
  - (B) Results collected using the alternate test method and corresponding equivalent emissions.
- (3) Within 45 days of receipt of an application, the Executive Officer shall notify the applicant in writing that the application is complete, or if additional information or testing is required to complete the application. If the Executive Officer finds that an application complies with the requirements of this section, then he or she may issue an Executive Order certifying that the alternate test procedure provides equivalent results to ASTM E 1333-96, and authorize its use for compliance testing.
- (b) *Enforcement Test Method for HWPW, PB, and MDF Samples.* Emission testing of samples of HWPW, PB, and MDF shall be conducted by ARB or local air district personnel using a small chamber as provided in ASTM D 6007-02, a large chamber (ASTM E 1333-96), or an alternate test procedure as specified in section 93120.9(a). Sample handling procedures will be followed as specified in the applicable ASTM method or alternate test procedures. Small chambers used for enforcement testing will be correlated to a large chamber, to verify the accuracy of the small chamber.
- (c) *Enforcement Test Method for Finished Goods Containing HWPW, PB, and MDF.* Emission testing of samples of ~~finished goods containing~~ HWPW, PB, and MDF contained in finished goods shall be conducted by ARB or local air district personnel using a small chamber (ASTM D 6007-02), or an alternate test procedure as specified in section 93120.9(a). Sample handling procedures will be followed that are consistent with those specified in ASTM D 6007-02 or alternate test procedures. Small chambers used for enforcement testing will be correlated to a large chamber, to verify the accuracy of the small chamber.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.10      *Incorporation by Reference.***

The following documents are incorporated by reference in this airborne toxic control measure:

- (a) ANSI A135.4-2004. American National Standard – Basic Hardboard, 2004.
- (b) ANSI A135.5-2004. American National Standard – Prefinished Hardboard Paneling, 2004.
- (c) ANSI A135.6.2006. American National Standard – Hardboard Siding, 2006.
- (~~a~~)(d) ANSI A190.1-2002. American National Standard – Structural Glued Laminated Timber, 2002.
- (~~b~~)(e) ANSI A208.1-1999. American National Standard – Particleboard, 1999.
- (~~c~~)(f) ANSI A208-2-19942002. American National Standard – Medium Density Fiberboard, 19942002.
- (~~d~~)(g) ANSI/HPVA HP-1-2000. American National Standard for Hardwood and Decorative Plywood, 2000.
- (~~e~~)(h) ASTM D 5055-05. Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists, 2005.
- (i) ASTM D 5456-06. Standard Specification for Evaluation of Structural Composite Lumber Products, 2006.
- (~~f~~)(j) ASTM D 5582-00. Standard Test Method for Determining Formaldehyde Levels from Wood Products Using a Desiccator, 2000.
- (~~g~~)(k) ASTM D 6007-02. Standard Test Method for Determining Formaldehyde Concentration in Air from Wood Products Using a Small Scale Chamber, 2002.
- (~~h~~)(l) ASTM E 1333-96. Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber, 1996.
- (~~i~~)(m) ILAC. International Laboratory Accreditation Cooperation Mutual Recognition Arrangement, 2000.
- (n) PS 1-07. Voluntary Product Standard – Structural Plywood. National Institute of Standards and Technology, 2007.
- (o) PS 2-04. Voluntary Product Standard – Performance Standard for Wood-Based Structural-Use Panels. National Institute of Standards and Technology, 2004.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.11 Severability.**

Each part of this airborne toxic control measure (ATCM) shall be deemed severable, and in the event that any part of this ATCM is held to be invalid, the remainder of this ATCM shall continue in full force and effect.

Note: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, and 41712, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, and 41712, Health and Safety Code.

**93120.12 Appendices.**

This section contains Appendices 1 - 3 to the Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products.



**Appendix 1. *Sell-through Provisions and Dates that Apply to Manufacturers, Distributors, Importers, Fabricators, and Retailers.***

**(a) *Sell-through Dates that Apply to Manufacturers of Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF).***

(1) *Sell-through by Manufacturers of Hardwood Plywood, Particleboard, and Medium Density Fiberboard Manufactured Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Hardwood plywood, particleboard, and medium density fiberboard manufactured before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be sold, supplied, or offered for sale by the product manufacturer for up to ~~one~~three months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

(A) Hardwood plywood made with a veneer-core (HWPW-VC).

1. Panels of HWPW-VC manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by the product manufacturer until ~~January~~March 31, 2009. Beginning ~~February~~April 1, 2009, all HWPW-VC subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
2. Panels of HWPW-VC manufactured before January 1, ~~2011~~2010, that comply with the Phase 1 standard, but do not comply with the Phase 2 standard, may be sold, supplied, or offered for sale by the product manufacturer until ~~January~~March 31, ~~2011~~2010. Beginning ~~February~~April 1, ~~2011~~2010, all HWPW-VC subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(B) Hardwood plywood made with a composite-core (HWPW-CC).

1. Panels of HWPW-CC manufactured before July 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by the product manufacturer until ~~July 31~~September 30, 2009. Beginning ~~August~~October 1, 2009, all HWPW-CC subject to the Phase 1 standard must comply with

this standard, regardless of the date on which the products were manufactured.

2. Panels of HWPW-CC manufactured before July 1, 2012, that comply with the Phase 1 standard, but do not comply with the Phase 2 standard, may be sold, supplied, or offered for sale by the product manufacturer until ~~July 31~~September 30, 2012. Beginning ~~August~~October 1, 2012, all HWPW-CC subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(C) Particleboard (PB), medium density fiberboard (MDF), and thin MDF.

1. Panels of PB, MDF, and thin MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by the product manufacturer until ~~January~~March 31, 2009. Beginning ~~February~~April 1, 2009, all PB and MDF subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
2. Panels of PB and MDF manufactured before January 1, 2011, that comply with the Phase 1 standard, but do not comply with the Phase 2 standard, may be sold, supplied, or offered for sale by the product manufacturer until ~~January~~March 31, 2011. Beginning ~~February~~April 1, 2011, all PB and MDF subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.
3. Panels of thin MDF manufactured before January 1, 2012, that comply with the Phase 1 standard, but do not comply with the Phase 2 standard, may be sold, supplied, or offered for sale by the product manufacturer until ~~January~~March 31, 2012. Beginning ~~February~~April 1, 2012, all thin MDF subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

**(b) *Sell-through Dates that Apply to Distributors of HWPW, PB, and MDF.***

- (1) *Sell-through by Distributors of Hardwood Plywood, Particleboard, and Medium Density Fiberboard Manufactured Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Hardwood plywood, particleboard, or medium density fiberboard manufactured before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a)

may be sold, supplied, or offered for sale by distributors for up to five months after each of the specified effective dates. The specific sell-through dates for each of the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

- (A) Hardwood plywood made with a veneer core (HWPW-VC).
  - 1. Panels of HWPW-VC manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by distributors until May 31, 2009. Beginning June 1, 2009, all HWPW-VC subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
  - 2. Panels of HWPW-VC manufactured before January 1, ~~2011~~ 2010, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by distributors until May 31, ~~2011~~ 2010. Beginning June 1, ~~2011~~ 2010, all HWPW-VC subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.
- (B) Hardwood plywood made with a composite core (HWPW-CC).
  - 1. Panels of HWPW-CC manufactured before July 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by distributors until November 30, 2009. Beginning December 1, 2009, all HWPW-CC subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
  - 2. Panels of HWPW-CC manufactured before July 1, 2012, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by distributors until November 30, 2012. Beginning December 1, 2012, all HWPW-CC subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.
- (C) Particleboard (PB) and medium density fiberboard (MDF).
  - 1. Panels of PB and MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by distributors until

May 31, 2009. Beginning June 1, 2009, all PB and MDF subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.

2. Panels of PB and MDF manufactured before January 1, 2011, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by distributors until May 31, 2011. Beginning June 1, 2011, all PB and MDF subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(D) Thin MDF.

1. Panels of thin MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by distributors until May 31, 2009. Beginning June 1, 2009, all thin MDF subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
2. Panels of thin MDF manufactured before January 1, 2012, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by distributors until May 31, 2012. Beginning June 1, 2012, all thin MDF subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(2) *Sell-through by Distributors of Finished Goods Containing Hardwood Plywood made with a Veneer –Core (HWPW-VC), Hardwood Plywood made with a Composite –Core (HWPW-CC), Particleboard (PB), Medium Density Fiberboard (MDF), or thin MDF Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Finished goods containing HWPW-VC, HWPW-CC, PB, MDF, or thin MDF manufactured before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be sold, supplied, offered for sale by distributors for up to 18 months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

- (A) Finished goods containing hardwood plywood made with a veneer-core (HWPW-VC).
1. Finished goods containing HWPW-VC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale

by distributors until June 30, 2010. Beginning July 1, 2010, finished goods containing HWPW-VC, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.

2. Finished goods containing HWPW-VC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by distributors until June 30, ~~2012~~2011. Beginning July 1, ~~2012~~2011, finished goods containing HWPW-VC, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.
- (B) Finished goods containing hardwood plywood made with a composite-core (HWPW-CC).
1. Finished goods containing HWPW-CC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by distributors until December 31, 2010. Beginning January 1, 2011, finished goods containing HWPW-CC, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
  2. Finished goods containing HWPW-CC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by distributors until December 31, 2013. Beginning January 1, 2014, finished goods containing HWPW-CC, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.
- (C) Finished goods containing particleboard (PB) and/or medium density fiberboard (MDF).
1. Finished goods containing PB and/or MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by distributors until June 30, 2010. Beginning July 1, 2010, finished goods containing PB and/or MDF, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
  2. Finished goods containing PB and/or MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by distributors until June 30, 2012. Beginning July 1, 2012, finished goods containing PB and/or MDF, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

- (D) Finished goods containing thin MDF.
1. Finished goods containing thin MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by distributors until June 30, 2010. Beginning July 1, 2010, finished goods containing thin MDF, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
  2. Finished goods containing thin MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by distributors until June 30, 2013. Beginning July 1, 2013, finished goods containing thin MDF, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

(c) ***Sell-through Dates that Apply to Importers of HWPW, PB, and MDF.***

- (1) *Sell-through by Importers of Hardwood Plywood (HWPW), Particleboard (PB), and Medium Density Fiberboard (MDF) Manufactured Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Hardwood plywood, particleboard, or medium density fiberboard manufactured before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be sold, supplied, offered for sale, or used by importers for up to five~~three~~ months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

- (A) Hardwood plywood made with a veneer core (HWPW-VC).
1. Panels of HWPW-VC manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by importers until ~~May~~March 31, 2009. Beginning ~~June~~April 1, 2009, all HWPW-VC subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
  2. Panels of HWPW-VC manufactured before January 1, ~~2011~~2010, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by importers until ~~May~~March 31, ~~2011~~2010. Beginning ~~June~~April 1, ~~2011~~2010, all HWPW-VC subject to the Phase 2 standard must comply with

this standard, regardless of the date on which the products were manufactured.

(B) Hardwood plywood made with a composite core (HWPW-CC).

1. Panels of HWPW-CC manufactured before July 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by importers until ~~November~~ September 30, 2009. Beginning ~~December~~ October 1, 2009, all HWPW-CC subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
2. Panels of HWPW-CC manufactured before July 1, 2012, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by importers until ~~November~~ September 30, 2012. Beginning ~~December~~ October 1, 2012, all HWPW-CC subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(C) Particleboard (PB) and medium density fiberboard (MDF).

1. Panels of PB and MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by importers until ~~May~~ March 31, 2009. Beginning ~~June~~ April 1, 2009, all PB and MDF subject to the Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.
2. Panels of PB and MDF manufactured before January 1, 2011, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by importers until ~~May~~ March 31, 2011. Beginning ~~June~~ April 1, 2011, all PB and MDF subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(D) Thin MDF.

1. Panels of thin MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, offered for sale, or used by importers until ~~May~~ March 31, 2009. Beginning ~~June~~ April 1, 2009, all thin MDF subject to the

Phase 1 standard must comply with this standard, regardless of the date on which the products were manufactured.

2. Panels of thin MDF manufactured before January 1, 2012, that do not comply with the Phase 2 standard may be sold, supplied, offered for sale, or used by importers until ~~May~~March 31, 2012. Beginning ~~June~~April 1, 2012, all thin MDF subject to the Phase 2 standard must comply with this standard, regardless of the date on which the products were manufactured.

(2) *Sell-through by Importers of Finished Goods Containing Hardwood Plywood made with a Veneer –Core (HWPW-VC), Hardwood Plywood made with a Composite –Core (HWPW-CC), Particleboard (PB), Medium Density Fiberboard (MDF), or thin MDF Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Finished goods containing HWPW-VC, HWPW-CC, PB, MDF, or thin MDF manufactured before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be sold, supplied, offered for sale by importers for up to 18 months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

- (A) Finished goods containing hardwood plywood made with a veneer-core (HWPW-VC).
  1. Finished goods containing HWPW-VC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by importers until June 30, 2010. Beginning July 1, 2010, finished goods containing HWPW-VC, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
  2. Finished goods containing HWPW-VC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by importers until June 30, ~~2012~~2011. Beginning July 1, ~~2012~~2011, finished goods containing HWPW-VC, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.
- (B) Finished goods containing hardwood plywood made with a composite-core (HWPW-CC).
  1. Finished goods containing HWPW-CC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by importers until December 31, 2010. Beginning January 1, 2011, finished goods containing HWPW-CC, sold,



supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.

2. Finished goods containing HWPW-CC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by importers until December 31, 2013. Beginning January 1, 2014, finished goods containing HWPW-CC, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

(C) Finished goods containing particleboard (PB) and/or medium density fiberboard (MDF).

1. Finished goods containing PB and/or MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by importers until June 30, 2010. Beginning July 1, 2010, finished goods containing PB and/or MDF, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
2. Finished goods containing PB and/or MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by importers until June 30, 2012. Beginning July 1, 2012, finished goods containing PB and/or MDF, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

(D) Finished goods containing thin MDF.

1. Finished goods containing thin MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by importers until June 30, 2010. Beginning July 1, 2010, finished goods containing thin MDF, sold, supplied, or offered for sale must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
2. Finished goods containing thin MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by importers until June 30, 2013. Beginning July 1, 2013, finished goods containing thin MDF, sold, supplied, or offered for sale must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

**(d) *Sell-through Dates that Apply to Fabricators of HWPW, PB, and MDF.***

(1) *Sell-through by Fabricators of Finished Goods Produced Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Finished goods containing HWPW-VC, HWPW-CC, PB, MDF, or thin MDF produced before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be sold, supplied, offered for sale by fabricators for up to ~~twelve~~eighteen months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

- (A) Finished goods containing hardwood plywood made with a veneer-core (HWPW-VC).
1. Finished goods made with HWPW-VC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by fabricators until ~~December 31, 2009~~June 30, 2010. Beginning ~~January 1~~July 1, 2010, all finished goods sold, supplied, or offered for sale must be made with HWPW-VC that complies with the Phase 1 standard, regardless of the date that the finished good was fabricated.
  2. Finished goods made with HWPW-VC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by fabricators until ~~December 31~~June 30, 2011. Beginning ~~January 1, 2012~~July 1, 2011, all finished goods sold, supplied, or offered for sale must be made with HWPW-VC that complies with the Phase 2 standard, regardless of the date that the finished good was fabricated.
- (B) Finished goods containing hardwood plywood made with a composite-core (HWPW-CC).
1. Finished goods made with HWPW-CC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by fabricators until ~~June 30~~December 31, 2010. Beginning ~~July 1, 2010~~January 1, 2011, all finished goods sold, supplied, or offered for sale must be made with HWPW-CC that complies with the Phase 1 standard, regardless of the date that the finished good was fabricated.
  2. Finished goods made with HWPW-CC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by fabricators until ~~June 30~~December 31, 2013. Beginning

~~July 1, 2013~~January 1, 2014, all finished goods sold, supplied, or offered for sale must be made with HWPW-CC that complies with the Phase 2 standard, regardless of the date that the finished good was fabricated.

- (C) Finished goods containing particleboard (PB) and/or medium density fiberboard (MDF).
1. Finished goods made with PB and/or MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by fabricators until ~~December 31, 2009~~June 30, 2010. Beginning ~~January 1~~July 1, 2010, all finished goods sold, supplied, or offered for sale must be made with PB and/or MDF that complies with the Phase 1 standard, regardless of the date that the finished good was fabricated.
  2. Finished goods made with PB and/or MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by fabricators until ~~December 31, 2011~~June 30, 2012. Beginning ~~January 1~~July 1, 2012, all finished goods sold, supplied, or offered for sale must be made with PB and/or MDF that complies with the Phase 2 standard, regardless of the date that the finished good was fabricated.
- (D) Finished goods containing thin MDF.
1. Finished goods made with thin MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by fabricators until ~~December 31, 2009~~June 30, 2010. Beginning ~~January 1~~July 1, 2010, all finished goods sold, supplied, or offered for sale must be made with thin MDF that complies with the Phase 1 standard, regardless of the date that the finished good was fabricated.
  2. Finished goods made with thin MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by fabricators until ~~December 31, 2012~~June 30, 2013. Beginning ~~January 1~~July 1, 2013, all finished goods sold, supplied, or offered for sale must be made with thin MDF that complies with the Phase 2 standard, regardless of the date that the finished good was fabricated.

**(e) Sell-through Dates that Apply to Retailers of HWPW, PB, and MDF.**

(1) *Sell-through by Retailers of Hardwood Plywood made with a Veneer – Core (HWPW-VC), Hardwood Plywood made with a Composite –Core (HWPW-CC), Particleboard (PB), Medium Density Fiberboard (MDF), or thin MDF Panels Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Hardwood plywood, particleboard, or medium density fiberboard panels manufactured before the Phase 1 and Phase 2 effective dates specified in section 93120.2(a) may be sold, supplied, or offered for sale by retailers for up to twelve months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

(A) Hardwood plywood made with a veneer core (HWPW-VC).

1. Panels of HWPW-VC manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until December 31, 2009. Beginning January 1, 2010, all HWPW-VC, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date on which the products were manufactured.
2. Panels of HWPW-VC manufactured before January 1, ~~2011~~ 2010, that do not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until December 31, ~~2011~~ 2010. Beginning January 1, ~~2012~~ 2011, all HWPW-VC, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date on which the products were manufactured.

(B) Hardwood plywood made with a composite core (HWPW-CC).

1. Panels of HWPW-CC manufactured before July 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until June 30, 2010. Beginning July 1, 2010, all HWPW-CC, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date on which the products were manufactured.
2. Panels of HWPW-CC manufactured before July 1, 2012, that do not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until June 30, 2013. Beginning July 1, 2013, all HWPW-CC, sold, supplied, or offered for sale,

must comply with the Phase 2 standard, regardless of the date on which the products were manufactured.

(C) Particleboard (PB) and/or medium density fiberboard (MDF).

1. Panels of PB or MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until December 31, 2009. Beginning January 1, 2010, all PB or MDF, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date on which the products were manufactured.
2. Panels of PB or MDF manufactured before January 1, 2011, that do not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until December 31, 2011. Beginning January 1, 2012, all PB or MDF, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date on which the products were manufactured.

(D) Thin MDF.

1. Panels of thin MDF manufactured before January 1, 2009, that do not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until December 31, 2009. Beginning January 1, 2010, all thin MDF, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date on which the products were manufactured.
  2. Panels of thin MDF manufactured before January 1, 2012, that do not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until December 31, 2012. Beginning January 1, 2013, all thin MDF, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date on which the products were manufactured.
- (2) *Sell-through by Retailers of Finished Goods Containing Hardwood Plywood made with a Veneer –Core (HWPW-VC), Hardwood Plywood made with a Composite –Core (HWPW-CC), Particleboard (PB), Medium Density Fiberboard (MDF), or thin MDF Before the Effective Dates of the Phase 1 and Phase 2 Emission Standards.* Finished goods containing HWPW-VC, HWPW-CC, PB, MDF, or thin MDF manufactured before the Phase 1 and Phase 2 effective dates

specified in section 93120.2(a) may be sold, supplied, offered for sale, or used by retailers for up to 18 months after each of the specified effective dates. The specific sell-through dates for the Phase 1 and Phase 2 emission standards specified in section 93120.2(a) are as follows:

- (A) Finished goods containing hardwood plywood made with a veneer-core (HWPW-VC).
  - 1. Finished goods containing HWPW-VC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until June 30, 2010. Beginning July 1, 2010, finished goods containing HWPW-VC, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
  - 2. Finished goods containing HWPW-VC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until June 30, ~~2012~~2011. Beginning July 1, ~~2012~~2011, finished goods containing HWPW-VC, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date that the product was fabricated.
- (B) Finished goods containing hardwood plywood made with a composite-core (HWPW-CC).
  - 1. Finished goods containing HWPW-CC that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until December 31, 2010. Beginning January 1, 2011, finished goods containing HWPW-CC, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
  - 2. Finished goods containing HWPW-CC that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until December 31, 2013. Beginning January 1, 2014, finished goods containing HWPW-CC, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date that the product was fabricated.
- (C) Finished goods containing particleboard (PB) and/or medium density fiberboard (MDF).
  - 1. Finished goods containing PB and/or MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until June 30, 2010. Beginning July 1, 2010,

finished goods containing PB and/or MDF, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date that the product was fabricated.

2. Finished goods containing PB and/or MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until June 30, 2012. Beginning July 1, 2012, finished goods containing PB and/or MDF, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

(D) Finished goods containing thin MDF.

1. Finished goods containing thin MDF that does not comply with the Phase 1 standard may be sold, supplied, or offered for sale by retailers until June 30, 2010. Beginning July 1, 2010, finished goods containing thin MDF, sold, supplied, or offered for sale, must comply with the Phase 1 standard, regardless of the date that the product was fabricated.
2. Finished goods containing thin MDF that does not comply with the Phase 2 standard may be sold, supplied, or offered for sale by retailers until June 30, 2013. Beginning July 1, 2013, finished goods containing thin MDF, sold, supplied, or offered for sale, must comply with the Phase 2 standard, regardless of the date that the product was fabricated.

**Appendix 2.     *Quality Assurance Requirements for Manufacturers of Composite Wood Products.***

(a)     *Purpose.*

The purpose of Appendix 2 of section 93120.12 is to provide quality assurance requirements for manufacturers of composite wood products to ensure compliance with the applicable formaldehyde emission standards in section 93120.2(a). Manufacturers must demonstrate compliance with the emission standards by way of third party certification, and must comply with the quality assurance requirements contained in Appendix 2. The requirements of Appendix 2 do not apply to manufacturers who use no-added formaldehyde based resins and have received ARB approval as provided in section 93120.3(e).

Requirements are specified for: preparation of a quality control manual, establishment of a quality control function at the manufacturing plant (including testing equipment and designated quality control personnel), routine quality control procedures conducted at the plant, participation in periodic inspections and product testing by the third party certifying organization, chain of custody documentation, and recordkeeping. These requirements are designed to ensure that certified unfinished (including sanded) composite wood products meet the applicable emission standards.

(b)     *Responsibility for Product Performance.*

The manufacturer is responsible for the performance of all certified products, including meeting the applicable standard(s) against which its products are certified.

(c)     *Quality Control Manual.*

Each manufacturing plant must have a written quality control manual, which shall, at a minimum, contain the following:

- (1) organizational structure of the quality control department;
- (2) sampling procedures;
- (3) method of handling samples;
- (4) frequency of small scale quality control testing;
- (5) procedures to identify changes in formaldehyde emissions resulting from production changes (e.g., increase in percentage of resin, increase in formaldehyde/urea molar ratio in the resin, or decrease in press time);
- (6) provisions for additional testing;



- (7) recordkeeping requirements; and
- (8) average percentage of resin and press time for each product type and thickness.

(d) *Quality Control Facilities.*

At each manufacturing plant, laboratory facilities and equipment shall be provided and properly maintained for conducting such tests as are required by Appendix 2. Equipment shall be calibrated in accordance with the equipment manufacturer's instructions. The original and any subsequent equipment calibration records shall be maintained.

(e) *Quality Control Personnel.*

(1) Quality Control Manager

Each plant shall have a person with adequate experience and/or training to be responsible for formaldehyde emission quality control. This person shall report to the plant manager and shall be identified to the third party certifier. The third party certifier shall be informed in writing within ten days of any change in his or her identity. The quality control manager shall review and initial all reports of routine small scale testing conducted on the plant's production, and shall immediately inform the third party certifier by telephone or FAX and by letter of any changes in production that require re-inspections as set forth in section 93120.12, Appendix 3.

(2) Quality Control Employee

Quality control employees shall have adequate experience and/or training to conduct accurate chemical quantitative analytical tests. The Quality Control Manager shall identify each person conducting routine small scale tests to the third party certifier. All quality control employees must be certified annually by the third party certifier.

(3) Chemical Analysis Tests

(A) Duplicate Analysis

The manufacturer will contact the third party certifier to request certification of any quality control employee identified by the Quality Control Manager. The third party certifier or plant Quality Control Manager shall test one portion of a formaldehyde solution; the employee to be certified shall test another portion of the same solution. The results of each test must be within 0.05 micrograms per milliliter ( $\mu\text{g/ml}$ ) of each other.

(B) Blind Samples

The employee to be certified must correctly determine within 0.05 µg/ml the formaldehyde content of four sample solutions submitted to them by the third party certifier or plant Quality Control Manager.

(f) *Large Chamber Tests.*

(1) Initial (Qualifying) Large Chamber Test

Each product type, from each production line of each plant must be tested in a large chamber (ASTM E 1333-96). The chamber must be certified and the laboratory operating the chamber must be accredited by the International Accreditation Service or by an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC, 2000). For the purpose of a qualifying large chamber test and with approval of the third party certifier, a manufacturer may group two or more product types together if they have statistically equivalent emission characteristics. If a plant elects to have all or multiple products represented by a single product type, an initial large chamber qualification test failure by that representative product will cause validation to lapse on all other products represented. The emissions from each product type from each production line must not exceed the applicable standard.

(2) Correlation of Large Chamber and Small Scale Test Values

In order to qualify for certification, the manufacturer must establish a statistical correlation between values obtained from the large chamber and the values from the small scale tests for each product type and production line. For purposes of establishing this correlation, data for products from the manufacturer's plant or data obtained by a third party certifier must be used.

(3) Subsequent (Verifying) Large Chamber Tests

(A) Quarterly Chamber Test

1. Particleboard (PB) and Medium Density Fiberboard (MDF)

At least quarterly, a large chamber test shall be conducted on randomly selected samples of each product type. For the purpose of a verifying large chamber test, a manufacturer may group two or more product types together if they have

statistically equivalent emission characteristics. If a plant elects to have all or multiple products represented by a single product type, a quarterly large chamber qualification test failure by that representative product will cause validation to lapse on all other products represented. The emissions from each product type must not exceed the applicable standard.

2. Hardwood Plywood (HWPW)

At least quarterly, a large chamber test shall be conducted on randomly selected samples of the HWPW product determined by the third party certifier, after review of routine weekly quality control data, to have the highest potential to emit formaldehyde. For the purpose of a verifying large chamber test, a manufacturer may choose to group two or more product types together if they have statistically equivalent emission characteristics. If a plant elects to have all or multiple products represented by a single product type, a quarterly large chamber qualification test failure by that representative product will cause validation to lapse on all other products represented. The emissions from each product type must not exceed the applicable standard.

(B) Failure of a Large Chamber Test

1. Exceedance of standards

If the emission value obtained during a subsequent (verifying) large chamber test exceeds the applicable standard, the tested product will be in violation of section 93120.2(a). In such an event, the third party certifier is required to notify the manufacturer and ARB. If large chamber and small scale test results on the same product differ, the large chamber result shall be considered the benchmark value.

2. Re-qualification

Should an exceedance occur, plant production of that product type may be reinstated only upon successful completion of another large chamber test. The re-qualification large chamber test must be conducted on the same product type as that which failed during the verifying test.

### 3. Disposition of Failed Lot

The manufacturer may obtain certification of a lot which has failed the large chamber test if the manufacturer can demonstrate to the satisfaction of third party certifier that: (1) each panel is treated with a scavenger or handled by other means of reducing formaldehyde emissions (e.g., aging) which does not adversely affect the structural properties of the product; and (2) panels randomly selected from the treated panels are tested under and pass the large chamber test within six weeks of the initial determination of a failed lot.

Manufacturers are required to submit the last month of correlation data to the third party certifier, for verification that the target operating limit (TOL) reflects an accurate correlation between the large chamber and the plant's quality control tests.

#### (g) *Small Scale Quality Control Tests at Plant.*

Each manufacturing plant shall conduct small scale quality control tests for each product type and production line to ascertain that its certified panels do not exceed the applicable emission standard. Unless prior notice is given, all lots of each product type being validated for compliance at each plant will be tested, with each lot's small scale quality control tests reported to the certifier.

#### (1) Approved Small Scale Test Methods

The following small scale tests may be used as quality control test methods:

- (A) ASTM D 5582-00 (desiccator);
- (B) ASTM D 6007-02 (small chamber); and
- (C) Alternative small scale tests that can be shown to correlate to the large chamber tests as specified in subsection (g)(2) and are approved by the Executive Officer.

#### (2) Correlation of Quality Control Tests with Large Chamber Tests

Each plant's quality control test results must be shown to correlate to large chamber test results. If data shows variation from the previously used correlation, the manufacturer shall work with the certifier to evaluate the data to determine if a statistically significant change has

occurred. If a change is noted, a new correlation curve will be established for the manufacturer by the certifier.

(3) Target Operating Limit

Manufacturers will work with their third party certifier to establish a Target Operating Limit (TOL) at each manufacturer's plant for each product type and production line. The TOL is the value for any approved small scale quality control test which is based on the correlative equivalent to the value in a large chamber test permitted by the applicable standard and incorporates an operational compliance margin to account for process variation to keep the product's emissions from exceeding the applicable standard. In the event that a manufacturer produces product lots that consistently exceed the applicable TOL, the certifier shall be notified promptly.

(4) Basic Testing Frequency

(A) PB and MDF

Manufacturers of PB and MDF must conduct routine small scale quality control tests at least once per shift (8 or 12 hours  $\pm$  one hour of production) for each production line for each product type. In addition, quality control tests must be performed whenever a product type production ends without reaching eight hours of production or whenever one of the following occurs:

1. the resin formulation is changed so that the formaldehyde to urea ratio is increased;
2. an increase by more than ten percent in the amount of U.F. resin used;
3. a decrease in the designated press time by more than 20 percent; or
4. when the Quality Control Manager or Quality Control Employee has reason to believe that the board being produced may not meet the requirements of the applicable standards.

(B) Reduction in Testing Frequency for PB and MDF

Testing frequency may be reduced to no less frequently than one test per 48-hour production period when the plant or production line demonstrates consistent operations and low variability of test values to the satisfaction of the third party certifier. Manufacturers must obtain advance written approval from the third party certifier and keep this written approval as part of the manufacturer record keeping requirements.

(C) HWPW

Manufacturers of HWPW must conduct routine small scale quality control tests on each product type and product line based on production at the plant, as follows:

| Weekly HWPW Production (sq. ft.) | Minimum Number of Routine Tests/Week Per Product Type and Product Line |
|----------------------------------|--|
| < 200,000                        | 1  |
| 200,000 – 400,000                | 2  |
| > 400,000                        | 4  |

(5) Non-complying Lots

A “non-complying lot” is any lot that has a test value in excess of the applicable standard. Test results from all non-complying lots shall be maintained as required by the manufacturer’s recordkeeping requirements. For a non-complying lot to be certified, it must meet the requirements of subsections (g)(6) and (g)(7) below.

(6) Disposition of Non-complying Lots

A non-complying lot must be isolated from certified lots and the third party certifier must be notified. The non-complying lot cannot be certified unless it is determined to be in compliance by treating pursuant to subsection (g)(7) below and retesting pursuant to subsection (g)(8). If the manufacturer chooses not to certify, or is not able to certify a non-complying lot, the lot must not be labeled for sale in California. If the lot had already been labeled for sale in California, the label must be removed or obliterated. The original test value of that lot shall be maintained in the certification calculations for standard deviation and consecutive lots. Such lots shall be identified in the quality control chart.

(7) Treatment of Non-complying Product

Production which has failed the small scale test may be retested for certification if each panel is treated with a scavenger or handled by other means of reducing formaldehyde emissions (e.g., aging) which does not adversely affect the structural integrity of the product.

(8) Small Scale Retesting

The manufacturer may choose to retest a non-complying lot. When retesting a non-complying lot, the following criteria apply:

- (A) At least three test panels shall be selected from three separate bundles. They should be selected in such a manner that is representative of the entire lot. Each panel shall be tested by the plant's small scale quality control test.
- (B) Test samples shall not be selected from the top or bottom panels of a bundle.
- (C) The average of three representative samples must test at or below the TOL.
- (D) The certifier shall be informed promptly in writing of any certification pursuant to this section.

(9) Plant Reporting

Each manufacturer shall maintain product data reports for each plant, production line and product type, and submit copies to the certifier weekly. The reports shall include a data sheet for each specific product with test and production information, and a quality control graph containing:

- (A) TOL;
- (B) results of quality control tests; and
- (C) retest values.

(h) *Recordkeeping.*

Manufacturers shall maintain complete records documenting the following:

- (1) small scale test results;
- (2) production sequence;
- (3) changes in the resin percentage for any product type, from levels set by the quality control manual, by more than ten percent (calculated on the basis of resin solids and oven dry wood weight of the face and core furnish, adjusted proportionately);
- (4) increases in the formaldehyde/urea mole ration of the resin;

- (5) changes in press time by more than 20 percent for any product from the levels set in the plant quality control manual;
- (6) testing of Quality Control Employees;
- (7) disposition of non-conforming products;
- (8) calibration of on-site large chambers (if any); and
- (9) other records requested by the certifier under its discretion relating to section 93120.12, Appendix 3.

These records shall be made readily available to the certifier. Records shall be retained for a minimum of 2 years in electronic or hard copy form. Records shall also be provided to ARB upon request.

~~(i) *Chain of Custody Requirements.*~~

~~ARB will issue a unique number to each approved third party certifier. This number must appear on any label and on the bill of lading or invoice that accompanies composite wood products or goods made with complying composite wood products to verify through the distribution chain that all products comply with the appropriate emission standards.~~



**Appendix 3. Requirements for Third Party Certifiers of Composite Wood Products.**

(a) *Purpose.*

The purpose of Appendix 3 of section 93120.12 is to specify requirements for ARB-approved third party certifiers for their certification of composite wood products with regard to the formaldehyde emission standards specified in section 93120.2(a).

(b) *Overview of Third Party Certifier Requirements.*

(1) ARB-approved third party certifiers shall do the following:

- (A) Verify that manufacturers are complying with the quality assurance requirements specified in section 93120.12, Appendix 2;
- (B) Validate manufacturer small scale test results compared to large chamber results;
- (C) Work with manufacturers to establish target operating limits for each product type and production line;
- (D) Provide independent inspections and audits of manufacturers and records;
- (E) Provide manufacturers with their ARB-approved third party certifier number;
- (F) Use laboratories and large chambers for conducting ASTM E 1333-96 testing that are certified by the International Accreditation Service or by an accreditation body that is a signatory to the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC, 2000); each laboratory must be re-certified annually;
- (G) Maintain records in electronic or hard copy form for two years on:
  - 1. manufacturers that have been certified, with designated identification codes (if any);
  - 2. results of inspections and tests conducted for each manufacturer;
  - 3. list of certified laboratories and large chambers utilized by the third party certifier;

4. correlations between small scale test results and large chamber results by manufacturer; and
  5. the ARB Executive Order approving the third party certifier.
- (H) On or before March 1 of each year, provide an annual report to ARB for the previous calendar year that includes:
1. manufacturers certified during the previous calendar year, including resins used by manufacturers, and the average and range in formaldehyde emissions by resin and product type;
  2. list of non-complying events by manufacturer as specified in section 93120.12, Appendix 2; and
  3. certified laboratories and large chambers utilized by the third party certifier.

(c) *Initial Plant Qualification.*

Upon completion of a contract between a third party certifier and a manufacturer, a third party certifier shall conduct one or more inspections of each manufacturer's plant. The cost of such inspections shall be borne by the manufacturer. The purpose of the inspection shall be to determine that the procedures and processes of each plant conform, or can be made to conform, to the requirements of section 93120.12, Appendix 2. Initial plant qualification requirements include:

- (1) A written quality control manual approved by the third party certifier;
- (2) Quality control facilities and personnel approved by the third party certifier;
- (3) Passage of a large chamber qualifying test(s) (ASTM E 1333-96);
- (4) Routine small scale quality control test(s), either desiccator (ASTM D 5582-00) or small chamber (ASTM D 6007-02), approved by the third party certifier;
- (5) A procedure for selecting samples, approved by the third party certifier; and
- (6) Correlation values between the routine small scale quality control test(s) and the large chamber test(s) that are approved by the third party certifier.

(d) *Large Chamber Tests.*

Third party certifiers shall work with manufacturers to ensure that the requirements of section 93120.12, Appendix 2, subsection (f), are complied with.

(1) Sample Selection, Handling, and Shipping

Large chamber samples shall be randomly chosen from a single lot that is ready for shipment. Neither the top nor bottom composite wood products of a bundle shall be selected. The composite wood products must be dead-stacked or air tight wrapped between the time of sample selection and the start of test conditioning. Samples shall be promptly labeled, signed by the third party certifier, bundled air tight, wrapped in polyethylene, protected by cover sheets, and promptly shipped to the large chamber testing facility. Conditioning shall begin as soon as possible, but not in excess of 30 days after production. At the plant's option, a second sample set (a reserve set) may be selected, handled and shipped in the same manner as the original.

(2) Additional (Verifying) Chamber Tests

Additional large chamber tests shall be conducted as soon as possible if the third party certifier determines that an additional large chamber test is necessary to ensure compliance with the relevant standard.

(3) Witnessing of Large Chamber Tests

The third party certifier may, in its discretion, agree to witness large chamber testing at a certified laboratory rather than performing the test at its laboratory.

(A) Conditioning

The third party certifier shall review the records of temperature, humidity, and ambient formaldehyde concentration in the conditioning area to verify that these conditions did not exceed the limits specified in ASTM E 1333-96 during the conditioning period.

(B) Testing

The third party certifier or the chamber operator under the certifier's supervision shall take air samples and analyze them for formaldehyde according to ASTM E 1333-96. The results will be reported to the manufacturer and to the certifier.

The chamber operator or certifier shall have the option of testing a second set of air samples to confirm a questionable test value. If a second set of air samples is taken, it must be taken within the time parameters defined in ASTM E 1333-96.

If the second sample set of air specimens falls within 0.03 parts per million (ppm) of the test values from the first sample set, the two values shall be averaged. If the test value from the second set of air samples varies more than 0.03 ppm from the first, the chamber test shall be null and void.

(C) Identification

Upon completion of the test, the chamber shall be opened and the certifier shall verify that the panels inside are the proper test specimens.

(e) *Inspections by Third Party Certifier.*

(1) Purpose

After a manufacturer has been validated by an ARB-approved third party certifier to report their products as being validated with the certifier's ARB-assigned number, the certifier shall conduct periodic on-site inspections of the plant and production line where each validated product type is produced to ensure full compliance with the provisions of section 93120.12, Appendix 2, and the plant's quality control manual and practices. ARB or local air district officials may also conduct on-site inspections at the manufacturer to ensure compliance with the standards.

(2) Frequency

Inspections shall initially occur at least once per month for a period of six months. The frequency may subsequently be reduced if the certifier determines that the quality control tests are consistent, but shall be no less frequent than quarterly.

(3) Inspection Procedures

The certifier shall be given full cooperation by the composite wood manufacturer in all aspects of the inspection including, but not limited to, the following:

- (A) Reviewing formaldehyde emission quality control records;
- (B) Reviewing production records for press times and urea-formaldehyde resin usage;
- (C) Examining formaldehyde emission quality control procedures;
- (D) Selection of sample panels for emission testing;
- (E) Interviewing and testing of quality control employees; and

- (F) Complete access to the Quality Control Manager and any quality control employee involved with formaldehyde certification. The certifier may be excluded from plant areas considered confidential, providing such exclusion does not prevent or hinder the certifier from performing the required duties.

(4) Sample Selection and Testing Procedures

The certifier may conduct a small scale test during his visit. One panel of a composite wood product to be certified shall be selected for a single test. The result of this test shall be entered into the record of test values maintained by the manufacturer. If the addition of this test value to the record causes the tested lot to be a non-complying lot, the lot shall be isolated and handled following the procedures for non-complying lots in section 93120.12, Appendix 2.

(5) Report of Findings

Upon completion of the inspection, the certifier shall prepare findings in writing and review them with the Quality Control Manager or plant manager, if available. As soon as complete test data are available, the certifier shall provide a written report to the plant stating the test results and advising the plant of any deficiencies that must be corrected to maintain validation.

(f) *Re-Inspections.*

In the event that a manufacturer produces product lots that consistently exceed the applicable TOL, the certifier shall be notified promptly. The certifier may re-inspect the plant at least once per month for a period of three months, before returning to the prior inspection frequency. The certifier may also require the manufacturer to demonstrate conformance to the requirements of initial plant qualification.

(g) *Confidentiality.*

All information and documentation supplied by the manufacturer to the certifier pursuant to section 93120.12, Appendix 3, shall be considered confidential and shall not be disclosed by the certifier except as may be required by ARB.

The certifier shall consider confidential any observations of equipment, process, techniques, or other matters known by the certifier to be considered proprietary by the manufacturer.